UNIVERSITY OF STELLENBOSCH

Development of a Business Framework to integrate informal SMMEs and Entrepreneurs with the formal South African Economy.

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Declaration

I, the undersigned, hereby declare that this thesis is my own original work. This thesis has never before, either in part or in full, been submitted to any university for a degree or examination.

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Date: _____

Synopsis

South Africa has an uneven distribution of economic wealth. The political history of recent decades is the main reason for this phenomenon and has led to a situation where vast numbers of citizens did not receive the necessary training and development to embark on self-employment or to be employed at existing companies. These circumstances place a burden on the present government to fight poverty and crime, and in return establish national well being and economic stability. It requires them to find innovative ways by which they can promote business development and create sustainable jobs for unemployed people. Various programmes to improve the delivery of essential social services to the majority of the population are under way. However, the vast numbers of people in desperate need for employment or other income generating activities outstrip the support programmes already implemented by the government.

Actions from the government are aimed at supporting and training previously disadvantaged entrepreneurs to become active contributors to the economy. One method of generating employment opportunities is through the deployment of SMMEs (Small Medium and Micro Enterprises) that can operate as part of the formal economy. "South Africa's 2-million small businesses represent 98% of the country's total number of firms, employ 55% of the labour force and contribute 42% of the country's wage bill. Yet 87% of these enterprises are survivalist and operate outside the formal economy" (Le Roux, 2006).[1] Ideally, one would like to see previously disadvantaged entrepreneurs as owners of these SMMEs. However, these entrepreneurs do not necessarily have the capacity to take up business responsibilities and management.

This research project focuses mainly on situations in the South African economic environment with specific attention given to SMMEs. The primary objective is to find a sustainable solution that ensures effective and successful deployment of SMMEs. A solution is proposed in the form of a Business Framework where similar informal SMMEs are grouped together to operate under a governing body. This governing body (Business Framework) provides the necessary infrastructure to support the development of products and services within these SMMEs. Entrepreneurs and SMMEs affiliated to this Business Framework are nurtured till they are mature enough to partake in the formal economy. The Business Framework therefore focuses on the possibilities of incorporating survivalist

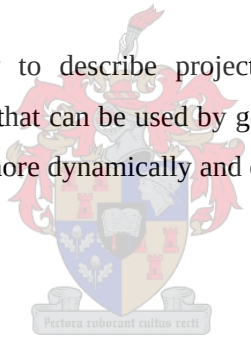
[1] Source: Business Day, June 27, 2006.

(informal) SMMEs with formal economic activities and by doing so, tries to improve their sustainability and create long-term income generating enterprises.

Development of such a Business Framework requires investigations of the economic circumstances in which these SMMEs operate. This includes a study of current government support programmes and the influences of the formal and informal economies on each other. Various engineering tools and methodologies are applied to evaluate and characterise these SMMEs. Through the use of Enterprise Life Cycle and Value Chain analyses, internal business processes of informal SMMEs are studied and shortcomings in terms of business processes are identified. A GAP-Analysis is performed and from this a list of requirements is drawn up that the Business Framework should fulfil.

A generic Business Framework is developed using the Zachman Enterprise Reference Architecture. This concept of a Business Framework is tested by means of a case study and documented at the end of the report.

This document serves not only to describe project related issues from an academic perspective, but shares a concept that can be used by governments and private organisations to deploy business development more dynamically and effectively.



Opsomming

Suid-Afrika het ’n oneweredige welvaart-verdeling in die ekonomie. Dit is grootliks te wyte aan die politieke geskiedenis van die afgelope aantal dekades. Hierdie politieke omstandighede het daartoe gelei dat ’n groot deel van die bevolking nie oor die nodige middele of opleiding beskik om self werk te skep of om in reeds gevestigde ondernemings te werk nie. Dit plaas groot druk op die huidige regering wat betref die bekamping van armoede en geweld. Terselfde tyd word ook van die regering verwag om ’n stabiele samelewing te skep en om ekonomiese welvaart te verseker. Sulke uitdagings noodsaak innoverende oplossings soos die ontwikkeling van besigheids moontlikhede wat kan dien as werkskeppingsgeleënthede vir die groot aantral werklose mense in die land. Die ontsaglike behoefte aan essensiële maatskaplike dienste oorskadu egter steeds die aantal ondersteuningsprogramme wat reeds deur die regering geïmplementeer word.

Die regering het ten doel om hierdie voorheen benadeelde entrepreneurs op te lei en te ondersteun sodat hulle aktief tot die ekonomie kan bydra. Die ontwikkeling en implementering van ‘SMMEs’ (*Small Medium and Micro Enterprises*) wat formeel bydra tot die land se ekonomie is een van die metodes waardeur volhoubare werksgelëenthede geskep kan word. *“South Africa's 2-million small businesses represent 98% of the country's total number of firms, employ 55% of the labour force and contribute 42% of the country's wage bill. Yet 87% of these enterprises are survivalist and operate outside the formal economy” (Le Roux, 2006).*[2] Ideaal gesproke moet hierdie voorheen benadeelde entrepreneurs dan hierdie ‘SMMEs’ besit en bestuur. Ongelukkig is die agterstand geweldig groot en is hierdie entrepreneurs nie by magte om die skielike verantwoordelikheid van ’n besigheid sonder ondersteuning op te neem nie.

Hierdie navorsingsprojek ondersoek die huidige ekonomiese omstandighede in Suid-Afrika waarin ‘SMMEs’ hulself bevind en is daarop gemik om ’n oplossing te vind wat die volhoubaarheid en sukses van hierdie tipe besighede kan bevorder. ’n Oplossing word voorgestel in die vorm van ’n Besigheidsraamwerk waaraan informele ‘SMMEs’ affiliëer word en sodoende onder voogdskap van ’n beheerliggaam opereer. Hierdie beheerliggaam (Besigheidsraamwerk) voorsien dan ’n geskikte omgewing waarin individuele entrepreneurs en ‘SMMSe’ kragte saamsnoer en met ondersteuning hulle produkte en dienste ontwikkel en verkoop. Deur middel van so ’n Besigheidsraamwerk kan entrepreneurs uit agtergeblewe

[2] Verwysingsbron: Business Day, June 27, 2006.

gemeenskappe die geleëntheid kry om hul eie besighede te begin. Hierdie Besigheidsraamwerk moet entrepreneurs en ‘SMMEs’ onwikkel en ondersteun sodat hulle kan groei tot volwaardige ekonomiese entiteite wat self-onderhoudend en winsgewend voortbestaan.
Die Besigheidsraamwerk stel dit ten doel om informele ‘SMMEs’ te inkorporeer met die formele ekonomie wat die volhoubaarheid van ‘SMMEs’ bevorder en ook lang-termyn werksgeleënthede skep.

Ontwikkeling van so ’n Besigheidsraamwerk vereis ’n studie van die ekonomiese omstandighede waarbinne hierdie SMMEs opereer. Dit behels navorsing oor die huidige ondesteuningsprogramme wat die regering implementer asook die invloed wat die formele en informele ekonomieë onderskeidelik op mekaar het. Veskeie ingenieurs metodologieë en gereedskappe soos lewenssiklus-analises en waardeketting-analises word gebruik om besigheidsprosesse van informele SMMEs te evaluaeer en te karakteriseer. ’n Gapings-analise word gedoen wat dan die tekortkominge in terme van besigheidsprosesse van informele SMMEs uitlig. Hierdie tekortkominge word dan voorgestel as ’n lys van spesifikasies waaraan die Besigheidsraamwerk moet voldoen.

Na aanleiding van hierdie spesifikasies word ’n generiese Besigheidsraamwerk ontwikkel wat fokus op entrepreneurs en ‘SMMEs’ wat in dieselfde besigheidssektore bedrywig is. Die ontwikkeling word gebasseer op Zachman se Ondernemings-argitektuur. Laastens word die konsep van so ’n Besigheidsraamwerk wat optree as bemiddelaar vir ‘SMMEs’ getoets aan die hand van ’n gevallestudie en aan die einde van die tesis gedokumenteer.

Hierdie dokument het ten doel om ’n konsep oor te dra wat deur regerings of privaat organisasies gebruik kan word om besigheidsontwikkeling meer dinamies en effektief te bestuur, en nie net om akademiese perspektiewe op besigheidsprosesse te verduidelik nie.

You are today where your thoughts have brought you;

You will be tomorrow where your thoughts take you.

James Allen

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I would like to thank my family and friends who believed in me and through their direct and indirect support, inspired me to reach this milestone in my academic career.

Finally, I would like to honour my Heavenly Father for the talents and energy that He has given to me to take on this fantastic challenge. Without His blessings, I would not have been able to write the first page of this report.

Nomenclature

ABBREVIATION	DESCRIPTION
BEE	Black Economic Empowerment
BF	Business Framework
CSIR	Council for Scientific and Industrial Research
DPRU	Development Policy Research Unit
dti	Department of Trade and Industry of South Africa
EE	Enterprise Engineering
EIDD	Enterprise and Industry Development Division of the dti
ELC	Enterprise Life Cycle
ELCM	Enterprise Life Cycle Methodology
GCC	Global Competitiveness Centre at Stellenbosch University
GERAM	Generalised Enterprise Reference Architecture
GRN	South African Government
ICLS	International Conference for Labour Statistic
IDR	Industrial Development Zones
JIT	Just In Time
LCA	Life Cycle Assessment
MCO	Micro Credit Outlet
NEPAD	New Partnerships for Africa's Development
PERA	Purdue Enterprise Reference Architecture
RFI	Retail Financial Intermediary
SADC	South African Development Community
SDI	Spatial Development Initiatives Program of the dti.
SMME	Small, Medium and Micro Enterprises
Stats SA	Statistics South Africa
TQM	Total Quality Management
VAT	Value-added Tax

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Chapter 1

1 INTRODUCTION

South Africa's present government is challenged with various economic inequities caused by political heritage and the country's international isolation up until the 1990s. While the economy is in a process of transition, with business becoming more integrated into the international system, the local government still has to address economic disparities between population groups, stimulate growth and create jobs. Various programmes to improve the delivery of essential social services to the majority of the population are under way, with a strong focus on creating better opportunities in education and business.

Financial analysts describe the local economic dispersion as two economies in one country, meaning there is a strong public and private sector, consisting mostly of larger successful companies, as well as an informal sector, consisting mostly of SMME businesses.

The following section is quoted from the South African Yearbook:

> *This is consolidating 'two economies' in one country. One is advanced and skilled, becoming more globally competitive. The second is mainly informal, marginalized and unskilled. Despite impressive gains in the First Economy, the benefits have yet to reach the Second Economy, which could fall even further behind without decisive government intervention* (Burger, 2004).

SMMEs play a significant role, in general, in terms of new job creation and are one of the main drivers of economic growth in developing countries like South Africa. As can be seen from the quote above, there exists a growing gap in the economic performances between the First and Second Economy. The topic of this research is thus extremely relevant with regard to actions taken by the government to address priority items such as job creation, sustainable growth and poverty alleviation.

This research, therefore, is an investigation into the 'characteristics' of businesses in the Second Economy, and suggests a framework that could be applied as a business model that would enable businesses from the Second Economy to participate in formal economic activities, with the intention of creating jobs and stimulating economic growth.

1.1 RESEARCH HYPOTHESIS

SMMEs in the Second (informal) Economy find it difficult to participate in formal economic activities. This phenomenon leads to questions about the possibility of these enterprises contributing to the First Economy in a sustainable manner. Ideally, one would like to use these SMMEs as a vehicle that provides previously disadvantaged business owners with the opportunity of capitalising on the country's competitive and comparative advantages.

Developing a Business Framework that supports and grows networks of SMMEs may provide an answer to the abovementioned problem. This proposed solution has lead to the following research hypothesis:

> *"SMMEs in the Second Economy struggle to survive, but when affiliated to a Business Framework, they have the opportunity to grow sustainably and contribute to the First Economy".*

From this research hypothesis a number of research questions need to be addressed before the hypothesis can be accepted. These are summarised in the next paragraph and lay a foundation for the research design and objectives of this project.

1.2 RESEARCH DESIGN AND OBJECTIVES

This research project evolved from the GCC's (Global Competitiveness Centre) involvement in Community Engineering projects as a member of the Business and Community Development Consortium.

The main objective of this research is to find a solution in the form of a model or framework that could support SMMEs during their start-up phases, emphasising sustainable growth and formal economic contribution. This framework would act as a 'bridge' between enterprises in the First and Second Economies. Business solutions provided by such a framework would include financial services, customer and supplier management, logistic services, project planning, business training, etc. Such a framework should not be too complex, must be easy to understand and implement but, on the other hand, not too simplistic either. In order to understand what business solutions are required from this framework and how it should be structured, it is necessary to:

- Investigate the reasons why SMMEs from the Second Economy struggle to survive. It is also necessary to evaluate if these factors are responsible for preventing these SMME type businesses from participating in the First Economy. These investigations will hopefully highlight certain business aspects that need to be addressed by such a framework.
- Study SMMEs in terms of their business processes, or the lack thereof. As mentioned, the aim of this project would be to integrate these SMMEs with the First Economy. This integration activity is facilitated by a framework that needs to integrate networks of small businesses, which, in turn, will obviously influence their business processes.
- Evaluate the current South African economic environment and Government policies. Political stability, national economic trends, foreign investments and Government regulations are a few factors to which these SMMEs are vulnerable and which influence their success rates.
- Find different Industrial Engineering principles and methodologies that are applicable to this project. The development of a framework that integrates these SMMEs with larger companies in the First Economy should be done in accordance with engineering methods and principles. This proposed framework itself should act as a business.
- Search for current solutions and evaluate whether these solutions are effective or not.
- Construct a Business Framework that could provide the necessary business solutions required to integrate informal SMMEs with the First Economy.
- Evaluate the proposed model (Business Framework) by means of a case study. The successful implementation of such a Business Framework is needed to determine whether the research hypothesis can be accepted or not.

1.3 PROJECT SCOPE

The project focuses on SMMEs in the Second Economy. In general, these SMMEs are owned by people from previously disadvantaged groups who have started, or want to start, a business based on an innovative idea. In many cases, these business owners do not have the necessary business skills to 'sell' their idea as a product or service. Even if they manage to do so, their economies of scale are small and they find it difficult to enter and survive in formal economic activities. This research is done with a view to proposing a Business Framework that is aimed at supporting:

- Entrepreneurs in the Second Economy who have a business idea, but cannot transform that idea into a sustainable enterprise that provides a formal product or service.
- Enterprises that operate in the same line of business that could be grouped together and, by doing so, improve their economies of scale. This would result in a network of enterprises that perform similar business activities, with similar customers and suppliers, and therefore similar business requirements.
- Enterprises in the Second Economy that could benefit from Governmental support mechanisms, such as: start-up capital, tax incentives, economic empowerment legislation, etc.

1.4 SMME DEFINITIONS IN SA CONTEXT

Providing and agreeing upon exact definitions for different enterprise sizes is a complex task. Definitions differ from country to country and also between institutions within countries.

> *It would seem that there is no concrete and reliable definition of what African Small Medium and Micro Enterprises (SMMEs) are. Current definitions primarily address this lack of definition by addressing what SMMEs are not, making the definitions over dependent on contrasts* (Business in Africa, 2004).

The Directory of Definitions for Government Terms explains Small, Micro and Medium Enterprises (SMMEs) as follows:

> *Businesses with fewer than 5 employees are often referred to as micro businesses. Those with 5 to 10 employees are regarded as small businesses, Businesses with 10 to 50 employees are seen as medium-sized businesses.*[3]

Since this research project is conducted within the South African context, the appropriate choice would be to follow the same approach as reported by the South African Small Business Act of 1996.

> *…"small business" means a separate and distinct business entity, including cooperative enterprises and non-governmental organisations, managed by one owner or more which, including its branches or subsidiaries, if any, is predominantly carried on in any sector or sub-sector of the economy mentioned in Column 1 of the Schedule and which can be classified as a micro-, a very small, a small or a medium enterprise by satisfying the criteria mentioned in columns 3, 4 and 5 of the Schedule opposite the smallest relevant size or class as mentioned in column 2 of the Schedule* (South African Small Businesses Act,1996).

The Schedule that this quotation refers to is shown in Table 1-1 overleaf.

[3] Source: http://www.capegateway.gov.za/eng/directories/glossary/S

Table 1-1. Enterprise size categories.

Sector or sub-sectors in accordance with the Standard Industrial Classification	Size or class	Total full-time equivalent of paid employees	Total annual turnover	Total gross asset value (fixed property excluded)
		Less than:	*Less than:*	*Less than:*
Agriculture	Medium	100	R 4.00 m	R 4.00 m
	Small	50	R 2.00 m	R 2.00 m
	Very small	10	R 0.40 m	R 0.40 m
	Micro	5	R 0.15 m	R 0.10 m
Mining and Quarrying	Medium	200	R30.00 m	R18.00 m
	Small	50	R 7.50 m	R 4.50 m
	Very small	20	R 3.00 m	R 1.80 m
	Micro	5	R 0.15 m	R 0.10 m
Manufacturing	Medium	200	R40.00 m	R15.00 m
	Small	50	R10.00 m	R 3.75 m
	Very small	20	R 4.00 m	R 1.50 m
	Micro	5	R 0.15 m	R 0.10 m
Electricity, Gas and Water	Medium	200	R40.00 m	R15.00 m
	Small	50	R10.00 m	R 3.75 m
	Very small	20	R 4.00 m	R 1.50 m
	Micro	5	R 0.15 m	R 0.10 m
Construction	Medium	200	R20.00 m	R 4.00 m
	Small	50	R 5.00 m	R 1.00 m
	Very small	20	R 2.00 m	R 0.40 m
	Micro	5	R 0.15 m	R 0.10 m
Retail and Motor Trade and Repair Services	Medium	100	R30.00 m	R 5.00 m
	Small	50	R15.00 m	R 2.50 m
	Very small	10	R 3.00 m	R 0.50 m
	Micro	5	R 0.15 m	R 0.10 m
Wholesale Trade, Commercial Agents and Allied Services	Medium	100	R50.00 m	R 8.00 m
	Small	50	R25.00 m	R 4.00 m
	Very small	10	R 5.00 m	R 0.50 m
	Micro	5	R 0.15 m	R 0.10 m
Catering, Accommodation and other Trade	Medium	100	R10.00 m	R 2.00 m
	Small	50	R 5.00 m	R 1.00 m
	Very small	10	R 1.00 m	R 0.20 m
	Micro	5	R 0.15 m	R 0.10 m
Transport, Storage and Communications	Medium	100	R20.00 m	R 5.00 m
	Small	50	R10.00 m	R 2.50 m
	Very small	10	R 2.00 m	R 0.50 m
	Micro	5	R 0.15 m	R 0.10 m
Finance and Business Services	Medium	100	R20.00 m	R 4.00 m
	Small	50	R10.00 m	R 2.00 m
	Very small	10	R 2.00 m	R 0.40 m
	Micro	5	R 0.15 m	R 0.10 m
Community, Social and Personal Services	Medium	100	R10.00 m	R 5.00 m
	Small	50	R 5.00 m	R 2.50 m
	Very small	10	R 1.00 m	R 0.50 m
	Micro	5	R 0.15 m	R 0.10 m

Source: South African Small Business Act, 1996.

This approach uses the number of employees per enterprise size category in combination with its annual turnover based on the specific sector in which the enterprise operates.

It is concluded that much controversy and confusion may exist for the definition of SMMEs. However, based on the South African Small Business Act of 1996, one can summarize that SMMEs in general, are not regarded as international multi-million dollar companies. In fact, these businesses are small in terms of the number of employees and their annual turnovers. For the purpose of this project, the term SMME is used when referring to enterprises satisfying the criteria as defined by the Small Business Act of 1996 in Table 1-1.

SMMEs exist in both the First and Second Economies. These definitions and descriptions above only state when an enterprise can be regarded as an SMME, and not whether it operates in either the First or Second Economy. This research project however focuses on integrating SMMEs in the Second Economy with business activities in the First Economy. The Second (informal) Economy as an entity is explained later in the text.

1.5 PROJECT STRATEGY

Execution of the project is done in four phases. These phases constitute the overall project strategy and should be considered as the research methodology followed. This is illustrated in Figure 1-1.

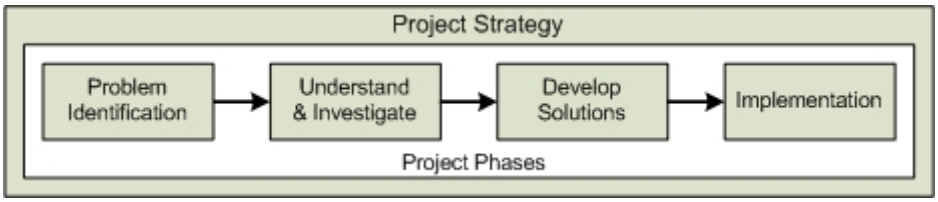


Figure 1-1. Project Strategy.

The Project Strategy consists of the topic and purpose of the project, the project plan, the project scope, deliverables and documentation.

Problem Identification as the first phase includes items such as:

- The Problem Statement, explaining what real life problem is at hand and why it requires investigation.
- A Proposed Solution, which can be seen as the research hypothesis that will be either accepted or rejected by the end of the project.

Understand and Investigate represents the phase of knowledge gathering, which consists of the following sub-sets:

- A Literature Survey, which investigates the components and processes that lead to the real-life problem stated in the first phase.
- An investigation into current solutions that address certain facets of the problem stated in the first phase.
- An overview of relevant engineering methods and applicable principles that enabled the researcher to characterise and resolve this problem.

Develop Solutions, as the next phase utilises accumulated information to:

- Analyse SMMEs in the informal economy using applicable engineering methods. Firstly, this analysis constitutes an ‘As-Is’ situation. Through a GAP-Analysis process, these SMMEs are then compared with a ‘To-Be” scenario, which is integration of these SMMEs into the formal economy. The analysis stage produces a list of requirements that is used as the specifications for the Business Framework.
- Synthesise a solution based on the list of requirements received from the GAP-Analysis process. The solution is formulated through the development of the Business Framework.

Implementation is done by means of a Case Study. The purpose of this phase is to determine whether the idea of the Business Framework in this context is successful in its purpose of integrating SMMEs from the informal economy with business in the formal economy.

1.6 STRUCTURE OF THIS DOCUMENT

This document is divided into seven core chapters and three additional sections, being a Synopsis, a List of References and Appendices. The next illustration depicts how each of these chapters and sections describe and explain the necessary research activities and how they fit into the overall project strategy as shown in Figure 1-1.

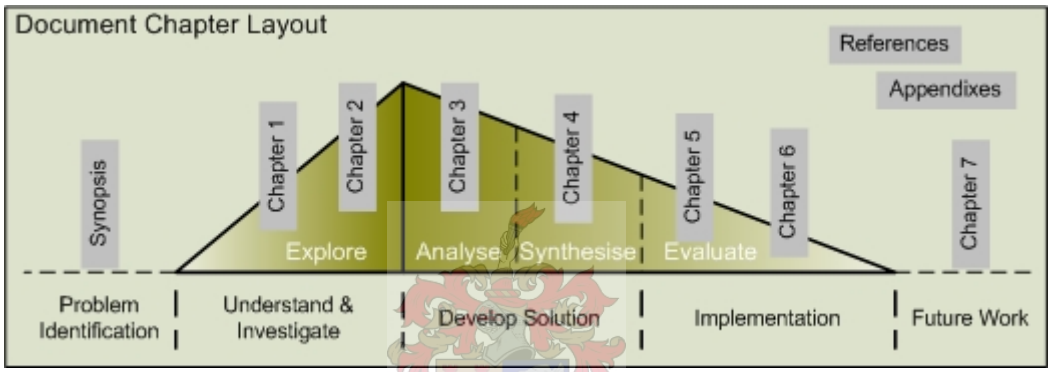


Figure 1-2. Structure of this document in terms of chapters

The Synopsis provides the reader with an overall view of this research project.

Chapter 1 provides an introduction to the document and covers aspects like the scope of the project and the project strategy. It states what objectives are set out for the project.

Chapter 2 contains a literature survey and introduces the reader to relevant concepts and information used in this research project.

Chapter 3 is dedicated to the evaluation of SMMEs. Different Enterprise Engineering Methodologies are used to characterise these small businesses and the different environments in which they operate.

Chapter 4 focuses on the development of the Business Framework. The Zachman Framework is used as Enterprise Reference Architecture.

Chapter 5 describes a Case Study that illustrates how the concept of a Business Framework could be applied in practice.

Chapter 6 summarises the project and gives conclusions.

Chapter 7 highlights future areas for research.

The References and **Appendices** are self-explanatory.

Chapter 2

2 LITERATURE SURVEY

The literature survey covers three areas of interest. The first section focuses on SMMEs operating in the Second Economy. This research area involved collating information about characteristics of these SMMEs and how their immediate economic environments affect them. The role of the Government in terms of policies and support programmes for SMMEs is presented in the second research area. The last field of interest focuses on engineering principles, tools and methodologies applicable for the assessment of these SMMEs, and also for the construction of the Business Framework.

2.1 INVESTIGATIONS

2.1.1 SMMEs and the Second Economy

Although current economic and political circumstances in South Africa are favourable for entrepreneurs to operate their own businesses, most SMMEs in the Second Economy find it difficult to survive or contribute formally to economic activities in the First Economy. A major concern is the availability of resources (i.e. finances, training, skills and general services) to support entrepreneurs from previously disadvantaged groups in starting their own businesses.

A section taken from the Social Finance Programme, Working Paper No. 34 by Ebony Consulting International (Pty) Ltd., comments on supporting SMMEs and entrepreneurs as follows:

> *Furthermore, one should also differentiate between the problem encountered with access to different sources and types of finance. …Internationally most SMMEs use their own funds as start up capital. This is also the case in South Africa. Another common constraint is the high failure rate of start-up SMMEs internationally and in South Africa. Financiers are generally unwilling to enter one of the most unknown and risky segments of the market, and will rather invest their capital in traditional markets. The question is - in what way could equity play a role to assist in setting up SMMEs and indeed in decreasing the risk to the owner?* (Balkenhol et al., 2003.)

If it is assumed that this Working Paper No. 34 comments on SMMEs operating in the First Economy, then one can accept with relative certainty that the situation for SMMEs in the Second Economy are much worse. Business owners and employees in the Second Economy are unskilled, according to the South African Yearbook 2004, placing these SMMEs in an even higher risk category.

The South African Government said that new initiatives would be implemented to facilitate greater crossover of businesses from the Second Economy to the First.

> *South Africa's 2-million small businesses represent 98% of the country's total number of firms, employ 55% of the labour force and contribute 42% of the country's wage bill. Yet 87% of these enterprises are survivalist and operate outside the formal economy* (Le Roux, June 2006).[4]

This again raises the quest for finding a sustainable business model that would support SMMEs so that they can participate in the First Economy and also support entrepreneurs with business structures and thereby eliminate early risks.

2.1.2 Conceptual issues and definitions

Much controversy exists in defining what exactly is meant by phrases such as 'the First and Second Economy', 'formal and informal economies' and also 'formal and informal sectors'.

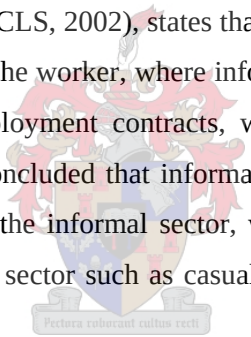
Research done by the Development Policy Research Unit (DPRU) on these issues was published as Working Paper 06/102. In this paper the informal economy is considered as an element of the Second Economy, as can be seen from the next quote: "In the absence of a coherent conceptualisation of and any systematic data on the Second Economy, we focus, in this paper, on one important element of the Second Economy – the informal economy" (Devy et al., 2006). The paper continues, stating that, "The term economy implies a greater range of activities than sector" (Devy et al., 2006).

Although this working paper primarily focuses on the nature of the informal economy, these quotes help to clarify the lines of thought one should use when referencing terms like 'formal and informal economies', 'formal and informal sectors' and 'First and Second Economies'.

[4] Source: Business Day, June 27, 2006.

> *Some analysts define 'informal' activities in terms of the absence of characteristics that belongs to 'formal' activities like security of work, better earnings, existence of non-wage and long-term benefits, protective legislation and union protection* (Eapen, 2001).
>
> *The International Conference for Labour Statistic (ICLS) definition recommends that the informal sector be defined in terms of one or more of the following criteria:*
>
> - *Non-registration of the enterprise in terms of national legislation such as taxation or other commercial legislation.*
> - *Non-registration of employees of the enterprise in terms of labour legislation.*
> - *Small size of the enterprise in terms of the numbers of people employed.*
>
> *Statistics South Africa (Stats SA) uses this enterprise-based definition in order to derive estimates of informal employment in South Africa* (Devy et al., 2006).

The latest definition for informal employment, as accepted at the 17th International Conference for Labour Statistic (ICLS, 2002), states that employment should be based on the characteristics of employment of the worker, where informal employment is characterised as employment without secure employment contracts, worker benefits or social protection. From this definition it may be concluded that informal employment consists of two kinds. The first kind is employment in the informal sector, with the second kind being informal employment outside the informal sector such as casual day labourers, part-time workers or household workers.



These views expressed above illustrate that some institutions use the term 'informal sector' when referring to informal enterprises and the term 'informal economy' when referring to informal employment in both formal and informal enterprises. Given the assumption that 'economy' describes a wider range of activities than 'sector', the preference in this text is to use the term 'informal economy' as a combined representation for both enterprise- and employment-based definitions. Furthermore, if it is accepted that the informal economy is an important element of the Second Economy, and that the term 'informal economy' now has a combined (broader) meaning for both enterprise- and employment-based definitions, then for all practical purposes, one can refer to SMMEs in either the Second Economy or the informal economy without compromising the creditworthiness of these arguments.

Both the Second and informal economy in this context refer to economic environments with great levels of uncertainty, risk and a quest for survival.

Before closing this discussion on conceptual issues and definitions, one last term used by Stats SA calls for clarification. Stats SA conducted a survey to estimate the contribution of small and micro-businesses to the South African economy.

> *It focused on businesses not registered for value-added tax (VAT). These businesses are mainly small, and often informal. Some are registered with various structures (both those that are legally recognised and those that are not). But others are not registered at all* (Lehohla, 2002).

Stats SA uses the term 'non-VAT-registered business', for businesses that have a turnover of less than R300 000-00 per annum and that are exempted from tax according to current tax rates.

From the scope of this survey performed by Stats SA, in combination with the criteria presented in Table 1-1 and the definition of 'informal economy' by the ICLS, one can conclude that non-VAT-registered business are SMMEs normally operating in the informal economy. This conclusion is important in so far that the statistical figures presented by Stats SA are applicable to this research.

2.1.3 Components of the problem

SMMEs are one of the main drivers of economic growth but a "…common constraint is the high failure rate of start-up SMMEs internationally and in South Africa" (Balkenhol et al., 2003). In the light of this statement it is reasonable to argue that survival of SMMEs in both the formal and informal economy is a major concern. Bringing the difficulties that SMMEs, especially those in the informal economy, experience into perspective requires investigations into the components of the phenomenon. The main obstacles (problems) are:

- **Access to finance**.

  The issue of access to finance is critically important, especially for firms that show entrepreneurial talent and skills to grow. The question is how conducive is South Africa's domestic financial architecture to SMME growth. The landscape includes banks, non-bank lenders as well as public institutions (Berry et al., 2002).

  Another analysis on small medium and micro-enterprises in South Africa returned similar research results, revealing common reactions from SMME owners being interviewed. "When asked what they perceive as constraints in their business and

especially in establishing or expanding their business, they answer that access to funds is a major constraint" (Balkenhol et al., 2003).

According to Statistics South Africa, 60% (1.4 million) from a total of 2.3 million of non-VAT-registered business-owners required additional money to start their businesses. Only 15.5% (217 000) managed to borrow money. Of these owners who managed to borrow money, only 5.1% obtained loans from commercial banks. Most of them, 83.4%, borrowed money from friends and relatives, while the rest borrowed money from other community savings arrangements.

If a person lives in a poor or informal community and wants to start a business, the chances are very likely that he/she has to borrow money from friends and relatives who are most probably in the same economic circumstances. This leads to the situation where such people encounter enormous difficulty to start or expand a business. According to the survey by the DPRU,

…51% of those working in informal enterprises earns R500 or less (with a significant number of people reporting earning nothing) and that 92% earn less than R2 501. This suggests a correlation between being poor and working in the informal economy (Devey et al., 2006).

The most common reason why commercial banks are reluctant to lend money is because of the lack of creditworthiness and lack of collateral of prospective business owners.

In an attempt to facilitate access to loan finance to SMMEs, Khula Finance Ltd[5] *was established as a 'wholesale' institution to support financial intermediaries (in their majority commercial banks) financially and/or by assuring guarantees of loan repayment. There is frequent perception, however, that this policy initiative has not lived up to its expectations* (Berry et al., 2002).

- **The lack of business skills**. Many SMME owners do not have the necessary skills to run a business successfully. "The lack of education and exposure to management experience further impacts upon the management skills of entrepreneurs" (Balkenhol

[5] Khula Enterprise Finance Limited is an agency of the Department of Trade and Industry **(dti)** established in 1996 to facilitate access to finance for SMMEs. Khula provides assistance through various delivery channels. These include commercial banks, retail financial intermediaries (RFIs) and micro credit outlets (MCOs). Through its Thuso Mentorship Programme, Khula also provides mentorship services to guide and counsel entrepreneurs in various aspects of managing their businesses. Source: http://www.khula.org.za

et al., 2002). Typical skills that are lacking are financial management, business management, production management, personnel management and marketing.
Years of restrictions and control of access to entrepreneurial opportunities (during Apartheid) created a mindset focused on wage and salaried work rather than the establishment of small businesses and entrepreneurs (Balkenhol et al., 2002).

The following section taken from Statistics South Africa confirms that many potential owners find it difficult to be self-employed:
This process has led to an increasing number of young people aged between 15 and 35 years who become economically active but cannot find employment, and do not necessarily have the capacity to embark on self-employment or other income-generating activities (Lehohla, 2002).

- **General Services.** It is reasonable to argue that being able to run a formal business assumes the presence of important infrastructural elements like electricity, telephone, water and sanitation. Integration of SMMEs from the informal economy with businesses in the formal economy calls for investigation into these services. Statistics South Africa published the following figures about general services to owners of typical SMMEs in the informal economy. These figures are summarised in Table 2-1.

Table 2-1. Figures for General Services to owners of non-VAT-registered businesses.

General Services to owners of non-VAT-registered businesses.		
Premises of Business	Own Dwelling.	67.2%
	No fixed site.	15.0%
	Street corner, taxi rank, etc.	8.80%
Electricity	Access to electricity for business.	63.3%
Telephone	Access to telephone, cell phone for business.	30.6%
Water	Tap inside structure used for business.	25.0%
	Tap on the site where business operates.	29.9%
	Tap to be shared with neighbourhood.	18.3%
	No piped water.	26.8%
Sanitation	Access to toilet in business or on site.	40.0%
Source: Stats SA, 2002.		

From these figures it is clear that running a non-VAT-registered business or informal SMME without the necessary infrastructure and under such conditions is difficult.

The communities (environments) in which these businesses operate also have an enormous influence on the businesses and their owners. Looking back at the components that contribute to the obstacles informal SMMEs have to face, there is sufficient substantiation to draw the conclusion that SMMEs in the informal economy have to 'fight' for survival.

2.1.4 Processes that drive this problem

Processes that drive this problem are activities and circumstances that strangle start-up businesses. The main processes contributing to the difficulties of survival in the informal economy are:

- **Isolated operation of SMMEs in the informal economy.** Without a permanent address or telephone it is extremely difficult for these businesses to communicate with their suppliers and customers. Without communication they cannot exchange ideas, integrate certain services, quote for jobs or sign contracts. This leads to a situation where most of the business processes are ineffective and not aligned to fulfilling a specific customer need.

- **Business Registration**. According to Statistics South Africa:
  Only 166,000 (7.3%) of non-VAT-registered business owners said that they had obtained any licence or permit to operate the business. Therefore the vast majority of owners of small and micro-businesses are not registered with any authority, such as a municipality or a regional services council (Lehohla, 2002).
  One of the reasons why business owners do not register their businesses results from the lack of general services. This in turn leads to informal SMMEs not being able to operate in the formal sector.

  It might be useful to explain that non-VAT-registered businesses can still be registered as a business at regional councils and authorities. This type of registration will only grant the business-owner legal rights to operate the business at a specific location. Being a non-VAT-registered business only indicates that the business is not registered for Value-Added Tax and that the business has an annual turnover less than R300 000-00, and is thus an SMME in the informal economy.

- **Under developed external business processes.** Business processes like supply and distribution have not matured to a level where they may be regarded as formal business processes.

  The first discussion focuses on supply to non-VAT-registered businesses. Table 6.2 in the Appendix indicates that 54% (1246 from a total of 2284) of businesses use supplies. Table 6.4 indicates that 95.5% of these businesses that use supplies, require supplies from sources other than their own produce. Furthermore, 91.1% of supplies are obtained in close proximity to where the owner lives, with only 10.1% of supplies being delivered to the business by either the supplier or hired transport.

  It is thus concluded that more than half of non-VAT-registered businesses need supplies from suppliers, and that most of them obtain these supplies through personal effort from sources that are in close proximity to the business. This indicates that supply to these businesses is informal and happens haphazardly.

  The next discussion on supplying goods and services to customers highlights similar characteristics. In Table 7.1 it can be seen that 96.7% of goods and services are sold to customers who are in close proximity of the business. Table 7.2 shows that 95.3% of these customers are private individuals and that only 7.4% of goods and services are delivered using their own or hired transport.

  Again these figures indicate that the distribution of goods and services from non-VAT-registered businesses is informal in nature.

- **Competition and the nature of the economy**. South Africa's economy is governed by large companies that have well-structured business relationships and long-term contracts, that ensure them first-hand information on market movements and business opportunities. They can afford the latest technologies, allowing them full knowledge sharing capabilities. SMME-businesses (formal and informal) do not have the same economic infrastructures and economies of scale.

  Balkenhol et al. say:
  …SMMEs in South Africa are faced with many difficulties inherent in operating in South Africa. Among these is the dual nature of the economy, where SMMEs often have to compete with established multi- national giants in the same sector. Although this is true for most settings, in South Africa most sectors are extremely concentrated

around a few large firms. SMMEs therefore face two obstacles during formation, first the normal range of obstacles in terms of registration and capitalisation and secondly entering highly competitive markets (Balkenhol et al., 2002).

If SMMEs in the formal economy experience these difficulties as mentioned above, one can just imagine how these circumstances affect SMMEs in the informal economy where operating environments are much less favourable.

These systemic processes are obstacles to SMMEs in the informal economy that preclude their participation in formal economic activities.

2.2 ECONOMIC ENVIRONMENT FOR SMMES

This section investigates elements in the South African economy that have an impact on SMMEs and especially informal SMMEs. The growth and stability of the economy as well as policies and support programmes of the Government have an influence on the number of informal SMMEs and their sustainability.

2.2.1 Influence of the economy on informal SMMEs

The performance and stability of the First Economy has an effect on the number of informal SMMEs and their sustainability. Pressure in the First Economy (i.e. slow growth, high inflation, low foreign investments, etc.) can lead to an increase in unemployment figures. This increase in unemployment in turn increases the number of survivalist SMMEs, as people are forced to make a living. Balkenhol et al. (2003) analysed the growth in the number of SMMEs in South Africa and reported that

> *…the increase in unemployment will increase the number of survivalist SMMEs and, secondly, overall economic growth should stimulate the growth of SMMEs, which are non-survivalist in nature. The latter aspect could be reflected by the growth in the formal private SMMEs, while the growth in survivalist SMMEs could be reflected by the growth in the total informal SMME growth* (Balkenhol et al., 2003).

They continue to explain

> *…survivalist refers to that category of SMMEs whose owners started SMMEs as they could not keep or acquire employment in the wage economy. The number of survivalist enterprises therefore fluctuates depending on the ability of the economy to provide wage and salary employment. Most survivalist SMMEs are disbanded or closed when the owner finds employment* (Balkenhol et al., 2003).

One can argue that the need to survive often results in the development of innovative business ideas, which in itself is a positive outcome. However, if the formal economy is under pressure, then the informal economy will be under pressure as well. This implies greater risks to informal businesses and lower chances of survival. Ideally, one would prefer to see innovative business ideas developed within a stable and thriving economy. Another view would be that, despite present economic performances, the current high rates of unemployment (between 30% and 40%, Balkenhol et al., 2003) force people to start businesses in order to earn a living. One can conclude that the formal economy has an influence on employment figures, which in turn have in influence on the number of informal

SMMEs. This conclusion emphasises the need to develop a business solution that would support and integrate these SMMEs with formal economic activities and, by so doing, would improve the sustainability of these SMMEs, exploit innovative ideas and also instigate formal economic growth and alleviate long term unemployment.

Competition makes it difficult for new businesses to enter the market, as most of South Africa's economic sectors are structured around a few large companies. This is another influential aspect of the formal economy on informal SMMEs that should be borne in mind if one intends to integrate informal SMMEs with formal economic activities. Bridging this gap would also require support mechanisms, such as the Business Framework, that would facilitate interaction between SMMEs and larger companies.

Closing this discussion about the influence of the formal economy on SMMEs and also informal SMMEs, it is important to understand that

> *…SMME growth and prosperity are clearly not 'stand-alone' aims to be pursued in ignorance of the broader economic policy. In fact, it is easily understandable that SMME growth can be strongly affected by the macroeconomic context* (Berry et al., 2002).

2.2.2 Government objectives for SMME development

> *Enterprise development remains an important area of cooperation across all three spheres of Government. In order for South Africa's economy to grow in a manner that will create decent work for entrants into the labour market, it is necessary that new enterprises be created and that existing enterprises become more competitive* (Burger, 2004).

The Department of Trade and Industry (dti), who are charged with the responsibility of formulating and implementing policies for SMME development, published a list of fundamental objectives with regards to enterprise development in South Africa. These objectives are[6]:

- To improve investments in and exports from South Africa.
- To grow markets for South African products abroad.
- To grow Small, Micro and Medium Enterprises (SMMEs).

[6] This information is obtained from the South African Yearbook (2003/2004).

- To redress inequities in the economy by bringing the previously disadvantaged into the mainstream.
- To reduce geographic and spatial development inequalities by spreading investment over the provinces.
- To create a fair and efficient marketplace for businesses and consumers alike.

In order to create new sustainable businesses and improve the competitiveness of existing businesses, this 'enterprise development' that the Government refers to should be within the formal economy. This necessitates a movement of informal SMMEs to the formal economy as well, indicating that the scope and objective of this research paper is in line with Government objectives for SMME development.

2.2.3 Government policies and support programmes for enterprise development

Apart from the objectives mentioned above, the dti wants to move trade and industrial policies in South Africa towards an internationally competitive status. Following the worldwide trend of knowledge-intensive economies, the dti puts great effort into the creation of an environment for vigorous enterprise development by creating suitable policies and strategies.

> *Considerable policy and advocacy work has been done by the Department's Enterprise and Industry Development Division (EIDD), specifically in the areas of logistics and infrastructure, human resource development, technical infrastructure and technology and innovation* (Burger, 2004).

To support the Government in their efforts of enterprise development, Statistics South Africa has done research that "…aims to give information on the potential that small and micro-businesses in the country may have to create employment or income-generating activities, and contribute to the economic growth of the country" (Lehohla, 2002).

The South African government implemented various policies as part of their commitment to foster sustainable industrial development in areas where poverty and unemployment are high. This objective is carried out by the *Spatial Development Initiatives* (SDIs) programme, which focuses high-level support on areas where socio-economic conditions require concentrated government assistance. The goal is to fast-track investments and maximise synergies between investments in national, provincial and local government spheres. Currently there are 11 SDI programmes and 4 Industrial Development Zones (IDZ) at various stages of delivery.

- The SDIs are: Maputo Development Corridor; Lubombo SDI; Richards Bay; Pietermaritzburg and Durban SDI; Wild Coast SDI; Fish River SDI; West Coast Investment Initiative; Platinum SDI; Phalaborwa SDI and Coast-2-Coast Corridor.
- IDZs are: Gauteng, Coega, East London, Saldana and Richards Bay.

Another activity of the dti aimed at initiating business development is the use of *Technology Business Incubators*.

> *A Technology Business Incubator is a facility that provides a variety of services under controlled conditions to create an environment favourable for developing, nurturing and accelerating growth of new, technology-based companies. The support services provided include physical space, business development and technical services* (Burger, 2004).

Five incubators are funded directly by the dti and are listed below:[7]

- Acorn Incubator at the University of Cape Town, specialising in medical-device technologies.
- EgoliBio in Modderfontein, Gauteng, focusing on biotechnologies.
- Timbali Incubator in Nelspruit, Mpumalanga, focusing on floriculture technologies
- Chemin Incubator at the Port Elizabeth of Technology, focusing on fine chemicals technologies.
- Brainworks Incubator in Sunninghill, Johannesburg, focusing on information, communications and electronic technologies.

Collaborative funding between the dti, the Department of Science and Technology and the European Union support another seven incubators. These incubators are:

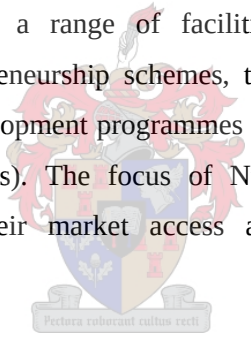
- Furntech, a Furniture Technology Centre in George, Western Cape, specializing in the training and demonstration of furniture technologies.
- National Fibre Centre in Port Elizabeth, specializing in research and development in natural fibres.
- Downstream Aluminium Centre for Technology in Richards Bay, KwaZulu-Natal, specializing in training in the beneficiation of aluminium.
- Mpumalanga Stainless Steel Initiative in Middelburg, Mpumalanga, specializing in the beneficiation of stainless steel.
- Innovation Support Centre in Cato Manor, Durban, KwaZulu-Natal, which specialises in embedded technologies.

[7] This information is obtained from the South African Yearbook (2003/2004).

- Demonstration Centre at Mintek, Randburg, Gauteng, which demonstrates equipment to small-scale miners over South Africa.
- Technology Incubator at the CSIR, Pretoria, specializing in software for wireless technologies.

On a high level, the dti implemented three major small business support programmes, each focussing on a different aspect of SMME needs. These programmes are:[8]

- **Khula Enterprise Finance Facility**, which operates as a wholesaler of finance to the retail-banking sector. As mentioned earlier in this text, Khula provides a range of credit guarantee mechanisms that are designed to reduce the risk on SMMEs' loans, thereby encouraging commercial banks to provide finance to those operating in the SMME sector.
- **The Manufacturing Advice Centres** (NAMAC programme), which offers sector-specific advisory services to manufacturing SMMEs to enable them to increase their productivity and improve their international competitiveness.
- **Ntsika**, which provides a range of facilities to small businesses, including management and entrepreneurship schemes, technology transfer schemes, market access and business development programmes through a network of Local Business Services Centres (LSBCs). The focus of Ntsika's programmes is on assisting SMMEs to improve their market access and to improve their international competitiveness.



2.2.4 Effectiveness of Government policies and support programmes for SMMEs

Governmental policies and support programmes for SMMEs, especially for those in the informal economy, have in many ways not lived up to expectations. The effectiveness of these support programmes has already been the focus of various research projects.

Of the *Khula Enterprise Finance Facility* it has been noted that

> *… the responsibility for risk assessment remains with the commercial banks who each apply their own criteria, most often requiring the minimum of a business plan. This has the effect of excluding most informal economy workers from accessing Khula-backed financial services* (Devey et al., 2006).

[8] Information obtained from Devey et al., 2006.

Considering *The Manufactures Advice Centre*, most assessments of the NAMAC programme indicate that they have been successful in meeting their objectives (see Rogerson, 2004).

> *However, given their focus on manufacturing, and the nature of their objectives and programmes, the activities of the manufacturing advice centres are unlikely to filter down to informal economy workers* (Devey et al., 2006).

As said earlier, the focus of *Ntsika's* programmes is on assisting SMMEs to improve their market access and to improve their international competitiveness. Much of this focus is implemented by assisting SMMEs to access government contracts and to penetrate export markets. Both of these objectives have little or no relevance to those working in the informal economy. Rogerson's assessment of Government's support programmes for SMMEs argues that

> *…during the period 1994-2003 dti funding allocations for SMMEs have inevitably favoured and been biased heavily towards support for established small and medium enterprises (often white owned) rather than emerging micro-enterprises and the informal economy* (Rogerson, 2004).

Rogerson concludes that "current national support programmes offer little in the way of support for survivalist enterprise, women entrepreneurs and rural SMMEs" (Rogerson, 2004).

Training for business owners in the informal economy has not been fruitful. Some of the reasons are the costs involved that need to be covered by workers, as well as their low levels of education and their lack of mobility, which made assessment of the workers difficult (see Devey et al., 2006).

A last view on the effectiveness of Government support comes from an analysis done by Budlender et al. (2004) on budget allocations of most National Government departments. They assessed the extent and efficacy of support measures for the informal economy and found that the initiatives at National Government level are piecemeal. Working through departmental budgets, annual reports and other documentation they came to the conclusion

> *…that the approach of most departments is to showcase some or other programme aimed at the poor and marginalized, however small that initiative is in absolute terms. Further, the support often intersects with informal work through specific poverty relief funding. National government lacks a coherent policy on the informal economy and this is reflected in the lack of a coherent programmatic approach to*

dealing with developments, and supporting economic activity in the informal economy (Budlender et al., 2004).

Unsuccessful utilisation of these high-level business support programmes indicates that Government support to informal SMMEs has not shown desirable outcomes. Support programmes for informal SMMEs should incorporate more collaborative actions between the Government and formal enterprises. This would hopefully improve the success rate of delivering support services to informal SMMEs. The Business Framework should facilitate collaborative efforts between Government and formal enterprises.

2.2.5 Linkages between the formal and informal economies

A general perception sometimes argues that the Second (informal) Economy is 'structurally' disconnected from the First (formal) Economy. This perception may lead to problems in policy terms in that policies based on this argument will, to some extent, be invalid, because they do not address these economic interactions accurately. "In fact, the informal economy contributes somewhere between 7% and 12% of GDP" (Devey et al., 2006). Another study on the behaviour of workers in the informal economy indicates that "…workers move between employment and unemployment, when employed between different segments of the economy, such as formal and informal" (Devey et al., 2006).

2.3 CONCLUSIONS ON SMMES

From the literature survey on SMMEs it may be concluded that the South African Government ranks enterprise development and the growth of SMMEs high on the list of important issues. Much has been done to lay the foundation for establishing SMMEs as part of the formal economy, in terms of policies and support programmes. However, very few of these efforts have resulted in sustainable integrated interaction between the formal and informal economies. More effort in terms of business development is required in order to improve the integration between informal SMMEs and formal economic activities.

Given the success rate of current applied programmes, it is clear that the Government does not have enough programmes to implement business development speedily. From the unemployment figures presented by Stats SA and Balkenhol et al. (2003) alone, one can conclude that the need for job creation, business development and entrepreneurial support is much greater than the existing support programmes are able to address.

The allocation of Government contracts is still biased towards SMMEs that are already established and does not necessarily generate business opportunities for informal SMMEs (See Rogerson, 2004).

Very little information is available on collaborative efforts between the Government, the private sector and informal SMMEs. This indicates that there is still a gap that could lead to business opportunities between the informal and formal economies if the necessary business models were defined and implemented. The Business Framework that has been developed should address these issues and act as a 'middle-man' between businesses in the formal and informal economies.

Business owners in the informal economy face many more risks than business owners in the formal economy.

> *Low- income entrepreneurs are particularly vulnerable to risks. Lacking adequate financial and other assets, the poor are exposed to the smallest economic shocks. Their vulnerability is exacerbated by the fact that low-income persons tend to live and work in riskier environments than wealthier people, with a greater likelihood of illnesses, accidents and thefts. Furthermore, low- income entrepreneurs do not usually have access to effective risk management strategies* (Balkenhol et al., 2002).

Lastly, it is clear that the informal economy does contribute to the national GDP (See Devey et al., 2006) and that SMME growth can be affected by the stability in the economy as seen from a macro-economic context (See Berry et al., 2002).

2.4 ENTERPRISE ENGINEERING CONCEPTS, TOOLS AND METHODOLOGIES

Since this research project is a study in the field of Enterprise Engineering, it is appropriate to introduce the relevant engineering concepts, tools and methodologies used in this text. These tools are applied as mechanisms to evaluate SMMEs operating in the informal economy and also in the development of the Business Framework. Special attention is given to the Zachman Framework, as this is used as an Enterprise Architecture Framework for the construction of the Business Framework in Chapter 4.

2.4.1 Enterprise Engineering

Enterprise Engineering is defined as "The body of knowledge, principles, and disciplines related to the analysis, design implementation and operation of all elements associated with an enterprise" (Whitman, 2002).

Enterprise Engineering methods include terms like 'modelling', 'cost analysis', 'simulation', 'workflow analysis' and 'bottleneck analysis'. Concepts of Enterprise Engineering are 'TQM', 'JIT', 'change management', 'business process re-engineering', 'enterprise integration' and 'value added analysis'.

In a continually changing and unpredictably competitive environment, enterprise engineers have to address the following challenge: "How to design and improve all elements associated with the total enterprise to more effectively achieve its goals and objectives through the use of engineering principles and methods" (Liles et al., 1995). Answering this question involves all activities that enterprises perform to improve productivity, gain and maintain competitive advantage, optimise resources and deliver quality products and services to meet customer expectations and demand.

2.4.2 Enterprise Life Cycle (ELC)

Life Cycle assessments measure the environmental impacts over the entire life span of a specific technology, enterprise, product or service.

> *The Enterprise Life Cycle is the basis for most Enterprise Integration Architectures being proposed today. A Life Cycle representation also forms an excellent model of the application methodology which must accompany the architecture to form a*

> *complete set of aids for the engineer contemplating an Enterprise Engineering or related project* (Williams et al., 1997).

This paragraph offers some information on the origination of Life Cycles. Consider the following extract from the article, "The Life Cycle of an Enterprise":

> *Everything in this world must have a beginning, a purpose and finally an ending. Even more important, every identified entity can be considered to go through the same series of phases or stages of its life in its progress from its beginning to its final ending. Such a progression can be captured in a graphical or narrative description which has come to be called the Life Cycle of the enterprise being discussed. Since such a description can capture the progressive stages in the lifetime of any entity, it must, by reference, be able to describe the necessary steps in the development of any future entity or enterprise. This is the basic concept of all of systems engineering and is universally applied even though the names and descriptions of the stages or phases involved will vary greatly from author to author depending on the specific purpose of each in their writings* (Williams et al., 1997).

In general three different Life Cycles will be simultaneously considered as they have direct impact on one another. These Life Cycles form the base axis of a cube, which is referred to as the Solution Space, and illustrated in Figure 2-1.

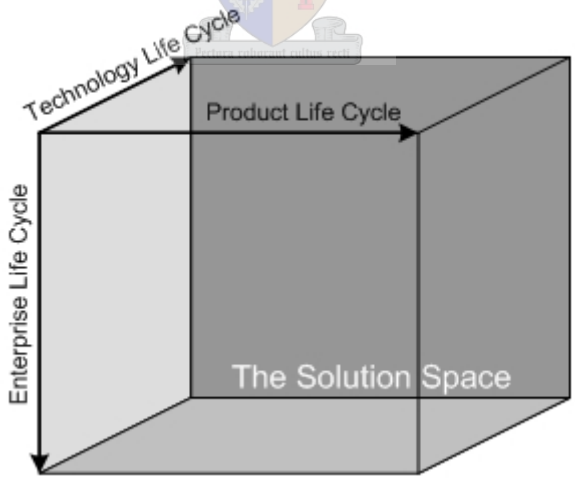


Figure 2-1. The Solution Space.

It is important to understand exactly what a specific Life Cycle is used for. "Life Cycle approaches are adopted in very different ways in different industries. The key factor appears to be the position of the analyst along a specific Life Cycle axis" (Berkhout, 1996). Life Cycle Assessment (LCA) is an analytical approach to quantify and evaluate direct impacts

on business innovation, environmental performance and competitiveness, both internal and external to the enterprise.

Although there are three Life Cycles, interlinked with each other, the Enterprise Life Cycle for SMMEs is the most significant for this research, as the challenge it poses is to refine and formalise an enterprise that will deliver - in most cases - a fairly standard and simple product or service. Refinement of the Product- and Technology Life Cycles is tabled under future research activities.

The Enterprise Life Cycle in Figure 2-2 comprises seven distinct stages. Each stage requires the completion of specific criteria, while Management and Technical oversight ensures compliance, integration and cohesion across the entire enterprise.

> *The Enterprise Life Cycle Methodology (ELCM) ensures that the enterprise's mission and business needs drive system development and its associated technologies, and not vice versa. Moreover, the ELCM explicitly supports specification of performance measures and evaluation of these measures to determine the extent to which the enterprise's mission and business goals are achieved* (Himes and Swelfer, 2003).

It thus represents a formalisation of the different components created in the Enterprise Life Cycle.

The next illustration depicts the Enterprise Life Cycle Methodology as adopted from MITRE and which is used in this text for enterprise evaluation and design purposes.

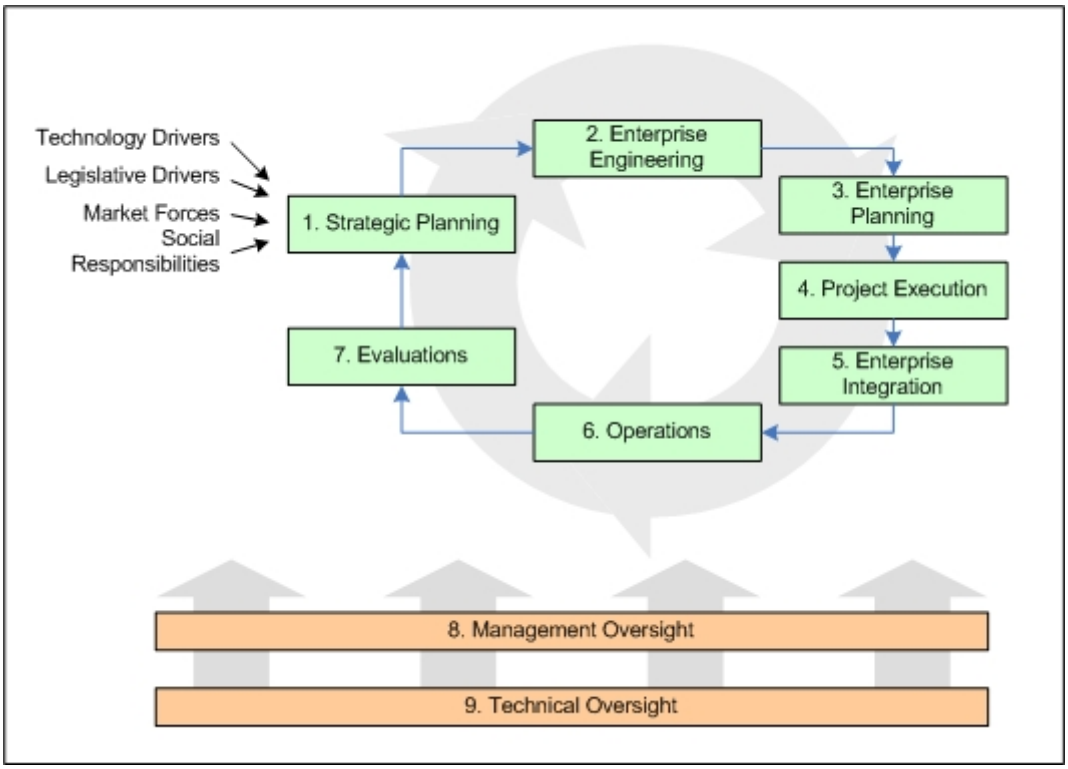


Figure 2-2. Enterprise Life Cycle Methodology. Each step requires Management and Technical Oversight[9].

There are two circumstances under which the Life Cycle Methodology could be employed and it is important to highlight the difference. The first application of the Life Cycle Methodology is done for evaluation purposes, while the second application of the Life Cycle Methodology deals with development (design) activities. Figure 2-3 illustrates that each of the Life Cycles in the Solution Space could be applied for either evaluation or design activities. The term 'Virtual Life Cycle' is used in the Enterprise Engineering group at Stellenbosch University when referring to a Life Cycle still in its 'design' state, thus referring to the Design Life Cycle. The term 'Virtual *Enterprise* Life Cycle' for instance, refers to the *Enterprise* Life Cycle that is still in a 'design' state. The same convention applies for the Product Life Cycle and the Technology Life Cycle.

[9] This Enterprise Life Cycle is adopted from MITRE. Source: www.mitre.org

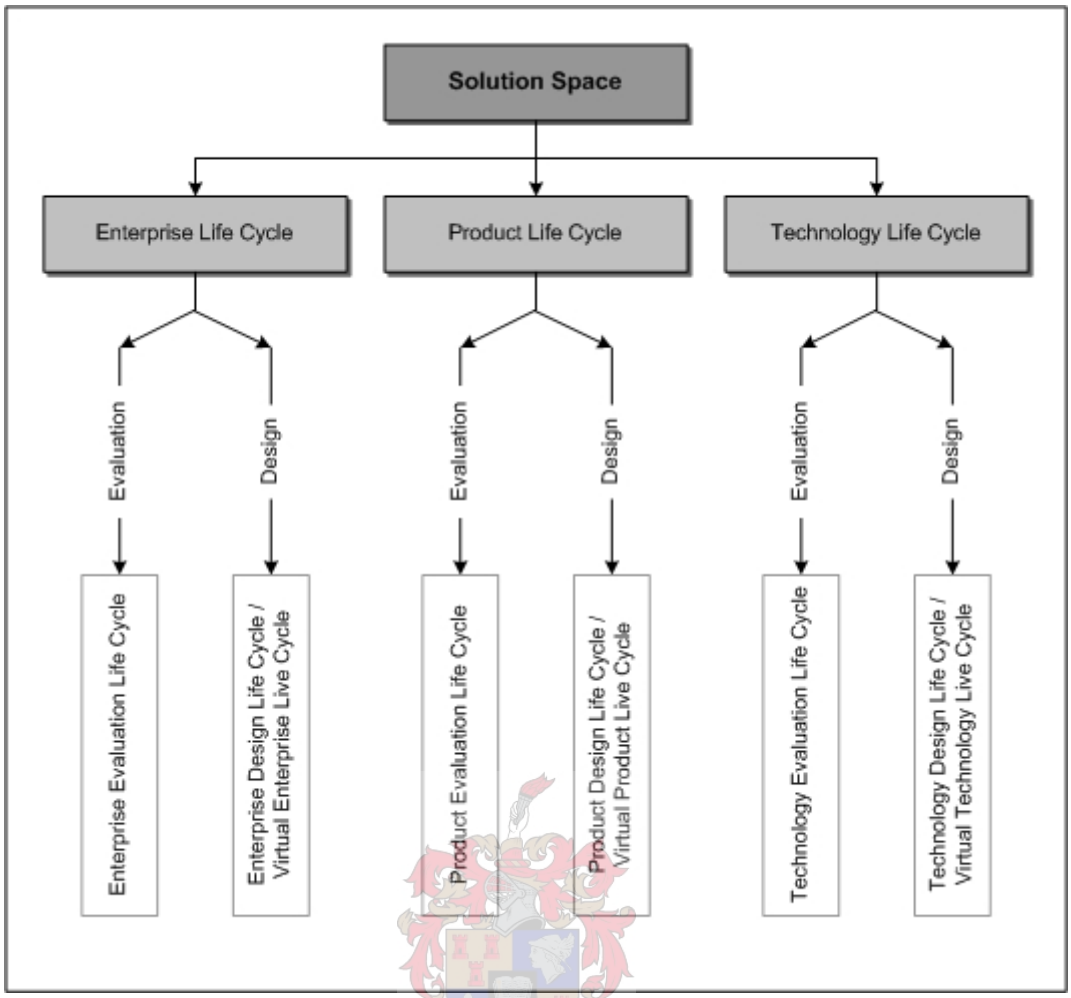


Figure 2-3. Life Cycle naming conventions.

Most authors just use the terminology of 'Enterprise Life Cycle', 'Product Life Cycle' and 'Technology Life Cycle' when the methodology is used for evaluation purposes, and indicate separately when they use the methodology for design purposes. The phases in the Design (or Virtual) Life Cycle need to be revisited often as the requirements are seldom completely specified initially. The development or design team needs to revisit the different phases until all the specifications are met.

Application of the Enterprise Life Cycle in this project

The first application of the Enterprise Life Cycle will be for evaluating existing enterprises (informal SMMEs) with the objective of redesigning or improving some components of these enterprises. In this case the Enterprise Evaluation Life Cycle monitors and evaluates all business processes in sequential order to determine their alignment with the overall company strategy.

The second application of the Enterprise Life Cycle will be in designing a new enterprise from a 'green fields' perspective. Since this is a new business, no specific business process in the Life Cycle exists, and the Enterprise Life Cycle should thus be seen as a Virtual Enterprise Life Cycle or an Enterprise Design Life Cycle. This viewpoint includes detailed business specifications, and the design team continues to revisit business processes in this Life Cycle until they are satisfied with their results. This is typically a recursive design activity where the Enterprise Design Life Cycle guides the designer to ensure comprehensiveness of the design. The designer may obviously make use of any previous experience, either tacit or explicit in nature. The development of the Business Framework in this research will provide an example of this application of the Enterprise Life Cycle Methodology.

2.4.3 Value Chains

A Value Chain is a sequential set of primary and support activities that an enterprise performs to turn inputs into value-added outputs for its external customers. These activities may add direct value for external customers and indirect value by supporting other enterprise operations. "The Value Chain is a tool for disaggregating a firm into its strategically relevant activities in order to understand the behaviour of costs and the existing and potential sources of differentiation" (Porter, 1985).

> *A Value Chain shows the distinct activities that an organisation performs to provide its products or services. Primary activities are directly involved in the creation of a product or service while support activities provide enterprise-wide functions that act as enablers for the primary activities* (Cynthia J. Odom and John F. Starns, *KMWorld* – Volume 12, Issue 9).

A Value Chain Analysis is one way of identifying which activities are best undertaken by a business and which are best provided by others, meaning which activities should be outsourced. By using the Value Chain approach in analysing informal SMMEs, the activities that should be performed by these SMMEs and the activities the Business Framework should perform may be identified.

Porter defines primary activities as:

- **Inbound Logistics** – activities associated with supplier relationships, including receiving, storing and disseminating inputs.
- **Operations** – all activities involved with transforming inputs into outputs that are either services or products.
- **Outbound Logistics** – all activities required to collect, store and distribute the outputs.
- **Marketing and Sales** – activities that inform potential customers about the products and services and provide the means for customers to obtain these products or services.
- **Customer Service** – activities that keep the product or service working effectively after it has been delivered.

From this information in the literature the following graphical representation of a value chain was constructed.

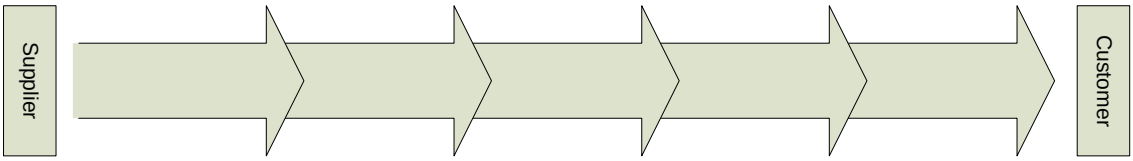


Figure 2-4. The Enterprise Value Chain.

As mentioned, support activities assist the primary activities in helping an organisation achieve its competitive advantage. These support activities are:[10]

- **Procurement** – This department must source raw materials for the organisation and obtain the best price for doing so. They must obtain the best possible quality for the price.
- **Technology Development** – is the use of technologies to obtain a competitive advantage within the organisation. Technologies can be used in production to reduce cost, and thus add value. Technologies can also be used in research and development activities to develop new products or services. These activities are also aimed at managing information and protecting 'knowledge' in the business.
- **Human Resource Management** – This department should recruit, train and develop the correct people for the organisation to meet its objectives. Staff have to be motivated and paid the 'market rate' if they are to stay with the organisation and add value to it over the duration of their employment.
- **Infrastructure** – Every organisation needs to ensure that their finances, legal structure and management structure works efficiently and helps to drive the organisation forward.

[10] Source: http://www.learnmarketing.net/valuechain.htm

The next illustration shows a combined view of both the primary and support activities.

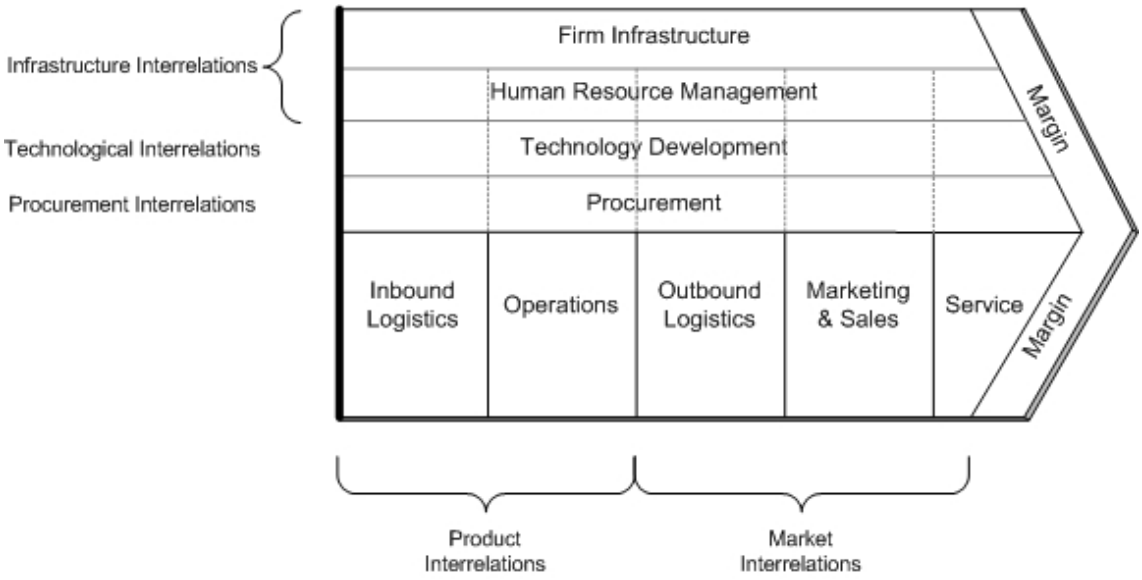


Figure 2-5. The Value Chain with primary and secondary support activities.

The Value Chain provides a graphical representation of activities in an organisation and acts as a mechanism to communicate the deployed processes. It identifies the links between processes and how these processes relate to the overall enterprise. "The Value Chain increases the ability of an organisation to deliver quality products and services to its customers in the most economical manner" (Cynthia J. Odom and John F. Starns, *KMWorld* – Volume 12, Issue 9).

The Value Chain analysis can be broken down into three sequential steps.

- Firstly, the organisation is broken down into its key activities under each of the major headings in the model.
- Secondly, an assessment is done to calculate the potential for adding value to one or more of these activities by cost reduction, variation, or identification of activities that already appears to have a competitive advantage.
- Thirdly, strategies that focus on activities where sustainable improvement can be implemented are determined.

"Understanding the Value Chains involved in producing products and services is the best approach to build the value of the enterprise" (Weiler et al., 2003).

The Value Chain analysis is used to assess SMMEs in the informal economy because the Value Chain focuses on both the core (primary) business activities and the supporting activities. Many of the skills that are lacking in informal SMMEs can be qualified as supporting activities. An evaluation of these supporting activities will help to better understand what these informal SMMEs will require from the Business Framework.

2.4.4 GAP Analysis

Transforming a business from an AS-IS into a TO-BE model requires some form of knowledge about the differences between the two models or states. Performing a GAP-analysis is probably the easiest method of highlighting the differences and identifying the gaps that exist between the new (required) standard and current business processes. Once the gaps are known, the enterprise engineer may take steps to fill them.

The next figure displays the GAP-analysis process.

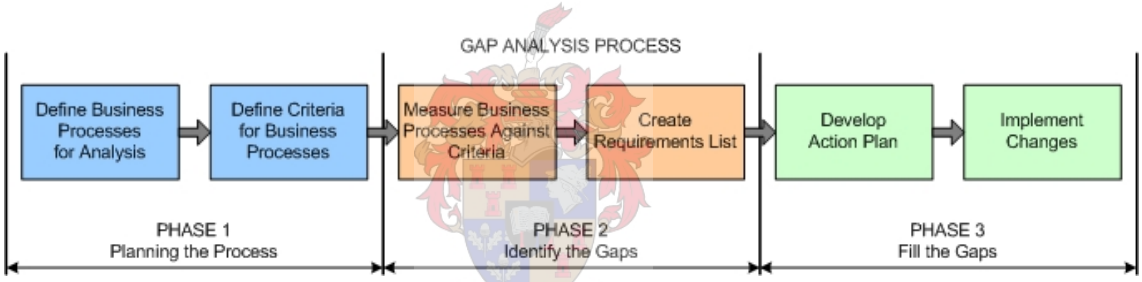


Figure 2-6. The GAP-Analysis Process.

Before using the gap analysis process tool, it is necessary to have a list of prerequisites that make up the new standard. With the new standard in mind, one needs to define the business processes that contribute to or are affected by the new standard and thus need to be analysed. Once the processes have been identified, one needs to define the criteria to which these processes should conform. From Figure 2-6 it can be seen that this constitutes the planning phase of the GAP-Analysis.

Phase two compares the business processes against the defined criteria and produces a list of required processes that need attention. In the last phase the enterprise engineer develops an action plan on how to re-engineer the relevant processes and implement the necessary changes. In most cases, bridging this gap is accomplished by backward-chaining logical sequences of actions or intermediate states from the desired state to the present state.

Re-engineering business processes to meet the new standards often requires innovative thinking. It is important to keep in mind that these processes need to be aligned with the overall business strategy and deliver quality products or services to customers in the most economical manner.

As with all the other Enterprise Engineering tools and Methodologies, the basic idea behind any re-engineering process is helping businesses to gain a competitive advantage over their competitors. GAP-Analysis alone, however, is not adequate for analysing every problem situation as different goals may evolve and emerge during the course of problem solving. Some problems may have alternative solutions, which is why the GAP-Analysis is used in conjunction with other enterprise engineering tools, such as the Enterprise Life Cycle Methodology and Value Chain.

2.4.5 Enterprise Architectures

The purpose of this paragraph is to introduce the concept of Enterprise Architectures before Enterprise Frameworks are discussed. Organisations, products, customers and technologies continue to change. Managers often require an 'overview' that will allow them to understand how everything in their organisations fits together. "The current popular term for such and overview is *architecture*…" and "…increasingly, the term *Enterprise Architecture* refers to a set of *architectures*, which, taken together, provides a complete view of the organisation" (Frankel et al., 2003).

What is an Enterprise Architecture? A short answer is: *It is a representation of the process or method explaining how an enterprise is defined and constructed.*

An Enterprise Architecture illustrates how a business goes about the process of making explicit representations of enterprise operations. These business representations need to be organised and classified into discrete reusable components so that as enterprises change, the domain of change impact is confined to the smallest area possible, at the least cost and with the greatest effectiveness for implementation.

Enterprise Frameworks are examples of Enterprise Architectures. The next section continues with a discussion on the Zachman Framework.

2.4.6 The Zachman Framework

Building on the discussion of Enterprise Architectures in the previous section, it is concluded that Enterprise Architectures are used to ensure that internal controls in an enterprise are not just implemented, but also works in practise throughout the enterprise. Managing internal controls in an enterprise comes down to managing key business resources such as: data; business activities and processes; locations; people and business units; and events, and ensures that these resources relate to strategic and tactical business plans that have been defined by management.

Zachman say that

> *…The Framework, as it applies to enterprises, is simply a logical structure for classifying and organising the descriptive representations of an enterprise that are significant to the management of the enterprise as well as to the development of the enterprise's systems. It was derived from analogous structures that are found in the older disciplines of Architecture/Construction and Engineering/Manufacturing that classifies and organises the design artefacts created over the process of designing and producing complex physical products (e.g. buildings or airplanes)* (Zachman, 1997).

Enterprise Architectures has previously been considered to be an IT responsibility, but when it is used by management, provides precise governance and business transformation capabilities.

> *The older disciplines of architecture and manufacturing have accumulated considerable bodies of product knowledge through disciplined management of the 'product definition' design artefacts. This has enabled enormous increases in product sophistication and the ability to manage high rates of product change over time. Similarly, disciplined production and management of 'enterprise definition' (i.e. the set of models identified in the Framework for Enterprise Architecture) should provide for an accumulation of a body of enterprise knowledge to facilitate enormous increases in enterprise sophistication and accommodation of high rates of enterprise change over time* (Zachman, 1997).

Organisations use Enterprise Architectures to become more flexible and agile, primarily for managing business change.

> *Zachman proposed an Enterprise Architecture Schema in which he depicted two distinct dimensions in a matrix. The columns classify answers to the interrogatives: WHO, HOW, WHAT, WHERE, WHEN and WHY. The rows classify the audience perspectives of SCOPE, OWNER, DESIGNER, BUILDER, TRADES and FUNCTIONING ENTERPRISE* (Locke, 2003).

The internal controls (as mentioned in the first paragraph) that are required will vary from enterprise to enterprise. They need to be tailored for the relevant industry (or industries) within which the organisation operates. These controls are typically unique for each enterprise and are determined by its business activities and processes.

Frankel et al say that

> *…The Zachman Framework is one popular way of conceptualising how all of the more specific architectures that an organisation might create can be integrated into a comprehensive picture. The Zachman Framework is an analytic model or classification scheme that organises descriptive representations. It does not describe an implementation process and is independent of specific methodologies* (Frankel et al., 2003).

The Framework in graphic form describes the design objects that constitute intersections between the roles in the design process (Planner, Owner, Designer, Builder, Sub-Contractor), and interrogative abstractions (WHAT (material) it is made of, HOW (process) it works and WHERE (geometry) the components are, WHO (people) does the work, WHEN (time) do things happen and WHY (motivation) are certain choices made), relative to one another. A graphic representation of the Framework is shown in Figure 2-7.

Abstractions (Columns) →

Perspectives (Rows) ↓

THE ZACHMAN FRAMEWORK	DATA *What* *(Things)*	FUNCTION *How* *(Process)*	NETWORK *Where* *(Location)*	PEOPLE *Who* *(People)*	TIME *When* *(Time)*	MOTIVATION *Why* *(Motivation)*
SCOPE (Contextual) *Planner*	List of things important to the business Entity = Class of business thing	List of processes the business performs Function = Class of business process	List of Locations in which the business operates Note = Major business location	List of Organizations Important to the Business People = Major organizations	List of Events Significant to the Business Time = Major business event	List of Business Goals/Strategies Ends/Means = Major bus. goal/Critical success factor
BUSINESS MODEL (Conceptual) *Owner*	Semantic Model Ent = Business entity Rein = Business relationship	Business Process Model Proc = Business process I/O = Business resources	Business Logistics System Node = Business location Link = Business linkage	Work Flow Model People = Organization unit Work = Work product	Master Schedule Time = Business event Cycle = Business cycle	Business Plan End = Business objective Means = Busines strategy
SYSTEM MODEL (Logical) *Designer*	Logical Data Model Ent = Data entity Rein = Data relationship	Application Architecture Proc = Application function I/O = User views	Distributed System Architecture Node = I/S function (Processor, Storage, etc.) Link = Line characteristics	Human Interface Architecture People = Role Work = Deliverable	Processing Structure Time = System event Cycle = Processing cycle	Business Rule Model End = Structural assertion Means = Action assertion
TECHNOLOGY MODEL (Physical) *Builder*	Physical Data Model Ent = Segment/Tabel, etc. Rein = Pointer/Key	System Design Proc = Computer function I/O = Data elements/sets	Technology Architecture Node = Hardware/ System software Link = Line specifications	Presentation Architecture People = User Work = Screen format	Control Structure Time = Execute Cycle = Component cycle	Rule Design End = Condition Means = Action
DETAILED REPRESENTATIONS (Out-of-Context) *Sub-Contractor*	Data Definition Ent = Filed Rein = Address	Program Proc = Language statement I/O = Control block	Network Architecture Node = Addresses Link = Protocols	Security Architecture People = Identity Work = Job	Timing Definition Time = Interrupt Cycle = Machine cycle	Rule Specification End = Sub-condition Means = Step Actual
FUNCTIONING ENTERPRISE	Actual Business Data	Actual Application Code	Actual Physical Networks	Actual BusinessOrganization	Acutal Business Schedule	Business Strategy

Figure 2-7. The Zachman Enterprise Architecture Framework.[11]

[11] Source: FRANKEL et al.., 2003. *Business Process Trends.*

The vertical dimension (the rows) describes the perspectives of those who use the models or descriptions contained in the cells. The top row represents the most generic perspective of an organisation, while the lower rows are successively more concrete. The bottom row represents a description of the actual data, business processes and people that make up the enterprise.

An explanation of the perspectives is given below. Starting from the top of Figure 2-7:[12]

- **SCOPE: (Contextual) The Planner's Perspective.** This describes the models, architectures and representations that provide the boundaries for the organisation. It describes what senior executives must consider when they think about the organisation and how it interacts with the world.
- **BUSINESS MODEL: (Conceptual) The Owner's Perspective.** This describes the models, architectures and descriptions used by the individuals who are the owners of the business process.
- **SYSTEM MODEL: (Logical) The Designer's Perspective.** This describes the models, architectures and descriptions used by engineers, architects and those who mediate between what is desirable and what is technically possible.
- **TECHNOLOGY MODEL: (Physical) The Builder's Perspective.** This describes the models, architectures and descriptions used by technicians, engineers and contractors who design and create the actual product or business process. The emphasis here is on constraints and what will actually be constructed.
- **DETAILED REPRESENTATIONS: (Out-of-Context Perspective). A Sub-Contractor's Perspective.** This describes the actual elements or parts that are included in the make up of the final product or business process.
- **THE FUNCTIONING ENTERPRISE:** The bottom row represents the actual deployed or running elements, business processes, and people of the organisation. It isn't a perspective, as such, but the 'real organisation,' in all its complexity, that underlies all of the more or less abstract perspectives above it.

Before the discussion on Zachman's Enterprise Architecture Framework is concluded, it would be valuable to include his perspective on integration of enterprise concepts, and as such, deliver a more complete discussion of the so-called Zachman Framework.

[12] Explanations for these perspectives are adopted from: (Frankel et al, 2003).

Business integration, as viewed from Zachman's perspective, implies three directions of integration, leading to three definitions. Zachman's definitions of integration are illustrated in Figure 2-8.

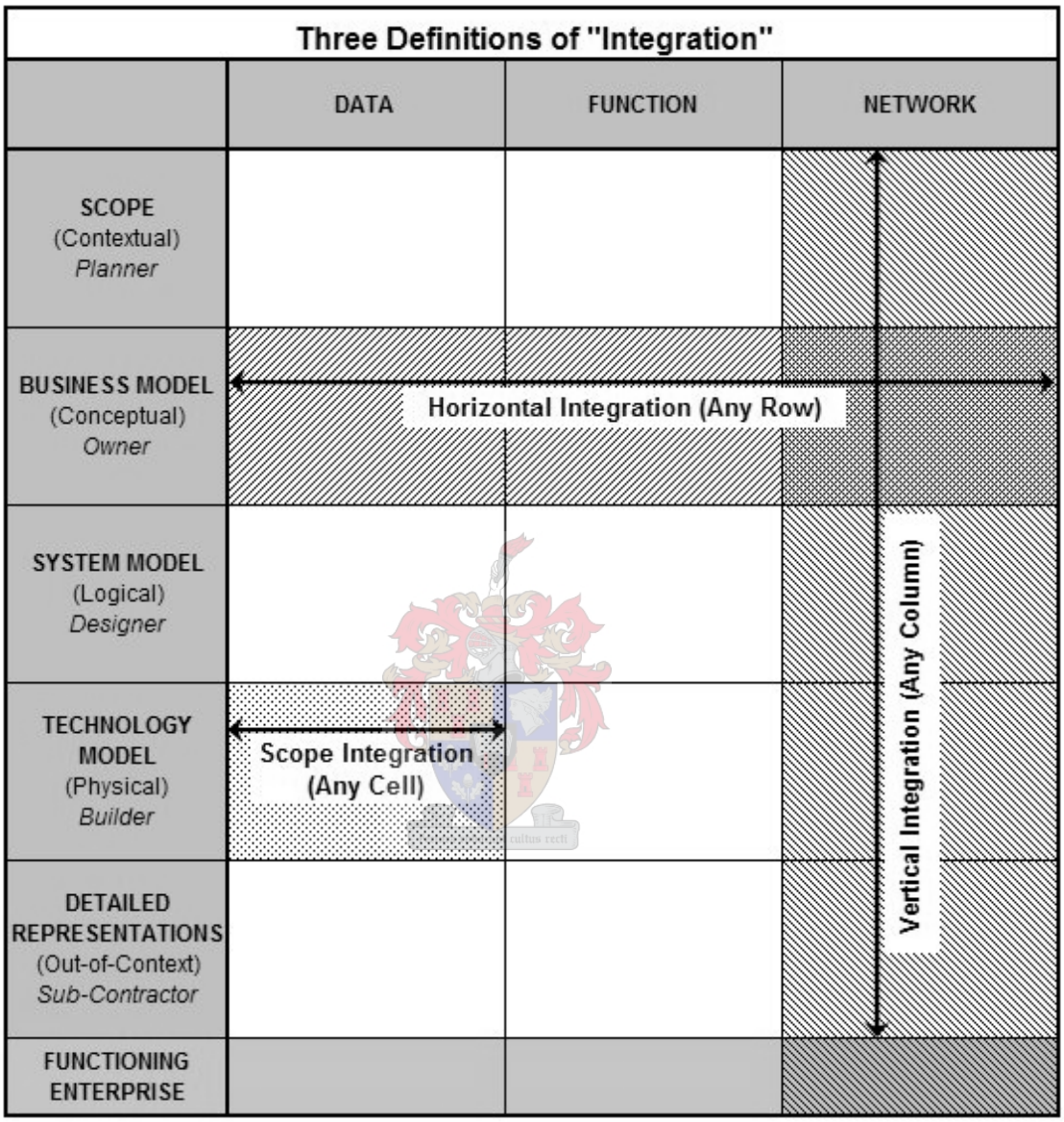


Figure 2-8. The Three Definitions of Integration in the Zachman Framework.[13]

Integration implies that no discontinuity should exist between the various related concepts within the Enterprise.

These definitions of Zachman on business integration are explained below:[14]

[13] Source: ZACHMAN, J.A., 1997, *Concepts of the Framework for Enterprise Architecture, Background, Description and Utility*

- **Scope Integration** - No discontinuity within any one kind of model across the scope of the Enterprise. (Internal sharing improves efficiency).
- **Horizontal Integration** - No discontinuity across the different kinds of related models from column to column. (Horizontal sharing improves effectiveness).
- **Vertical Integration** - No discontinuity between the various Rows, the Owner's, Designer's and Builder's constraints. (Vertical sharing improves quality).

In conclusion

The Zachman Framework is useful as an Enterprise Architecture in its ability to guide an enterprise engineering team from the business idea generation phase right through to the development of the necessary business processes that in the end comprises a new or improved organisation.

The Zachman Framework provides a systematic approach to enterprise design, keeping the enterprise design team focused on selected aspects without losing perspective of the original intention of the project.

It improves optimisation, ensuring that design decisions of varying levels of detail are related to the overall strategy of the organisation.

The Zachman Framework is comprehensive. It addresses the enterprise in its entirety, providing a high-level overview of the enterprise as well as detailed descriptions and specifications for internal business processes.

It is easy to use and understand. The graphic nature of the Framework allows for accurate communication without having to use technical words, which means it can be used as a tool for communicating complex objects to both technical and non-technical management.

The Zachman Framework is independent of other tools and methodologies and therefore any tool or methodology can be mapped against it to evaluate whether it is implicitly applicable for a specific application.

Given these advantages, the Zachman Framework will thus be used as Enterprise Architecture for the planning and development of the Business Framework.

[14] Source: John A. Zachman, *Framework for Enterprise Architecture*, Enterprise Physics 101 seminar.

2.4.7 Zachman Framework and ELC

A mapping of the phases of Zachman's Framework on the ELC illustrates the completeness with which the Zachman Framework, as an Enterprise Reference Architecture, addresses enterprise design or enterprise evaluation with regards to the Life Cycle of an enterprise. Figure 2-9 illustrates this mapping of the Zachman Framework onto the ELC.

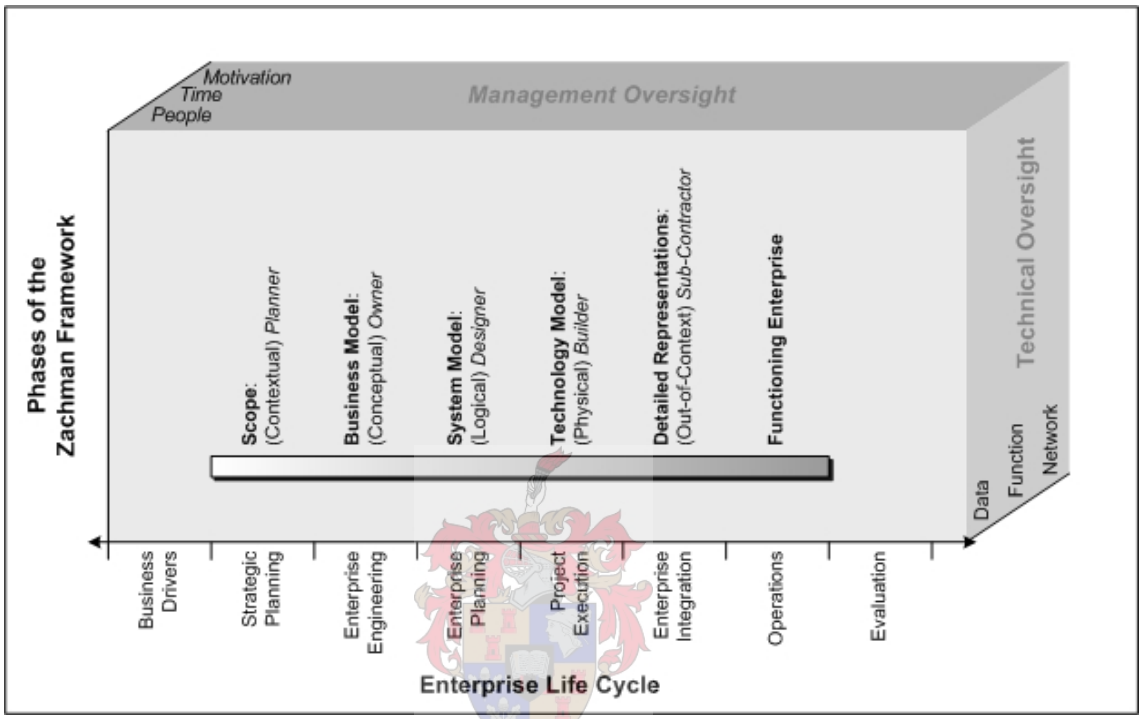


Figure 2-9. Zachman Framework and ELC.

From this mapping it may be concluded that the Zachman Framework represents most of the ELC stages and the supporting functions, such as Management Oversight and Technical Oversight. One concern, however, is the last 'evaluation' stage, which is not specifically addressed by the Zachman Framework. Other Enterprise Reference Architectures like PERA and GERAM do include this stage as part of their architectural descriptions and refer to it as *Enterprise Dissolution* (See Williams et al., 2001). This shortcoming of the Zachman Framework does not affect its applicability and use for this research project, however, because decommissioning of SMMEs affiliated to the Business Framework or decommissioning of the Business Framework itself falls outside the scope of this project and is suggested for future research.

'Business Drivers' are not seen as an Enterprise Life Cycle stage as such, although they generally inspire management to evaluate whether a set of circumstances could be a business opportunity or not.

2.5 SUMMARY

In this chapter it has been shown that most of these engineering concepts, tools and methodologies are inter-related, although each of them does have a specific focus area. The Value Chain and ELCM will be used to investigate business activities of informal SMMEs. A GAP-Analysis will be performed to 'transform' these informal SMMEs from their current state to become integrated business entities that could operate as part of the Business Framework. From the GAP-Analysis, a requirements list will be produced that will then act as a specification list for business functions the Business Framework should perform. Once these requirements for the Business Framework are known, the Zachman Framework will be applied to develop the Business Framework. Again, the Value Chain and ELCM will be used to optimise business processes within the Business Framework.

Chapter 3

3 BUSINESS ASSESSMENT

3.1 INTRODUCTION

This chapter uses the enterprise engineering concepts, tools and methodologies discussed in the previous chapter to perform an assessment on SMMEs operating in the Second Economy. The ELCM is used to determine the impact of environmental elements on high level business functions like strategic planning, enterprise planning, management and the influence of business drivers. It also provides an understanding of the level of integration between internal business activities like project execution and operations.

The Value Chain is used to determine how business processes add value to the products or services of these SMMEs. It also assesses the level of maturity of customer- and supplier interaction. An assessment of the supporting activities is done to evaluate their effectiveness in providing a competitive advantage to the enterprises.

Finally, the GAP-Analysis is used to transform these informal SMMEs from their isolated existence into a networked environment where they would operate as affiliated businesses of the Business Framework. The output of the GAP-Analysis is a requirements list that should be seen as specifications to which the Business Framework should conform.

It is important to note that interpretations of these methodologies will vary, depending on the viewpoints taken. The first example of such a viewpoint depicts the analyst as a person ‘standing’ in the formal economy and ‘looking’ at SMMEs operating in the informal economy. In this case the formal economy can be seen as the benchmark, and evaluations of SMMEs will be made relative to circumstances in the formal economy. An example of a different viewpoint is that of the analyst ‘standing’ in the informal economy and evaluating SMMEs that operate in the informal economy. In this case the benchmark could be the best informal SMME, which means that assessments of SMMEs would be made relative to the best SMME in the informal economy.

The aim of this research, however, is to integrate informal SMMEs with formal economic activities. The first viewpoint will therefore apply for assessment procedures.

3.2 INFORMAL SMME ASSESSMENT WITH THE ELCM

As shown in the Literature Survey, the Enterprise Life Cycle consists of seven core phases, two additional supporting sections and also a view on business drivers. The Enterprise Life Cycle and Value Chain measure businesses at process level. The main advantage of this lies in the resulting ability to evaluate informal SMMEs as business units, irrespective of their specific line-of-business. It is important to establish which activities in these enterprises is adding value to the business and which do not. These methodologies help to integrate and align management and technical support with each of the business processes.

Characterising SMMEs implies that these business units are already in operation and therefore the Enterprise Life Cycle would be used as an evaluation tool. In addition to evaluating informal SMMEs, a Business Framework will be developed. Since the Business Framework needs to be designed, one should use the terminology of a Virtual Enterprise Life Cycle.

3.2.1 Business Drivers

Starting any business or business process requires certain driving forces. These forces are illustrated in Figure 2-2. Regardless of what the reason or driving force is, this initiates a business opportunity and therefore initiates the Enterprise Life Cycle. Driving forces that initiate most of these Entrepreneurial Businesses or SMMEs may be summarized as follows:

- **Technology Drivers**: A certain type of technology becomes popular or cheap and can be utilized in either a product or service that the entrepreneur wants to sell.
- **Legislative Drivers**: Legislative drivers are mostly enforced from government's long-term objectives. These types of drivers include BEE standards, Employment Equities, Women's Rights, Land Reforms, Skills Development Strategies, etc.
- **Market Forces**: Market forces are generally governed by the performance of various economic sectors. Typical examples are a stronger focus on Tourism, Arts and Crafts, Agri-businesses, Telecommunications and International Investments for the local business environments.
- **Social Responsibilities**: Many large organizations, local and international, exercise a sense of social responsibility in supporting rural development and fighting poverty and unemployment in urban communities. These organisations deploy various strategies and entrepreneurs can benefit from these incentives by joining these organizations in rolling out their social responsibility policies.

Looking at this broad spectrum of driving forces that exist in South Africa, it is clear there is ample room for entrepreneurs and informal SMMEs to transform these opportunities into sustainable businesses. Economic and political stability in the country provides a good foundation for these start-up enterprises to establish themselves as formal economic entities.

3.2.2 Strategic Planning

Although all these opportunities exist, very few businesses start up to exploit them and those who do, struggle to succeed in keeping their businesses economically viable. Most of them do not develop a business strategy at this very crucial stage. To put it in simple terms; 'they have an idea, and want to make money out of it'. During this phase they need to plan ahead and position the business to enter the market successfully by focusing on a specific product or service they want to sell. Furthermore, they have to plan how they want to grow the business within the next three to five years. This goes hand-in-hand with the development of a business plan, something that most of informal SMMEs do not have (Devey et al., 2006). Unfortunately, this important phase is overlooked and without a strategic goal or business plan, these businesses experience difficulty in obtaining financing, which has the effect of them slowly losing momentum and eventually failing.

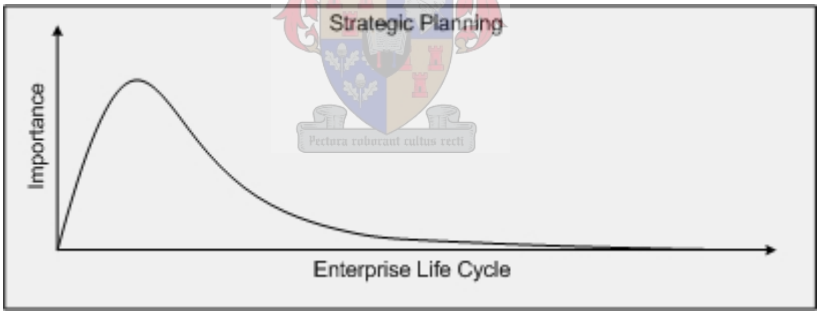


Figure 3-1. Strategic Planning as part of the Enterprise Life Cycle.

As shown in Figure 3-1, Strategic Planning is the first and most crucial part in the early phases of the Enterprise Life Cycle.

3.2.3 Enterprise Engineering and Planning

During the enterprise engineering process, entrepreneurs need to decide what the business will look like. What business processes need to be in place, what will their roles be and what management structures need to implemented. They have to find innovative ways of conducting business that are more efficient than those of their competitors.

Furthermore, entrepreneurs need to plan how the business will operate on a day-to-day basis in order to reach their core objectives. This requires detailed project management that focuses on reducing implementation time while still ensuring a complete roll out of all business processes. Effective planning can reduce unnecessary losses resulting in fewer cash flow problems. Enterprise Engineering and Enterprise Planning go hand-in-hand, as shown in Figure 3-2.

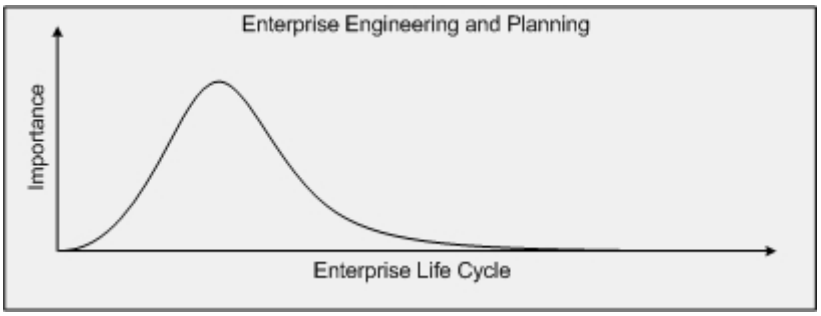


Figure 3-2. Enterprise Engineering and Planning as part of the Enterprise Life Cycle.

Due to the lack of education and exposure to management experience, most owners of these entrepreneurial businesses under discussion do not have the skills to execute this design and planning process formally. (See Balkenhol et al., 2002).

This phase is important with regard to:

- The products and services being offered.
- The markets being served.
- Ownership of the enterprise.

3.2.4 Project Execution

How will the enterprise start doing business and perform operations in line with its core objectives? During the project execution phase, all tasks listed in the strategic planning, enterprise engineering and enterprise planning sections must be carried out according to their relevant schedules.

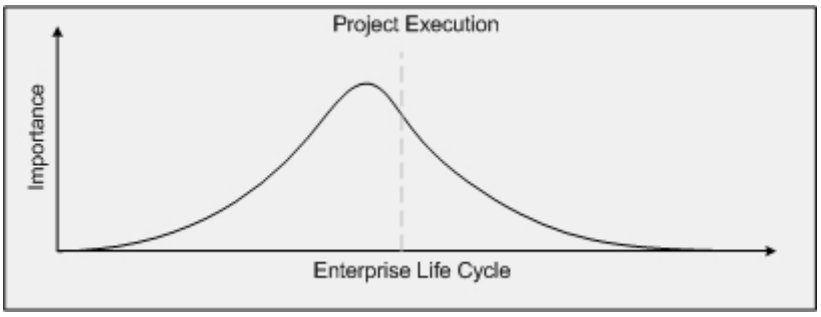


Figure 3-3. Project Execution as part of the Enterprise Life Cycle.

The proper execution of all projects ensures effective implementation of the business. Due to a lack of skills and training (Chapter 2), this important phase is easily overlooked by entrepreneurs and informal SMME business owners and insufficient planning during the previous phases leads to improper project execution activities.

3.2.5 Enterprise Integration

Business functions rarely exist in isolation. Customers expect access (direct or indirect) to all business functions an enterprise can offer, regardless of the system in which the functionality may reside. This requires disparate operations to be connected through a larger, integrated system.

In the context of informal SMMEs, enterprise integration can be viewed at two levels.

- Integration of enterprise operations with other role players in the market.
- Integration of business processes within the same enterprise.

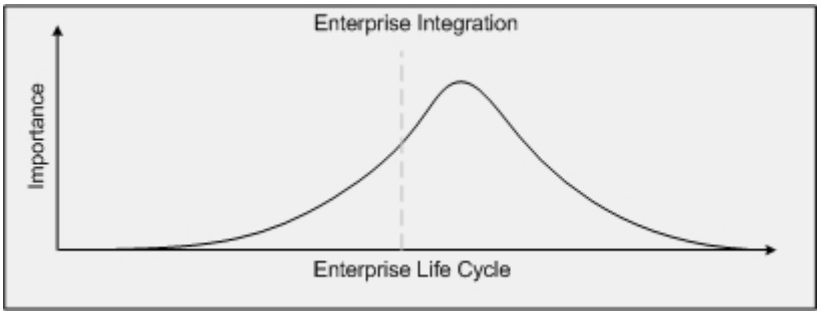


Figure 3-4. Enterprise Integration as part of the Enterprise Life Cycle.

Enterprise Integration is a complex task and there is no right or wrong solution. Integration architectures are normally based on Best Practice methods and methodologies. Whether a specific solution was a good choice or not will only become evident after a considerable length of time has passed during which the implemented architecture is tested in real life

situations. As with most of the previous Life Cycle processes, informal SMME owners do not necessarily undertake pro-active Enterprise Integration actions with regards to external role players. One example of this is the means by which informal SMMEs receive goods from suppliers and how they deliver goods to customers (see Lehohla, 2002). As seen in the Literature Survey, informal SMMEs exhibit a tendency to operate in isolation. Internal integration activities, however, do exist to some extent, because the owner is generally responsible for all business functions and therefore has a 'feeling' for the influence of internal business processes on each other. (An example of this could be the use of a bookkeeping system.)

3.2.6 Operations

From a business perspective, effective internal operations are the road to profitability. Business processes should be integrated across all functions of the organisation. Various technologies are available that equip enterprise processes to be responsive and flexible in a changing business environment. It is necessary to highlight the importance of proper business process design before operations can be effective and truly add value.

For entrepreneurial businesses and informal SMMEs the business design process adds the most value. Almost all SMMEs are capable of "doing" something with relatively high success rates. It doesn't matter if they produce products or sell a service. However, many of these SMMEs do not acknowledge the importance of effectiveness and do not therefore perform to their full potential. Operations are seen as a reactive process and work gets done without the proper support structures and goals.

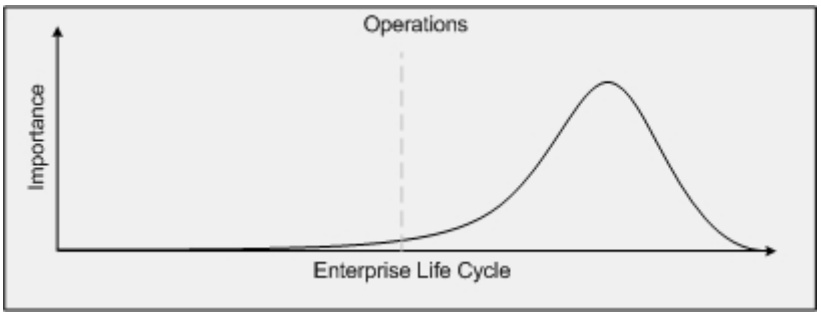


Figure 3-5. Operations as part of the Enterprise Life Cycle.

3.2.7 Evaluations

Evaluating the progress and performance of a business is crucial for survival. A critical analysis of each process should be made to determine its contribution to the net income of the business. However, this process is quite easily neglected and most SMMEs do not have financial figures, efficiency measures, quality controls or market share estimations. Without evaluation measures it is impossible to strategize the business and adjust the processes to align them with the business' core objectives.

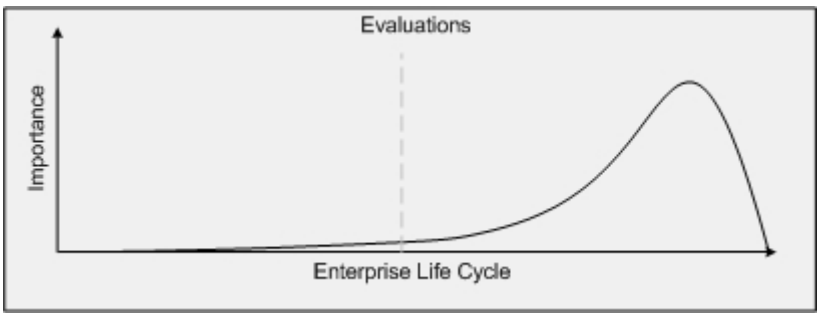


Figure 3-6. Evaluations as part of the Enterprise Life Cycle.

3.2.8 Management Oversight (Guidance)

Management should back all these processes. It is therefore important that the management has the mental ability to ensure effective operations of all the underlying processes. The management function is responsible for deployment and utilisation of resources. There are not always proper management responsibilities in place in these types of businesses. In most cases, the owner and manager is the same person and controls the whole enterprise. As seen in the Literature Survey in Chapter 2, informal SMME-owners do not always have the capacity and necessary skills required to manage a business. Due to the lack of business skills, these managers/owners may not know which operations are ineffective and cannot therefore react appropriately to problems. Informal SMMEs thus portray a Situational Management culture as a result of not being able to pro-actively manage the business.

3.2.9 Technical Oversight

Technical Oversight is supplemental to management and focuses on the implementation of tools that support business processes and functions. These tools are necessary to ensure effective integration between business processes in order to efficiently transform business drivers into value-generating opportunities.

Based on the literature presented in Chapter 2, most informal SMME businesses in South Africa do not have formal processes, nor do they have the resources and technical skills to implement integration tools for the few informal processes that do exist. This leads to a situation where informal SMMEs cannot reap all the benefits from their business opportunities.

3.2.10 Enterprise Life Cycle (ELC) Evaluation Summary

From the literature examined in Chapter 2, as well as observations in the case study, the author has compiled a summary of the Enterprise Life Cycle Evaluations of informal SMMEs. This summary is presented in Table 3-1.

Table 3-1. ELC Evaluation Summary.

ELC Evaluation Summary	
Business Process	**Summary**
0. Business Drivers (Section 3.2.1)	• South Africa has numerous business opportunities for SMME enterprises. • Most of these opportunities are not exploited due to the lack of business skills of entrepreneurs.
1. Strategic Planning (Section 3.2.2)	• Strategic planning is crucial for any business. • Informal SMMEs and entrepreneurs seldom develop a business strategy reflecting their goals.
2. Enterprise Engineering (Section 3.2.3)	• Business Process Designs are important and need to be innovative. • Informal SMMEs neglect this design phase and thus their internal processes are not aligned and effective.
3. Enterprise Planning (Section 3.2.3)	• Very little planning goes into the inauguration of informal SMMEs. • Business Plans are incomplete without strategic goals. • Planning and Execution go hand-in-hand and entrepreneurs should be realistic when incorporating execution procedures in the planning schedule.
4. Project Execution (Section 3.2.4)	• Project Execution builds on effective Enterprise Planning. It is still important to ensure that projects are executed effectively and on time. • Proper execution ensures effective implementation of business processes. • Informal SMME enterprises often do not realize the indirect value of effective project executions.

Business Process	Summary
5. Enterprise Integration (Section 3.2.5)	• Businesses should not operate in isolation. • Internal and external integration of processes is essential. • Most informal SMME are not part of an integrated network. • Integration of internal business processes does exist to some extent.
6. Operations (Section 3.2.6)	• Effective Operations is the road to profitability. • Operations are the most value adding process in SMME-type businesses, since this represents the income generating activity. • Earnings from operating procedures can increase significantly if operations are more effective.
7. Evaluations (Section 3.2.7)	• Evaluating any business is very important. • Business owners have to develop a metrics and measurements system. • Informal SMME do not have a performance measurement strategy and as a result seldom perform enterprise evaluations.
8. Management Oversight (ensure compliance, integration and cohesion across all business processes) (Section 3.2.8)	• Effective management is fundamental to the implementation, support, guidance and utilisation of all business functions. • Management need to be pro-active. • Most informal SMME type businesses have a Situational Management Culture, which is reactive.
9. Technical Oversight (Section 3.2.9)	• Technical Oversight can be seen as a "quality" of Management. • Informal entrepreneurs need training that will enable them to implement tools that support and integrate business processes. • Informal SMMEs do not implement support tools, mostly because they do not see the need for streamlining underlying business processes.

3.3 INFORMAL SMME ASSESSMENT WITH THE VALUE CHAIN

Using the Value Chain, as discussed in Chapter 2, to assess these SMME types of businesses provides the Enterprise Engineer with a different view of business activities. Processes that add direct value to customers are modelled first. Derivative processes necessary to support the value chain are modelled as supporting processes.

In effect, the Value Chain approach provides a broader perspective of business activities and how these internal activities interact with external factors. The Value Chain graphic is re-used for quick reference.

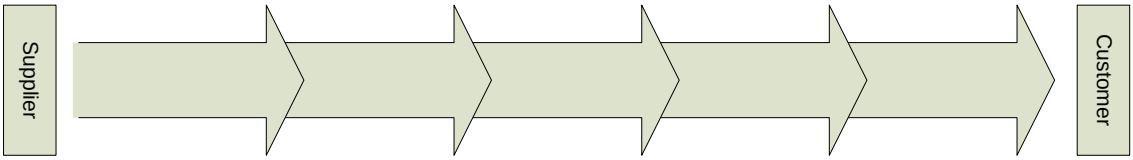


Figure 3-7. The Enterprise Value Chain.

For the purpose of this evaluation, it is easier to start from the last (final) section of the value chain and work backwards. The reason behind this approach is mainly to answer the first question from Zachman, which is WHAT should be done. Based on the literature survey on informal SMMEs in Chapter 2, observations about each of the processes and supporting functions of the Value Chain are presented in the next section.

3.3.1 Customers

Generally, informal SMMEs (especially start-ups) do not have a clear definition of their customers and what they want. The services and products that are sold are not aimed at a specific market need, resulting in an erratic customer base. The very first question of a business plan is “Who is the customer?”. Having a clear profile of the typical customer would allow the business to align its products and services to fulfil the needs of customers. This, in turn, leads to a clearer description of the product or service and, with this in mind; the business can then streamline its internal processes to produce those products or services more effectively.

Inbound Logistics Operations

3.3.2 Customer Service

Following on the point made in the previous section, it is impossible to provide customer support services if the customers are not known. Typical informal SMME owners do not know what customers see as "value" or "quality". Most customers will buy services or products if they feel it is a real bargain, forcing these SMME businesses to sell products or services below market value and at a loss to the business. There is a fine balance between "Value for Money" and "Quality costs Money". Most SMME owners are inexperienced and find it difficult to strike a balance between these two opposing views.

Apart from the quality and value discussion, customer service addresses the way that businesses support their products and services after they have been sold to customers. High quality products are backed by solid after-sales services. Informal SMMEs find themselves in a downward spiral where they cannot provide customer-support services because they do not have enough financial and human resources. Consequently, they cannot grow their customer base, as they cannot provide support for potential customers. Without extra customers, their turnover is restrained, leading to the next cycle of a weaker support-service, a product or service of lower quality and fewer customers.

3.3.3 Marketing & Sales

To effectively market a product or service, it is important to know who the customer is and how to direct a marketing strategy that will have the necessary impact. Furthermore, it is necessary to sell products and services in a way that is convenient for the customer. Again, it is clear how valuable knowledge about the customer is to the company.

The marketing strategy should include how the product or service could enrich the customer's life and how the customer could benefit from the additional value. If the customer-base is not known and the frame of reference by which the customer evaluates products and services is unclear, it is impossible to expect returns from a marketing and sales exercise. Informal SMMEs rarely have a clear and concise marketing and sales strategy.

3.3.4 Outbound Logistics

This link in the Value Chain addresses the methods and actions a company uses to deliver products or services to the client. Customers evaluate products and services not only by the product or service itself, but also by the way they receive a specific product or service. A customer's buying experience consists of the last three links in the value chain and, if one of

the links is weak, the customer may buy elsewhere. This phenomenon places a huge responsibility on the logistics side of the business. Business logistics can be a significant cost element adding to the total cost of the product or service if not managed properly. Since these SMME businesses do not know their customers, it is impossible for them to align the business processes to ensure customer satisfaction.

3.3.5 Operations

Operations in the Value Chain have a broader meaning than operations in the ELC. The Value Chain groups most business processes in the ELC together as one and calls it 'operations'. This means that a thorough study of 'operations' in the Value Chain would lead to investigating the ELC of the business under discussion. It is necessary to stress the importance of integration between the different processes in the Value Chain and how they affect processes in the ELC, and vice versa. For example, when entrepreneurs are busy with the planning phase in the ELC, they need to decide how the business would provide a customer-support service and how the business is going to deliver products or services to the customers.

Operations are the value creation part of the Value Chain and resemble the core business activities. Being able to align business operations with customer's needs ensures a competitive advantage to the enterprise.

Operations in informal SMME businesses are seldom aligned with customer needs and expectations; mostly because their customers are not known.

3.3.6 Inbound Logistics

Inbound Logistics are those activities associated with supplier relationships, including receiving, storing and disseminating inputs. If the businesses under discussion know exactly what raw materials are needed and when, they can plan the acquisition of resources accordingly. Having to store materials for too long results in unnecessary costs and reduces the profitability of products and services being sold to customers. As with Outbound Logistics, Inbound Logistics can be very costly if not managed properly. To carry low levels of raw material stock on the floor requires excellent supplier relationships and touches on the Just-In-Time (JIT) supply chain methodology. Informal SMMEs do not have the necessary storage capacity for raw materials and thus rely on quick deliveries from suppliers. Another problem that informal SMMEs face is transport. They have to make use of third party

transportation, a factor that adds more costs and complexities to their business. Because these SMMEs are unstructured in their whole value offering, they have difficulty in building a steady relationship with suppliers or transport agencies. This leads to situations where these SMMEs have to wait for raw materials and cannot guarantee on the time of delivery of products or services to customers. Small-size businesses also have difficulties in negotiating good deals.

3.3.7 Suppliers

Informal SMMEs are also customers to their suppliers. Because these SMMEs do not know their own requirements, when they have to acquire raw materials it is impossible for their suppliers to align their businesses to provide value added services or products to these SMMEs. Customer-Supplier Relationships are non-tangible assets but, if managed properly, can contribute to large savings, providing a business with a competitive advantage.

3.3.8 Supporting Activities

As seen by the definition of each supporting activity in the Value Chain in the Literature Survey, these activities contribute to the primary activities by helping an organisation achieve its competitive advantage. There is a great deal of overlapping between these supporting activities and 'Management Oversight', as explained in the ELCM. A brief discussion of each of these supporting activities follows below, as part of the assessment of informal SMMEs.

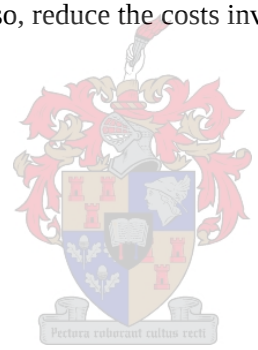
- **Procurement.** SMMEs do not normally have a business department responsible for sourcing raw materials to the organisation. In most cases, the owner is responsible for obtaining raw materials, as well as the transport to have these raw materials delivered to the organisation. Because of their economies of scale, SMMEs cannot normally bargain for good pricing of raw materials.
- **Technology Development.** Informal SMMEs do not always have access to basic general services. Without services like water, electricity or telephones, it is very difficult to make use of modern technologies to obtain a competitive advantage.
- **Human Resource Management.** Informal SMMEs generally employ only a few people. Because of the survivalist nature of most of these businesses, they cannot pay their employees the 'market rate' and find it difficult to recruit, train and develop the correct people to meet their objectives.

- **Infrastructure.** Because of the lack of business and management skills of most of these SMME owners, very few SMMEs have formal business processes in place that help drive the organisation forward.

3.3.9 Summary

Processes in the Value Chain are analysed based on their economic value to the customer. Value Chain analysis, along with supply and demand chains, are the cornerstones of modern business management. However, informal SMMEs seldom focus on customer satisfaction and customer support. Their business operations are not always aligned with customer needs, and thus cannot provide a value adding service or product to customers.

Indirect supporting activities generally contribute to expense factors of the business. The question arises if it would be possible to share these indirect activities between several similar businesses and, by doing so, reduce the costs involved for each individual business.



3.4 GAP ANALYSIS

From the literature study it was seen that GAP-Analysis is used to transform a business from an AS-IS situation into a TO-BE state. GAP-Analysis will be used to transform informal SMME businesses from their survivalist existence to profitable and sustainable economic entities. This section highlights the business activities that need to be analysed and defines criteria against which these processes need to be measured. An overview of the GAP-Analysis Process is shown below.

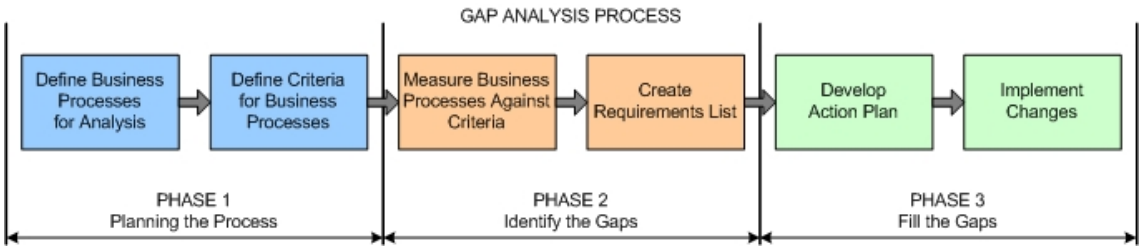


Figure 3-8. The GAP-Analysis Process.

These SMMEs under discussion are very basic in terms of their operations and processes. Identifying detailed criteria at this early stage of measurement defies the purpose of transforming these SMMEs from their current AS-IS (survivalist) status to stable businesses. Due to the lack of management skills, as discussed in the Literature Survey (Chapter 2), most of these SMMEs do not have formal business processes in place. The first outcome of the GAP-analysis would thus certainly be to implement the necessary processes to manage the businesses properly. Increasing market shares or improving sales figures or any of the applications that a GAP-analysis is generally used for, will follow automatically through improved management, once these businesses are economically stable.

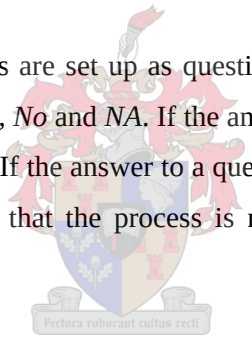
From the literature examined in Chapter 2, it may be concluded that the current (AS-IS) status of typical SMMEs is characterised by:

- Inefficient management.
- The lack of quality control over products and services being delivered.
- Inconsistent workflows due to the lack of formal business processes.
- Logistic problems, especially transport and storage space.
- Informal customer and supplier relationships.
- Lack of business knowledge and skills.
- Incomplete financial statements and analysis, resulting in cash flow problems.
- Creditworthiness and access to finances.

A TO-BE model for these SMMEs requires an improvement in the status of the above-mentioned characteristics. An improvement in the management styles or capabilities of these SMME owners would filter through to all the underlying business processes like quality control, customer and supplier relationships, financial management, planning and logistics, marketing and sales, strategic planning, etc.

Economic pressures force SMMEs to be deployed as soon and quickly as possible and this often lead to situations where the owners do not have the capacity to manage their businesses properly. Implementation of a TO-BE model for these SMMEs is facilitated by the Business Framework where the Business Framework supports SMME owners in managing the businesses and trains them the necessary business skills while so doing. The Business Framework forces proper business processes down to its SMMEs in a gradual manner through skills development and training of the SMME owners. This implies that the Business Framework should represent the TO-BE status of these SMMEs.

Criteria for the business processes are set up as questions, and each of these questions has one of three possible answers: *Yes, No* and *NA*. If the answer to a question is *yes*, that process does not require further attention. If the answer to a question is *no*, that process should be re-engineered. *NA* answers indicate that the process is not influenced by the new (TO-BE) standards.



3.4.1 Business Processes for Analysis

Since these SMMEs need to be analysed in their totality, it would be wise to use business processes from the ELC and the Value Chain, as described in the Literature Survey, for the analysis. The following business processes were selected as key processes for managing these enterprises:

- Customer and Supplier Management.
- Marketing and Sales.
- Logistics.
- Operations.
- Management Responsibilities.

3.4.2 Criteria for Business Processes

To analyse the above mentioned business processes, certain criteria are defined for each of these processes and answers are given based on situations applicable to the majority of informal SMMEs, as was established through studying material from the literature, Stats SA and through involvement in Community Engineering Projects.

Table 3-2. GAP-Analysis. Business Process Criteria and Measurements.

Business Process	*Criteria*	*Answer*	*Reason*
1. Customer and Supplier Management			
1.1 Customer Relationships	• Does the organisation know the typical customer? • Does the organisation perform customer research activities? • Does the organisation build customer relationships? • Does the organisation perform customer satisfaction surveys?	• No • No • No • No	• From the Literature Survey in Chapter 2 it is concluded that due to the lack of business skills and general services, these informal SMMEs do not have the capacity to manage their customers or suppliers. These SMMEs owners do not have access to general services to run their own businesses properly; therefore their chances of providing additional services to improve customer satisfaction are very small. • From the Literature Survey it can be seen that many SMME owners leave their businesses when they find employment in the formal economy. The conclusion therefore is that the life span of informal SMMEs is not very long and does not allow room to build long-term supplier relationships. • See Balkenhol et al., 2003.
1.2 Customer Services	• Does the organisation provide after-sales services?	• No	
1.3 Supplier Relationships	• Does the organisation have specific suppliers? • Does the organisation build supplier relationships?	• No • No	

Business Process	*Criteria*	*Answer*	*Reason*
2. Marketing & Sales			
2.1 Marketing	• Does the organisation have a marketing strategy? • Does the organisation engage in any form of marketing? • Does the organisation have a website? • Do potential customers know what the organisation sells? • Does the organisation have a measurement system to evaluate the impact of marketing?	• No • No • No • No • No	• From the literature examined in Chapter 2, it can be seen that most informal SMMEs do not have access to finance. Without finance, it is very difficult to embark on marketing exercises. • The lack of general services like telephones, electricity, etc. prevents these SMMEs from using modern technologies like websites for marketing purposes. • Most customers are from the same informal economic environment, and therefore do not have long-term needs from these SMMEs (See Lehohla, 2002). • Due to the lack of business skills, SMME owners do not always understand marketing and sales management principles.
2.2 Sales	• Do customers know how to obtain products or services? • Does the organisation seek long-term clients?	• No • No	
3. Logistics			
3.1 Inbound Logistics	• Does the organisation manage its internal logistics? • Does the organisation calculate the cost of internal logistics? • Does the organisation use its own transport? • Does the organisation perform stock-level control on raw materials?	• No • No • No • No	• Based on the literature examined in Chapter 2, it can be concluded that the lack of management skills, transport and access to finance contribute to reasons for ineffective logistic systems in informal SMMEs. • The lack of general services as a prerequisite for the business contributes to difficulties regarding storage facilities for raw materials. • See Lehohla, 2002.
3.2 Outbound Logistics	• Does the organisation manage its external logistics? • Does the organisation calculate the cost of external logistics? • Does the organisation use its own transport? • Does the organisation perform stock-level control on finished goods?	• No • No • No • No	

Business Process	*Criteria*	*Answer*	*Reason*
4. Operations			
4.1 Driving Forces	• Does a driving force exist that justifies the reason for business? • Is the driving force sustainable (would it still be a reason for business within the next 3 to 5 years)?	• Yes • Yes	• From the Literature Survey in Chapter 2 on current Government programmes and the intention to grow and develop small businesses, it may be concluded that enough sustainable driving forces exist to justify starting a small business. • As seen from the Literature Survey in Chapter 2 and SMME Assessments at the beginning of Chapter 3, most informal SMME businesses do not have formal internal processes in place. This is mainly the result of untrained SMME owners. • See Balkenhol et al., 2002.
4.2 Strategic Planning	• Does the Enterprise decide on business strategies with regards to market shares, business opportunities, competition, etc? • Does the business have a clear understanding of its core objectives? • Does the organisation have action plans on how to grow the business? • Does the business know its competitors?	• No • No • No • No	
4.3 Enterprise Engineering	• Is the enterprise designed to effectively deliver the products and services it wants to sell?	• No	
4.4 Enterprise Planning	• Does the enterprise have a clear structure for its day-to-day operations?	• No	
4.5 Project Execution	• Does the business use proper project planning methods? • Are projects aligned with the business' strategic objectives and goals?	• No • No	
4.6 Enterprise Integration	• Does the enterprise have integrated internal processes? • Does the enterprise integrate with external companies?	• No • No	
4.7 Operations	• Does the enterprise seek innovative solutions to gain a competitive advantage? • Does the enterprise try to make internal processes more efficient?	• No • No	

Business Process	*Criteria*	*Answer*	*Reason*
4.8 Evaluations	• Does the organisation evaluate its internal processes? • Does the organisation have standards that are used for measurement scores?	• No • No	• The reasons continue from previous page.
4.9 Product Realisation	• Does the organisation produce products or services with "value for the customer" in mind? • Are products and services aligned with the original driving force? • Does the product conform to excepted standards?	• No • No • No	
5. Management Responsibilities			
5.1 Resource Management	• Does the enterprise plan its resource utilisation? • Are resources easily obtainable?	• No • Yes	• From literature examined in Chapter 2, it may be argued that in most cases, resources are in close proximity of these informal SMMEs, however, obtaining transport is not that easy and SMME owners have to make use of public transport (taxis, etc.) or travel by foot (See Lehohla, 2002). • The lack of business skills (Balkenhol et al., 2002), once again, is one of the reasons why most of the management responsibilities are not taken seriously. Investigations of supporting activities of the Value Chain, as discussed earlier in Chapter 3, also show that SMME owners lack the necessary training to take on management responsibilities.
5.2 Financial Management	• Does the organisation perform ROI calculations? • Does the organisation effectively control cash flows? • Does the organisation have a budget system in place? • Does the organisation effectively manage its debtors and creditors? • Does the organisation have access to the necessary skills to manage finances? • Does the organisation evaluate its profitability?	• No • No • No • No • No • No	
5.3 Quality Management	• Does the organisation set quality objectives for its products or services? • Does the organisation define requirements with regards to quality control?	• No • No	• Management capabilities that are lacking are typically the responsibilities listed in the first column of this table.

Based on the analysis in Table 3-2, the author suggests that SMMEs need support at all levels of the business. The next step in the GAP-Analysis is to create a requirements list of what needs to be done to bridge the gap between the 'present' and the 'target' state.

3.4.3 Requirements List

There are many informal SMMEs that need support. Providing the necessary support structure should somehow be effected so that more than one SMME could be supported by the same structure. For the scope of this project, SMMEs operating in the same line of business would be grouped together to benefit from the advantage of sharing overhead costs and because it would be easier to provide the same support to all enterprises

From the literature study, this supporting framework needs to interact with SMMEs and entrepreneurs on two levels.

- It needs to supply the business requirements like management, logistics, finances, etc.
- It should transfer knowledge to the entrepreneurs and teach them the necessary business skills.

The following table presents the main requirements resulting from the previous sections, Chapter 2 and Table 3-2:

Table 3-3. Requirements List for the Business Framework.

Requirements	
• The Business Framework should provide an environment that supports similar informal SMMEs.	• Based on the scope of the project.
• The Business Framework should help these SMMEs to build, manage and maintain Customer and Supplier relationships.	• See Section 1 of Table 3-2.
• The Business Framework should support these SMMEs with the necessary marketing and sales activities.	• See Section 2 of Table 3-2.
• The Business Framework should provide a logistics infrastructure and support management thereof.	• See Section 3 of Table 3-2.
• The Business Framework should support these SMMEs through the growing pains of starting a business. This would be Business Plans, Strategic Planning, Project Management, Production, Quality Control, Access to Finances and Enterprise Integration.	• See Sections 4 and 5 of Table 3-2.
• The Business Framework should support these SMMEs with general Financial Services like Bookkeeping, Financial Analysis and Forecasts, Taxation and Cash Flow Management.	• See Sections 4 and 5 of Table 3-2.
• The Business Framework should provide an environment that stimulates innovative solutions that could improve business processes and add value to products or services being sold to customers.	• Based on the scope of the project, the introduction and the literature presented in Chapter 2.
• The Business Framework should be aligned with the local government's economic growth requirements in order to benefit from governmental support for these SMMEs.	• Same as above.
• The Business Framework should address the socio-economic problems that most informal SMME-owners and entrepreneurs face every day.	• Same as above.

Fulfilment of these requirements implies that the answers for the detailed questions from the measurement criteria should change from 'No' to 'Yes'.

This requirements list provides an indication of WHAT should be done to support informal SMMEs, but the main problem of HOW to do it remains. The second last phase of the GAP-

Analysis addresses this problem, but it is up to the business engineer to provide that solution. The next paragraph offers a solution as a result of this research activity.

3.4.4 Development of an Action Plan

As mentioned frequently, the objective of this research project is to create an environment (Business Framework) in which entrepreneurs and informal SMMEs can operate a business under favourable conditions until the business is mature enough to function on its own. Taking action in this direction requires sacrifices from government, private companies and SMMEs within the formal economy. The outcome would be to enable more informal SMMEs to interact as part of the formal business sector.

The action plan will of course be the development of a Business Framework that incorporates input from Government, companies from the formal economic sector, financial institutions and international investors, if available.

One of the most important components for the success of this venture would be shared ownership of the businesses framework, which should be registered as a body corporate, and also in the SMMEs affiliated to the business framework. Furthermore, this framework should address all the business requirements mentioned in the previous paragraph as well as provide a voice for its affiliated SMMEs.

The development of the Business Framework and all its specifications is covered in the following chapter.

3.4.5 Implementation

Since this idea of combining businesses in a networked format is quite new for South Africa, it is difficult to deploy numerous frameworks without pilot projects. The idea of the Business Framework itself needs to mature before it can take responsibility for other businesses. To complete the phases of the GAP-Analysis, implementation is done by means of a Case Study and is presented in Chapter 5.

Chapter 4

4 THE BUSINESS FRAMEWORK

Enterprise integration is a challenging task. Through the use of the Business Framework, these SMMEs are integrated at three levels:

- Integration of internal business processes,
- Integration between businesses in the framework, and
- Integration of the framework with larger companies.

Construction of the framework will be done from a bottom-up perspective, where attention will first be given to the requirements of these SMMEs, then the framework structure and lastly, to linking the framework with larger companies. An overview of the interactions and the specific position of each of the instances (SMMEs, the Business Framework and Large Companies) in relation to the 'total system' provide the perspective for the rest of this chapter.

4.1 THE BUSINESS FRAMEWORK IN PERSPECTIVE

On the 'informal side' of the economy, many entrepreneurs and SMMEs operate in relative isolation. As shown in the Literature Survey in Chapter 2, most of these businesses do not have formal procedures in place with regards to management, employment or customer- and supplier relationships.

If a few of these businesses (in the same line) are teamed together they could be seen as workstations in a virtual supply chain where they add value to raw materials by performing physical actions on it. As with any supply chain, the 'system' has to cater for raw materials (which imply suppliers) and deliver final products (which imply customers). It is important to note that this applies to businesses in the service sector as well. Next would be to transport raw materials to and final products from these virtual workstations, which implies logistics.

Looking at the Value Chain of a TO-BE Business Framework, it is clear that this virtual supply chain can be mapped onto the Value Chain, with the exception of a few phases. If a Business Framework is designed in which informal SMMEs fulfil the 'operations'-activity, and the Framework takes responsibility for the rest of the stages, it would result in a 'system'

that acts as a supply chain, with the advantages of a logistics infrastructure and customer- and supplier relationships. In other words, the Business Framework would operate like a normal company, with the only exception being that the physical work would be done by informal SMMEs and not by employees of the Business Framework. The next picture illustrates the mapping of a supply chain onto the Value Chain.

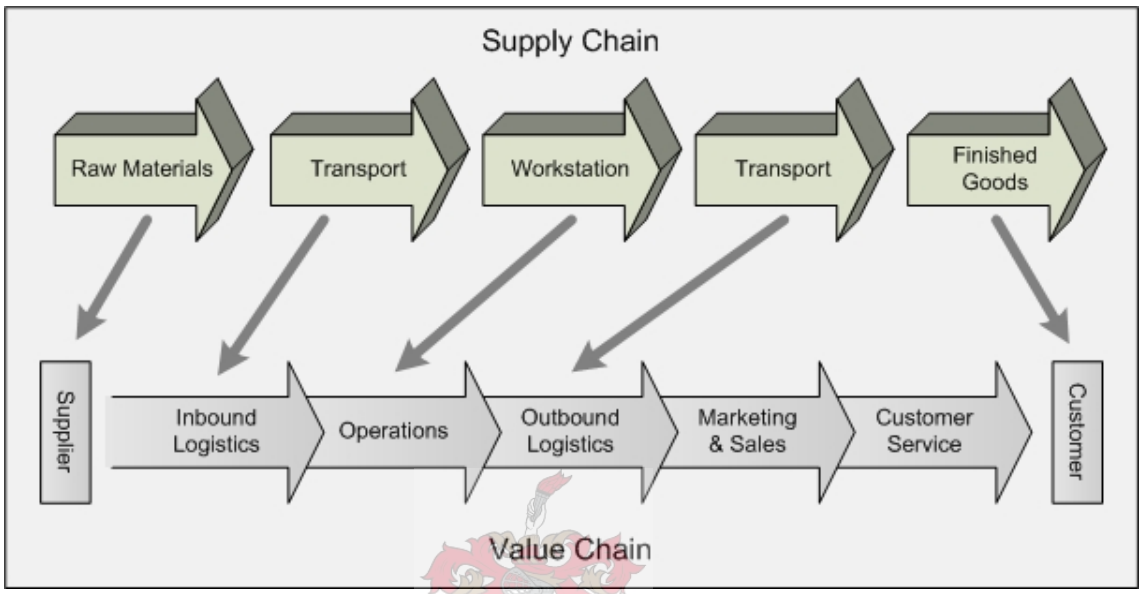


Figure 4-1. Mapping of a Supply Chain onto the Value Chain.

Interaction between any two companies is simply governed and achieved through customer- and supplier relationships. The same applies to the Business Framework. Managing relationships with customers and suppliers builds on proper management of the 'internal' parts of the Value Chain, which in turn relies on proper business architectures, designs and planning. These last mentioned enterprise-engineering activities are described by the Enterprise Design Life Cycle, as shown in the literature survey. Through the use of the ELCM, the framework can be developed to benefit from business drivers, and evolve in such a way that business integration between the framework and other companies through customer- and supplier relationships would be possible, as would the integration of internal SMMEs as part of the Value Chain that produces according to market demands.

Finally, it should be mentioned that although SMMEs would be utilised as part of the value chain of the business framework, the main aim is to support and develop these SMMEs to grow into economically sustainable businesses. This vision requires investigations into the ELC of each of these SMMEs as well. However, re-engineering these SMMEs would be postponed until they operate as part of the Value Chain. It would also be appropriate to train

SMME-owners to take responsibility for certain supporting functions provided by the framework.

The Business Framework in relation to the different economic sectors is illustrated in Figure 4-2. The framework acts as a bridge between informal SMMEs and companies in the formal economic sector.

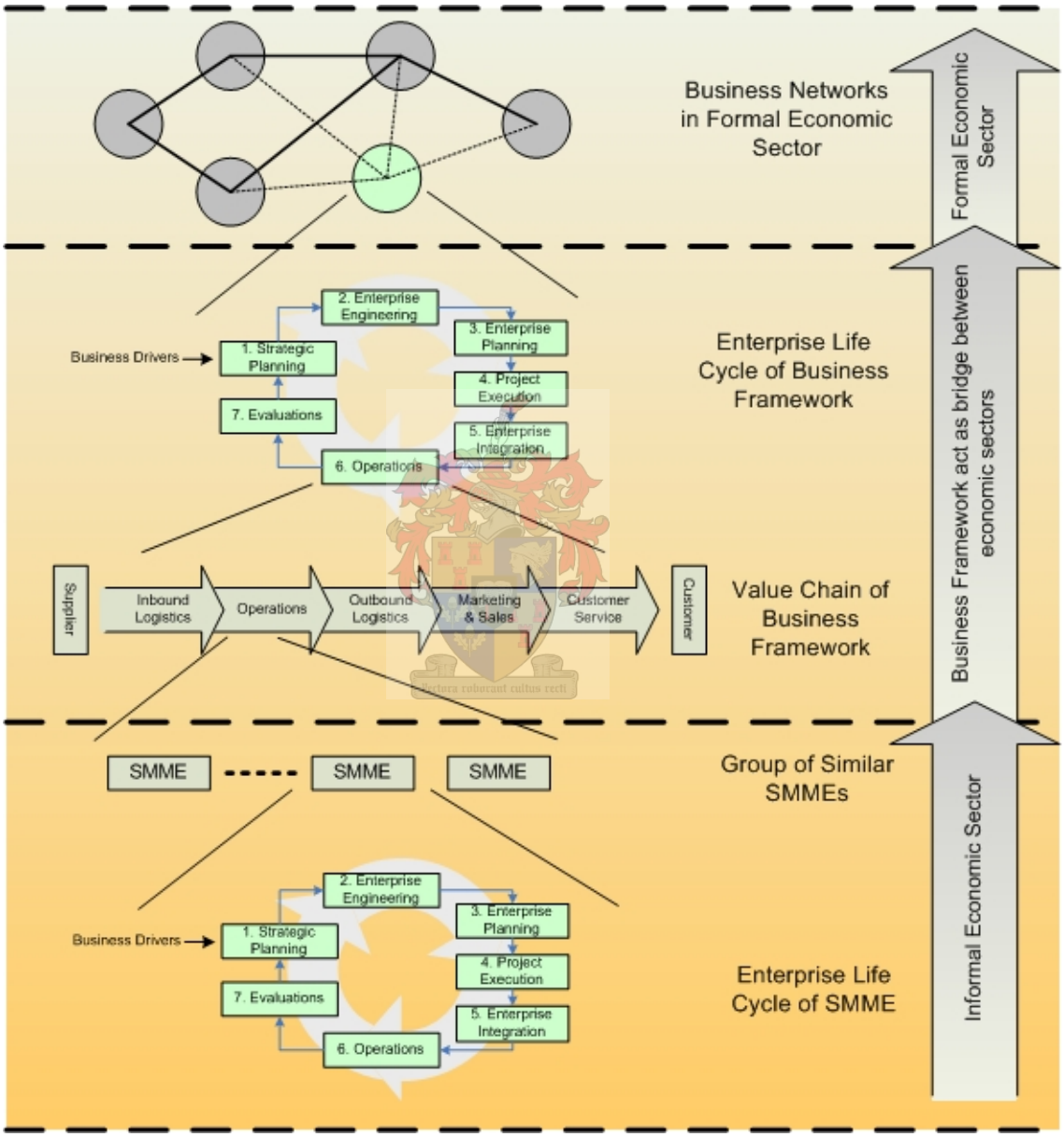


Figure 4-2. Business Framework in relation to economic sectors.

Figure 4-2 may be explained through a bottom-up process, starting at the informal economic sector. Firstly, it shows that each SMME has its own ELC that resembles its internal business processes. These are the processes that have to mature in order to grow these SMMEs. Secondly, similar SMMEs are grouped together to act as the 'Operations' link in the Value

Chain of the Business Framework. This Value Chain is subsequent to the Enterprise Life Cycle of the Business Framework, which in turn portrays the Business Framework as a normal large business in the formal economy.

The analogy of a shopping mall is used to elaborate on the role of the Business Framework. A shopping mall is an environment that supports and encourages the initiation of many different smaller businesses. The shopping mall provides all the necessary services like water, electricity, security, physical space and a constant stream of potential customers. Because of the variety of shops in a mall, most customers would go to such a mall to buy everything they need, even if they intend to buy at more than one shop in the same mall. How many of the shops in a shopping mall would exist if they had to find premises somewhere else in the business area of a town or suburb? It may be concluded that the mall provides the conditions and an environment in which these shops can function. To reap the benefits of being part of such an environment, these shops have to pay rent to the body corporate of that shopping mall.

The same applies for the Business Framework. The SMMEs cannot survive in isolation, but if they were affiliated with a Business Framework, they could benefit from the business conditions created by the framework. In order to be part of the framework, they would have to pay membership fees. Services provided by the framework might include general services like water, electricity, etc., but the main services rendered by the framework would be management, planning, logistics, quality control, customer- and supplier relationships and access to finances. For the scope of this project, the framework only caters for businesses in the same line of business, but nothing prevents future studies from investigating the options of various types of SMMEs forming part of the same framework.

4.2 BUILDING THE FRAMEWORK

This framework is quite a complex ‘system’, due to the extremes of situations for which it has to make allowances. The main complexities are:

- **Two interfaces that are totally different and opposites of each other**. The one is for SMMEs from the informal economy; the other is Large Companies from the formal economic sector.
- **The range of services provided to SMMEs that would have to change over time**. In order to allow SMMEs to mature and to start taking responsibility for their internal processes, the provision of services by the Framework has to change (be

reduced) over time. The resulting system should thus be designed to allow for change at specific intervals. This change would have an influence on the interfaces as well.

- **Human Factors**. Various people are required to manage such a framework. Due to the nature of this project, these people would come from a range of backgrounds – from very formal to informal backgrounds. Complexities increase with the number of people involved, especially if they are from different backgrounds.

Building such a composite infrastructure requires guidance from enterprise architectures. From the Literature Survey in Chapter 2, it can be seen that the Zachman Framework is an Enterprise Architecture that allows for complexities and enterprise change in a systematic manner, without too many technicalities, as it guides users in an understandable and logical manner. The Zachman framework will therefore be used as a Reference Enterprise Architecture for planning, designing and building the Business Framework.

4.2.1 Row One Models – Objectives and Scope (Contextual)

The first set of models in the Zachman Framework (Row One Models, as described in Section 2.4.6) defines the scope of the project. Similar illustrations to Figure 4-3 will be used for each set of models to help the reader to follow the Zachman process.

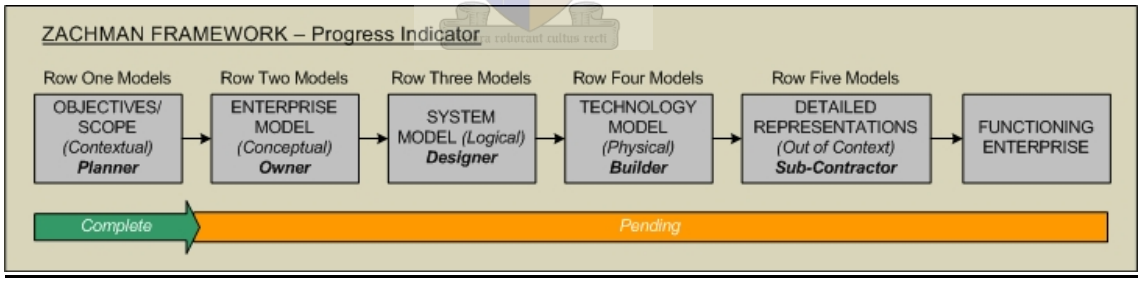


Figure 4-3. Zachman Framework – Progress Indicator, Row One Models.

WHAT needs to be done?

The focus is still on supporting SMMEs to become part of the mainstream economy. Based on the GAP-Analysis in Table 3-2 and the requirements list in

Table 3-3, the following important issues for the Business Framework are listed, as required by Objectives of the Zachman Architecture. This list consists of:

List of important issues to the Business Framework.
• Growing SMMEs to become sustainable businesses. • Bridging the GAP between SMMEs and large companies. • Generating finances. • Providing an environment for entrepreneurs to start their own businesses. • The Framework itself should operate as a business.

HOW should it be done? Following on from the discussion on the scope and objectives of the project in Chapter 1, the Literature Survey in Chapter 2 and determinations in Chapter 3, the next list of processes that the Business Framework should perform, is presented.

List of processes the Business Framework performs.
• Training of SMME owners. • Reduction in services rendered to SMMEs over time. • Building customer and supplier relationships. • Building relationships with Government, Private Sector, International Investors and Commercial Banks. • Identification of business opportunities with supporting administrative functions. • Proper management and innovative thinking.

WHERE should it happen? Based upon the objectives of this project (Chapter 1), the following locations in which the Business Framework should operate are mentioned.

List of locations in which the Business Framework operates.
• In an area where affiliated SMMEs are geographically close to one another. • Agribusinesses – farms in rural areas. • Urban areas - in a specific part of town or suburb. • SMMEs in the same line of business.

4.2.2 Row Two Models – Conceptual Enterprise Models

The next set of models in the Zachman Framework (Row Two Models, as described in Section 2.4.6) defines the concept of the project.

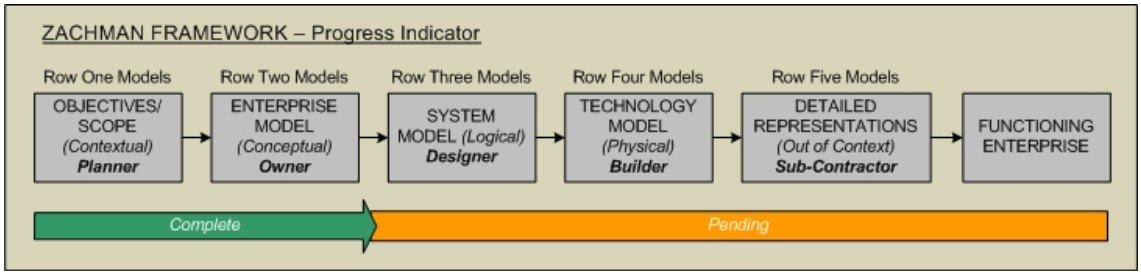


Figure 4-4. Zachman Framework – Progress Indicator, Row Two Models.

WHAT should be done? This requires a semantic model of Business Entities and Business Relationships. The Business Framework should act as a bridge between customers and suppliers in the formal economic sector and SMMEs from the informal sector. 'Inside' the Framework, the SMMEs do physical work. The Framework is responsible for all business processes, as determined by the GAP-Analysis in Chapter 3, except for physical operations. Figure 4-5 illustrates this concept of the Framework as a capsule for nurturing SMMEs in their start-up phases.

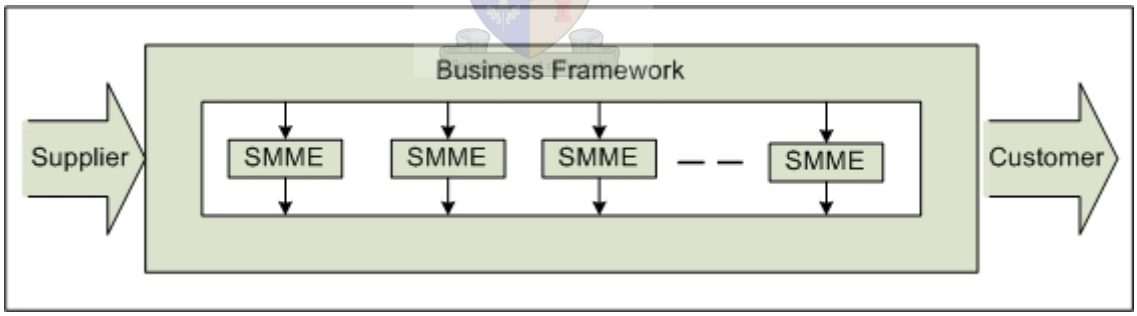


Figure 4-5. Semantic Model of Business Relationships for the Business Framework.

HOW should it be done? This requires a Business Process Model highlighting the interactions between various business processes. From the output of the GAP-Analysis and the requirements list in Chapter 3, it can be determined that all the business activities should be managed by the Business Framework, except for operations.

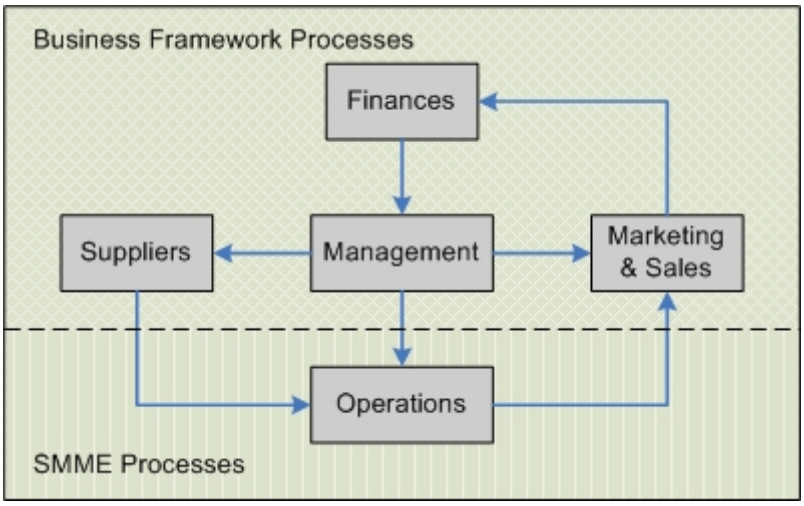


Figure 4-6. Business Process Model for Business Framework.

As these SMMEs mature over time, this picture will change. Actually, changing responsibilities in the relationships between SMMEs and the Framework will result in the change needed to mature these SMMEs.

WHERE should it happen? At this stage the focus falls on the business network, which in this case is the distribution of SMMEs relative to the Business Framework, as well as the Framework's location relative to customers and suppliers. How these entities interact with each other constitutes the 'system's' logistics. Optimising logistics for the Business Framework can only be done when all the variables are known. However, the Business Framework is still the central controlling body and a good initial system would be a STAR-relationship, as shown in the left frame of Figure 4-7. This STAR-relationship illustrates that transport, for instance, between SMMEs and customers and suppliers has to pass through the Business Framework each time. A variation to the STAR-model is shown in the second frame that illustrates that more than one business entity could be visited before returning to the Business Framework. Depending on geographic locations and environmental factors, this second relationship might be more cost-effective.

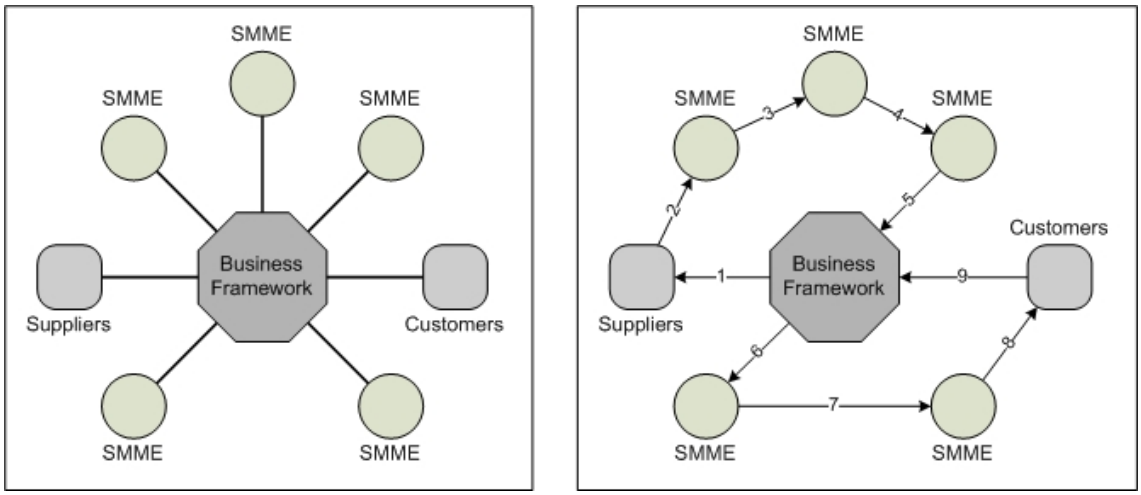


Figure 4-7. Logistic Systems for Business Framework.

Logistics contributes directly to internal costs of a company, and minimising logistical costs is of extreme importance. The logistic structure would differ from Business Framework to Business Framework, but since this is still a generic business model, it is impossible to have an ultimate logistics solution. Factors that need to be taken into account when designing a 'Specific Solution' would be:

- Distances between the Business Framework and each SMME, supplier and customer.
- Number of SMMEs that need to be serviced, as well as the frequency of visits.
- Number of Suppliers that need to be visited, as well as their frequency of visits.
- Number of Customers that need to be visited, as well as their frequency of visits.
- Throughput of SMMEs, which will determine the frequency of visits to all entities.
- Type of products produced or services that are rendered by SMMEs.

Having an optimised logistic infrastructure is the responsibility of the Business Framework management. It requires urgent attention whenever a specific Framework is designed.

4.2.3 Row Three Models – Logical System Modelling

The third set of models in the Zachman Framework (Row Three Models, as described in Section 2.4.6) defines the logical system.

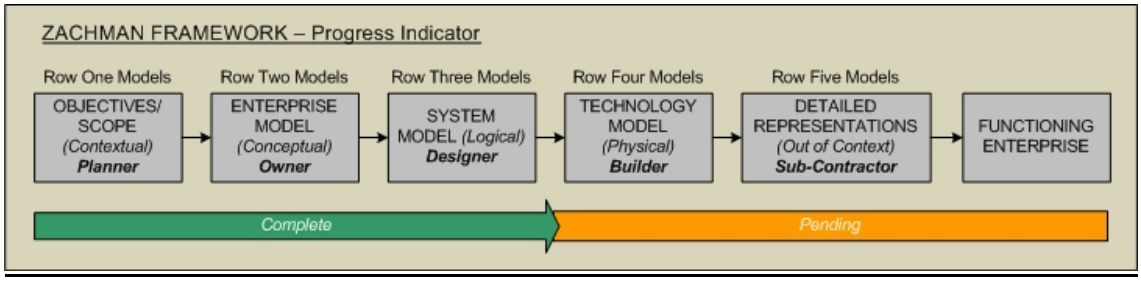


Figure 4-8. Zachman Framework – Progress Indicator, Row Three Models.

WHAT should be done? This section builds on the previous row models by adding logical values or descriptions to the links in the system. A logical data model consists of Data Entities and Data Relationships. Figure 4-9 illustrates the main entities and their relationships for the Business Framework.

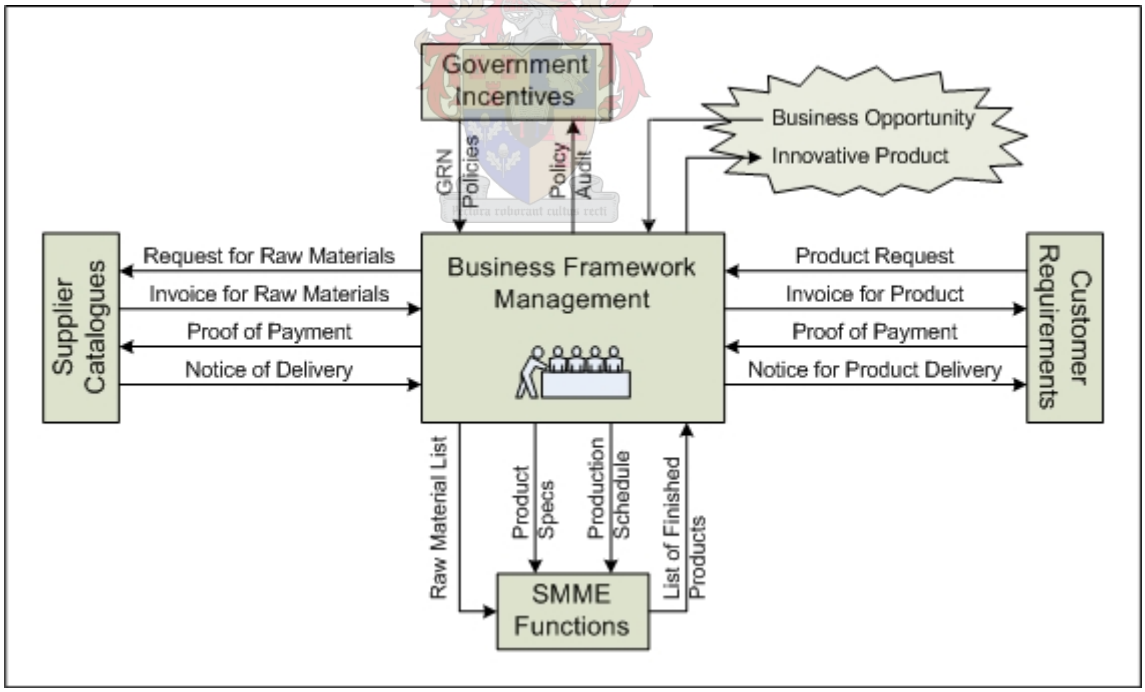


Figure 4-9. Logical Data Model with Entity Relationships for Business Framework.[15]

From the figure above it can be seen that Management controls every aspect of the business. Investigation of the relationships between the entities highlights the importance of the

[15] GRN is used as an acronym for the South African Government.

Framework and the nature of the formal economy. Without compromising the flow of the discussion, it might be helpful to briefly reflect back on the nature of a typical informal SMME situation, which will help to justify this exercise:
When talking about an 'Invoice' or 'Proof of Payment', it sounds so familiar and part of everyday trade that very few people realize what systems need to be in place to use these commonalities. A typical informal SMME (or non-VAT-registered business) does not necessarily have a physical address, a telephone, a bank account, pick-up and delivery facilities or cash flow to write an 'Invoice' or to send a 'Proof of Payment' notice. This highlights the basic reasoning behind developing the Business Framework, apart from the skills transfer and knowledge sharing objectives.

An explanation for the logical flow of data between entities is given to elaborate on Figure 4-9 and to state WHAT should be done. The Marketing and Sales Department of the Business Framework interacts with a customer and the customer requests a specific product. The Business Framework processes the product request, orders the raw materials from a supplier and sends an invoice to the customer. While waiting for the customer to pay, the supplier sends an invoice for the raw materials to the Business Framework. The Business Framework pays for the raw materials and sends proof of payment back to the supplier, who in turn sends a notice for material delivery. While processing the product request, the Business Framework creates the product specifications and production schedules which are sent together with the list of necessary raw materials to a SMME for manufacturing. The Business Framework knows how long it will take to manufacture that product and can send a notice of delivery to the customer once the customer sends proof of payment. The Business Framework also interacts with the government to comply with latest legislative measures and to investigate new business opportunities.

HOW should it be done? Looking at the functions the Business Framework Management should perform will help answer this question. These Framework applications in Figure 4-10 are inside the Business Framework Management entity of Figure 4-9.

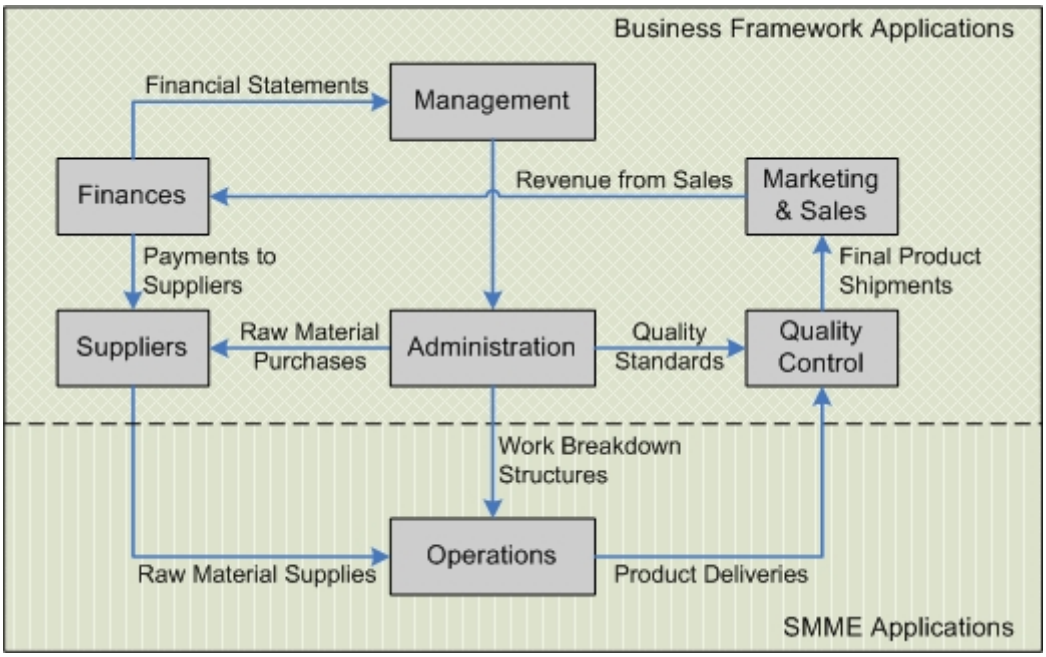


Figure 4-10. Application Architecture for Business Framework.

How will the management team of the Business Framework go about performing all the tasks that they have to do? The easiest way would be to break the management team down into different departments or sections that are responsible for certain functions of the Business Framework. The main departments are shown in Figure 4-10.

'Finances' for instance would be responsible for everything related to the financial side of the business, which includes receiving money from clients, paying suppliers, payments of Business Framework personnel, tax calculations of the business framework, as well as all financial services for SMMEs.

'Administration' would receive orders from general management on what to produce. From these, they would order supplies as necessary and, according to stock levels, draw up work schedules for SMMEs and set quality measures.

'Quality Control' does what its name says. They receive quality measures from the Administration Department and perform quality checks on goods produced by the SMMEs. If the products conform to the specified standards, they are passed on to Marketing and Sales for delivery to customers.

'Operations', which is the group of SMMEs, are responsible for transforming raw materials into products, according to the work breakdown structures received from Administration and according to specified standards.

'Management', who have the role of general management, are responsible for strategic decision making, forecasting, market analysing and managing all internal departments.

It is important to note that management as depicted here is not the board of directors of the Business Framework.

'Marketing and Sales' and 'Suppliers' provide interfaces between the Business Framework and other companies.

WHERE should it happen? The actual question is: Where does execution of activities and processes mentioned in the previous models take place? It has to happen within the Business Framework's management structure. Successful execution requires integration of distributed system architectures, as illustrated in Figure 4-11. Line characteristics and node functions are discussed to explain the system.

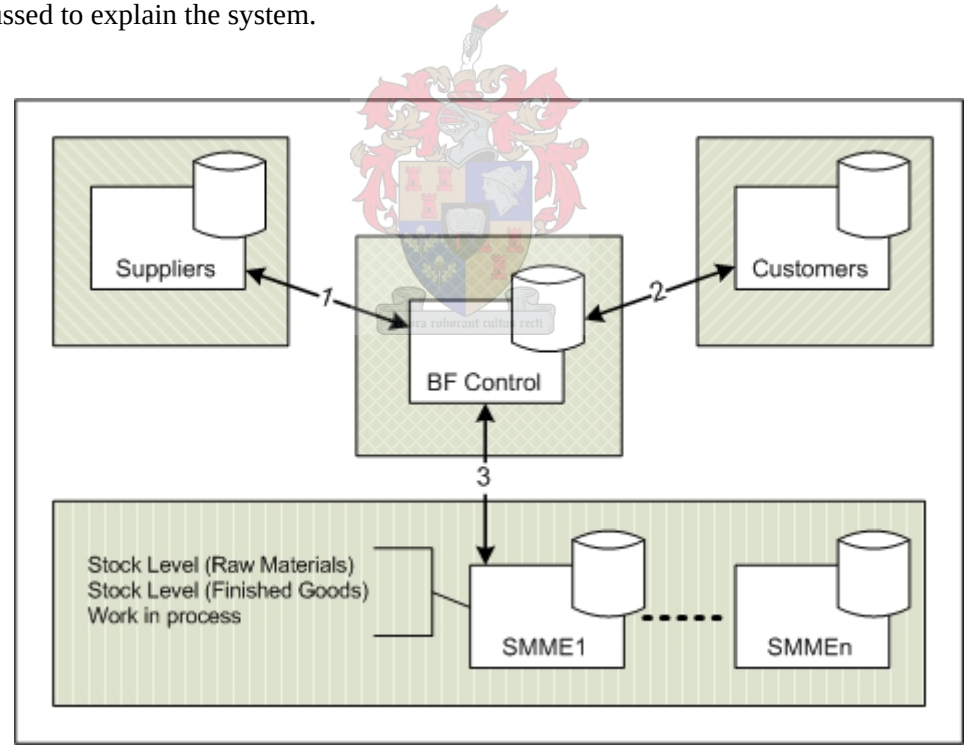


Figure 4-11. Distributed System Architecture for Business Framework.

The central node or hub is still the Business Framework, which acts as a control agent. Although this is a logical model, each of these nodes implies physical existence.

'Suppliers' is the collection of information available to the Business Framework about all the suppliers who engage in business with the Business Framework. This information would

typically include names, addresses, bank account details, raw material catalogues, outstanding invoices, proof of payments, etc. Supplier information is stored in-house at the Business Framework's office. The link between the Business Framework and suppliers represents information transfer.

'Customers' are managed in the same way as suppliers, with all the information necessary for serving them. Instead of raw material catalogues, a list of frequent purchases might be stored. A customer could be a supplier to the Business Framework as well, or vice versa.

'SMME' nodes represent all the necessary information about each SMME that is required to manage production and maintain SMME growth. Typical information sets would be stock levels and work-in-process measures, in addition to normal business names, business owners, etc. Links between SMMEs and the Business Framework are unconditional, meaning that information can flow freely in both directions.

The role of the Business Framework with regards to each node type has already been mentioned in the relevant paragraphs.

4.2.4 Row Four Models – Physical Models

The Fourth set of models in the Zachman Framework (Row Four Models, as described in Section 2.4.6) addresses the Physical Technology Models.

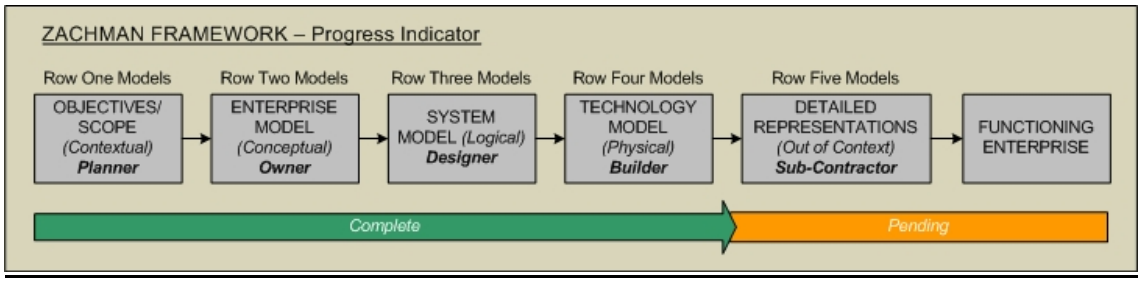


Figure 4-12. Zachman Framework – Progress Indicator, Row Four Models.

WHAT should be done physically? The model representing physical data flow (Figure 4-13) is closely related to the logical data model in Figure 4-9. For the logical model, entities and relationships have been used to indicate 'collections' of certain types of information. However, in the physical model these entities and relationships represent actual physical businesses and instances of material flows.

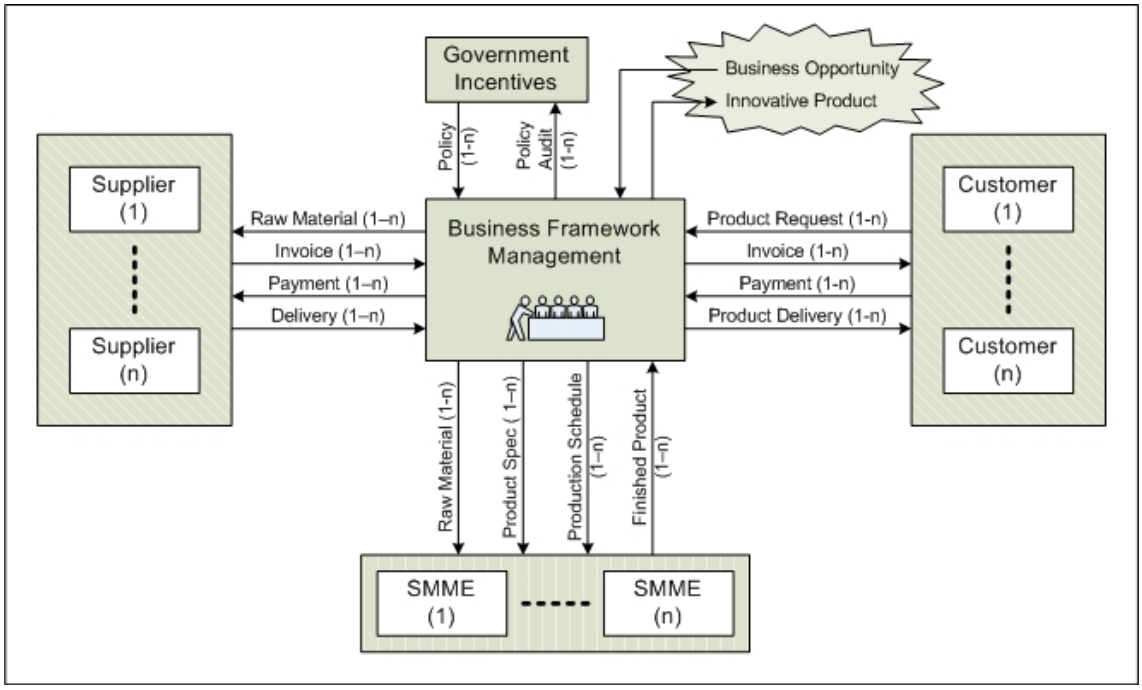


Figure 4-13. Physical Data Model for Business Framework.

In the physical model everything is clearly and specifically indicated. For example: Customers are indicated as Customer (1), Customer (2), up to Customer (n). (The open variable '*n*' can take any value for every instance it is used.) The number of customers does not need to be equal to the number of suppliers, or SMMEs, or invoices, or payments, etc.

It is important to note that every occurrence of an entity or relationship instance requires some action that needs to be performed by the Business Framework Management.

HOW is this going to happen? This section is probably the most difficult part in the design of enterprise systems. Two models are presented to aid the explanation. The first model, in Figure 4-14, provides a tree-view of all the functions that the Business Framework Management should perform and shows how management should organize itself in order to render the different services. These 'functions' can be seen as departments in the Business Framework, although a single person may perform more that one function simultaneously. Each department's name is quite descriptive of its responsibility, and it is assumed that people at this level of management are capable and trained to perform the necessary tasks. (Construction of the management team is covered in the section on business integration.)

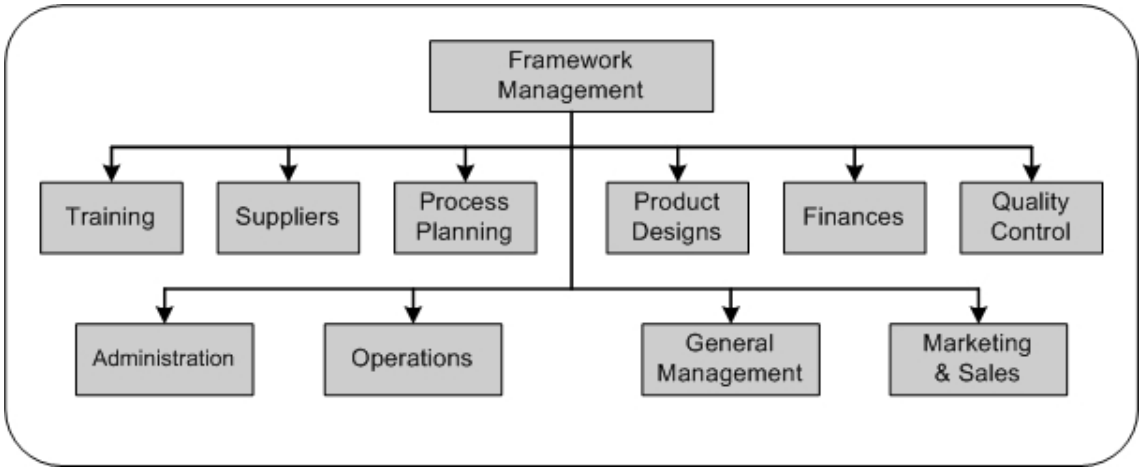


Figure 4-14. Functional Design of Physical System for the Business Framework.

The next figure is used to describe how the Business Framework will operate in terms of purchasing raw materials, deliver it to operations (SMMEs), collect it again and perform quality checks. Products and raw materials are managed by the inventory system of the Business framework. The Marketing and Sales Divisions are responsible for delivery of products to customers through the distribution system. The Customer Services department manages customer relationships. The Accounting Department is responsible for all aspects of bookkeeping at every level of the supply chain and financial figures are forwarded to management for evaluation and decision-making. Through the use of a research and development functionality, new business opportunities are introduced, as well as training for SMME owners.

Suppliers, Customers and SMMEs are highlighted to indicate that they are separate business instances, but form part of the 'system' as a whole.

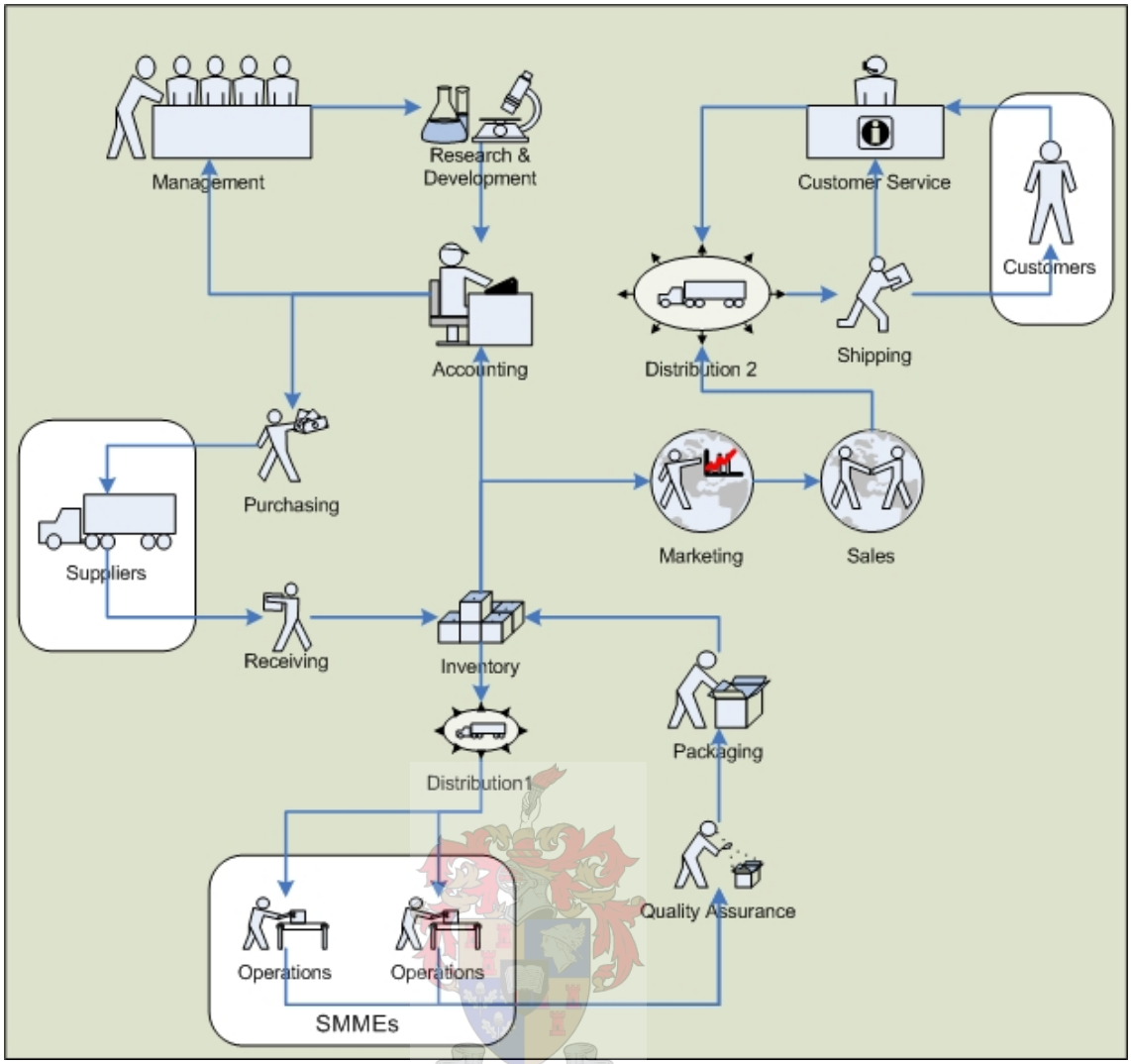


Figure 4-15. Physical System Model for Business Framework.

WHERE are these physical products and raw materials stored, and how should this be controlled? Keeping the solution generic, it is assumed that the Business Framework purchases raw materials according to an appropriate methodology like JIT or Buffer-stock level control, and distributes raw materials to SMMEs as necessary, according to their production schedules. Depending on the specific line of business, it might be wiser to keep raw material stock at the SMMEs and distribute these raw materials directly to SMMEs without them passing through the Business Framework. Whatever the situation might be, it is important that the Business Framework inventory control system is informed of what raw materials are stored at which location. The same holds for the delivery and quality control of finished goods. Quality checks can be performed at SMME's sites and the products then shipped directly to customers. In conclusion, the information system of the Business Framework must keep track of the flow of materials and products at all times.

The same graphic, as for the logical distributed system architecture, is used to explain the physical architecture for the Business Framework. The reason for this is that the entities remain the same, but the data flow now represents physical goods instead of logical information. As the two perspectives are closely related, the technological systems needed to control the flow of materials are discussed in this section as well. Figure 4-16 illustrates the technology architecture for the Business framework.

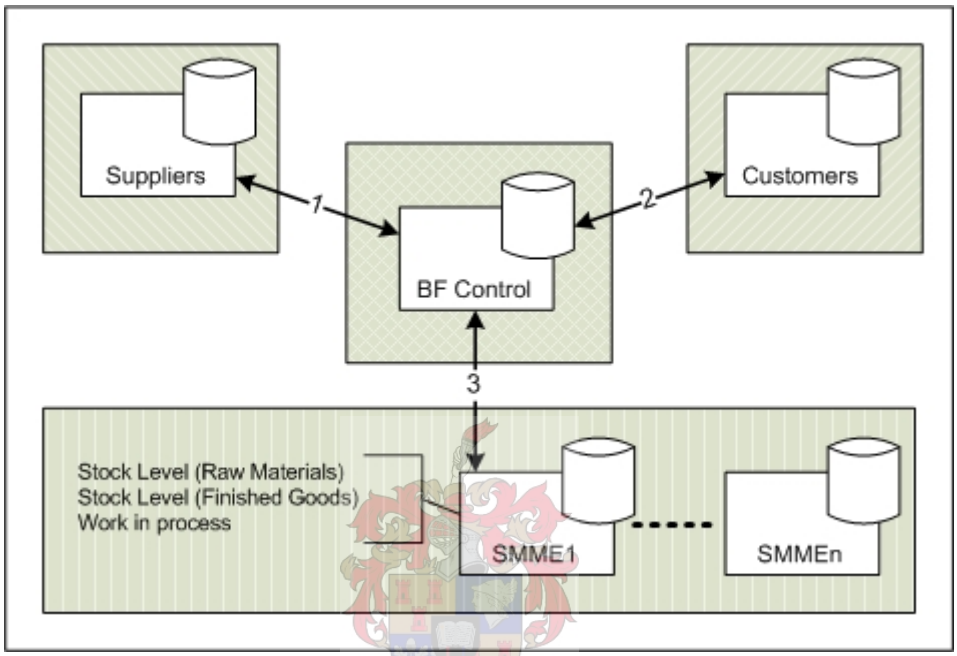


Figure 4-16. Technology Architecture for Business Framework.

Controlling stock levels of both raw materials (at various locations) and finished goods (also at various locations) requires an information system located at the office of the Business Framework. This information system should be based on a database architecture that requires computer systems and network infrastructures. Together with the stock-controlling system, information about customers and suppliers should be stored in the same database architecture. Updating this database with customer and supplier information could be done either by computer networks linking the Business Framework with customer and supplier computer systems, or through a user interface. Since most of these SMMEs would not be in a position to utilize computer systems, their information would need to be updated manually by use of user interfaces. These interfaces would be software programs owned by the Business Framework.

In conclusion, control of the physical materials and goods should be done at the Business Framework office, but storage could be at either the Business Framework or at SMMEs, depending on what is the most cost effective.

4.2.5 Row Five Information – Detail Representations

For the sake of completeness, this last phase (Row Five Models, as described in Section 2.4.6) of the Zachman framework is included, although the information specific to this section has already been referred to in previous phases.

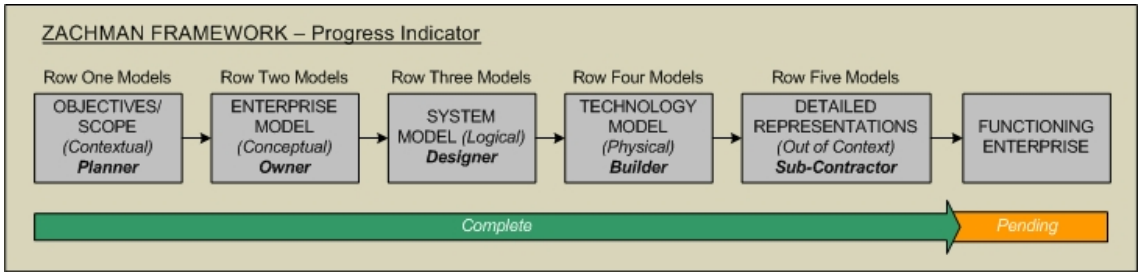


Figure 4-17. Zachman Framework – Progress Indicator, Row Five Models.

WHAT would be the Data Definitions?

Data definitions for these WHAT-models were discussed during the descriptions of the development (i.e. raw material details and orders, invoice numbers, payment numbers, order numbers, product details and codes, delivery numbers, specification sheets and production schedules).

HOW should the programs function?

Information for the process and application architectures has already been explained, describing how the system would operate when purchasing raw materials from suppliers, sending it to manufacturing (SMMEs) and delivering products to customers, including quality control, administration, management, etc.

WHERE would the network architecture reside?

Network systems have already been discussed in the logistics model and the distributed and technology architectures. Since the Business Framework would be responsible for overall control, the information network system should be installed at the Business Framework office.

The 'other three columns' of Zachman's Enterprise Architecture pose questions like: WHO does the work, WHEN do things happen and WHY are certain choices made? Models for these are somewhat hypothetical and, where necessary, relevant information pertaining to these interrogatives has been included in the earlier discussions of the first three columns, and does not need separate models.

4.2.6 Business Integration – The Management Team

The output of the Zachman Framework is a Functioning Enterprise, as illustrated in the next figure.

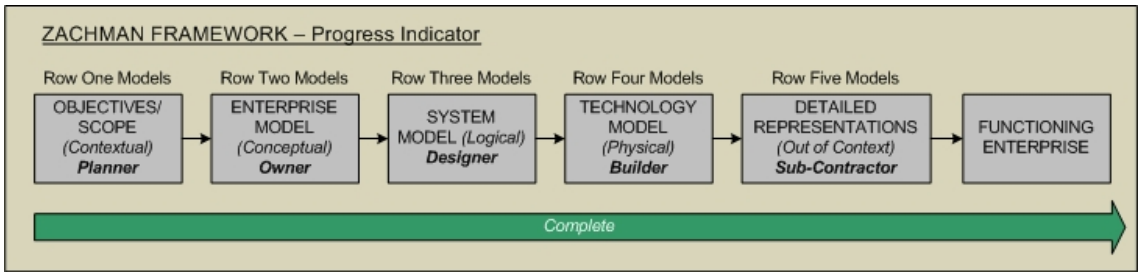


Figure 4-18. Zachman Framework – Progress Indicator, Functioning Enterprise.

Integration, as seen from the Zachman Framework in the literature survey, implies three definitions; Horizontal Integration, Vertical Integration and Scope Integration. Zachman's integration theory is somewhat pointed at production. There are slight differences between Product Integration and Business Integration. In the context of this project, Product Integration would be at operational (SMME) level, while Business Integration would be about integrating the Business Framework with other companies and SMMEs as businesses. Zachman's Integration methodology is still applicable if the 'Business Framework' is seen as the 'product' of the exercise.

The three levels of integration that need attention are:

- Integration of internal business processes,
- Integration between businesses in the Framework, and
- Integration of the Framework with larger companies.

Integration of internal Business Processes will map onto Zachman's definition of Vertical Integration, where discontinuities between different rows (owners, designers, builders, etc.) are removed. Vertical Integration has a direct affect on the management structure. To ensure there is an integrated system, management should have representatives from all levels, especially from the operations (SMME) level. Integration of internal business processes affects the interface between SMMEs and the Business Framework, in so far as SMMEs rely totally on the Business Framework for raw materials, production schedules and the collection of finished goods, as well as for bookkeeping and stock control.

Horizontal integration addresses integration of businesses within the Framework. This has to do with the ability of the Framework to foster equal opportunities to all affiliated SMMEs and to schedule production between SMMEs according to their respective capacities.

Scope integration focuses on Integration of the Framework with other companies. The Business Framework management should have a clear idea of its mission and business strategies. Abiding by these, the Framework should investigate business opportunities, search for new clients, build customer- and supplier relationships, and market the Framework as a specific type of business.

Having an 'integrated' management team is fundamental to transparency in any business.

4.3 ADDITIONS TO THE FRAMEWORK

Although the Zachman Architecture is very supportive and systematic for planning and developing the Business Framework, some additional facts should be considered when constructing a system like this for the first time.

4.3.1 Legal Status and Ownership

Operating in the formal economic sector as a business requires the Business Framework to be registered as a legal entity. The Business Framework will act on behalf of many other businesses, and therefore the legal responsibilities should lie within the Framework. Depending on the specific line of business, the Framework could choose between various options for registration - either a Trust, a Company (Pty), a Closed Corporation (CC) or a Cooperative. Although the dissociation of SMMEs from the Business Framework falls outside the scope of this project, it is still important to keep such processes in mind. It is therefore preferable that affiliated SMMEs are registered as businesses as well, since this would simplify the process when SMMEs separate from the Framework in the future.

Ownership of the Business Framework should be furnished through share holding. This allows for changes in ownership without terminating the business, and is an effective means of distributing risk. Trading additional shares is an easy way to generate extra cash, should it be necessary. An important law of life to ensure dedicated participation of all members is through combined ownership. SMMEs as well as private partners (banks, large companies, investors and government) should all have the opportunity of obtaining shares in the

Business Framework. The founders of the Business Framework should determine the number of registered shares.

4.3.2 Board of Directors

During the same period of time when the Business Framework is registered as a trading business, a policy about the board of directors should be drawn up. The board of directors should then be nominated according to that policy. This policy should, however, cater for shareholders to be part of the Directory Board, as well as representatives of SMMEs, business partners, government and general management.

4.3.3 Lifespan of SMMEs in the Framework

Deployment of such a business system would improve the sustainability of affiliated SMMEs, but its purpose would not be achieved if SMMEs were not trained and matured through the process to the point where they can become self-sufficient. As mentioned in the introduction, the purpose behind the Business Framework is to support and grow SMMEs so that they can participate in the mainstream economy.

Again, the decision as to the length of time small businesses stay within the Framework should be made in consultation with the SMMEs and the founders of the Business Framework, depending on the specific line of business in which the Framework operates. One suggestion is that this lifespan could be based on a Return on Investment (ROI) calculation. Each SMME would then be seen as a project of investment. If this basis were to be used, it would mean that after a specified number of years a specific SMME should be ready to dissociate itself from the Framework and enter the formal economy. The number of affiliated SMMEs that a specific Business Framework can manage, will have an influence on this calculation.

4.3.4 Financing and the Business Framework

Financing the Business Framework and finances within the Business Framework are two different topics and should not be confused. The first discussion is devoted to the financing of the Business Framework.

The Business Framework would have its own expenses - like computer systems, salaries of employees, rental for the office space, stationery, telephone, transport, etc. - which have to

be budgeted for. Estimations of these expenses need to be derived by the Business Framework design team. In most cases, the government would be part of such a venture, and should be encouraged to cover these running costs (as growing and initiating more SMMEs is one of the government's key objectives, as was shown in the literature survey). Spending money like this in a controlled manner while training and growing businesses is far better than spending money on the unemployed. Business partners from the private sector should be encouraged to support the Framework as suppliers, customers, or experts in business skills. Social investors could invest money in the framework as part of their social upliftment schemes. Such money could then be used as surety when SMMEs need to borrow money from commercial banks to start their businesses. The Framework should also receive an income from membership fees of SMMEs.

Finances within the Business Framework mostly cover the aspects of providing financial services to SMMEs. The first service would be to borrow money on behalf of a SMME, and to use that money to pay for the infrastructure of that SMME and cover its running costs. The Business Framework would use the money from social investors as surety when borrowing money. SMME-owners would still be responsible for the money they borrow, but the Framework would manage the finances on behalf of the SMMEs. Every SMME would have an account within the Business Framework's financial system. All costs (raw materials, salaries, maintenance, transport, etc.) and revenues (sales) would be filed to each SMME's account on a pro rata basis.

An ideal situation would be where the overheads of the Business Framework were covered through the revenue of operations from SMMEs. Although the Business Framework should generate income like a normal business, the actual aim is to grow and train SMMEs, something that would influence profit margins substantially.

4.4 CONCEPT INITIALISATION

At this point in time, the following would be a valid question: What initiates the process for the development of such a Business Framework?

In most cases it would be initiated from outside the realm in which SMMEs operate. The main driving force behind such a concept would be the government, but private companies could, according to their social responsibility policies or legislative issues, start similar projects. The government is used as initiator in the next example.

The government may recognise a certain business opportunity or business driver. Through research the government would estimate the 'business value' of this opportunity and then decide to exploit it. If they decided to go ahead, they would start looking for businesses partners to help develop the Business Framework. These partners from the formal economy are necessary and should provide training of business skills to affiliated SMMEs.

Once the partners are finalized, a team representing government and the business partners, would have to start with a business plan and the development of the Business Framework, addressing all the legal issues, like business registration, bank accounts, management, directory board, etc., as has already been described earlier in this chapter. Once the Business Framework is operational, the team would search for SMME owners that would fit into the environment of the Business Framework. A contract between SMME-owners and the Business Framework would have to be signed, after which collaboration could start. A high-level illustration for the flow of concept realization is shown in Figure 4-19.

Figure 4-19. Flow of Concept Realisation.

4.5 ADVANTAGES OF THIS CONCEPT

The Business Framework would provide some form of business identity to prospective owners and SMMEs. Through the Framework they would be in a better position to borrow money and provide surety for it. It would be possible to open a bank account, have a physical address and access to telecommunication.

The flow of money in, out and through the framework should be transparent. This would help to prevent fraud, which would hopefully encourage investors and the government to support such a system, instead of providing money without knowing exactly what could happen to it.

Government incentives for SMMEs and large companies are not clearly published. The Framework would need to keep up-to-date with these legislative issues and inform SMMEs and business partners, especially when operating in rural areas.

Support from the Framework provides access to the formal systems that manages business registrations, taxation and so forth.

4.6 CONCLUSION

The Zachman Framework is very useful for building complex architectures and delivering a totally integrated system.

Through the planning and development of the Business Framework it can again be acknowledged how 'hard' the business world is. SMME-owners and entrepreneurs without business skills find it difficult to survive, unless they are teamed together and become part of such a Framework and learn the necessary skills, similar to 'on-the-job-training'. A possible solution to overcoming the difficulty is for government to invest money in such a Framework, instead of giving money to prospective entrepreneurs who do not have the necessary business skills.

Throughout this chapter a manufacturing type Business Framework has been used, but all the models are just as relevant for a Framework and SMMEs in the services sector. 'Operations' would be how services are rendered, products would be the services rendered and raw materials would be all the necessities necessary to render that specific service.

Partners in the Business Framework should be clear that the main aim is to develop an environment for SMMEs to grow, and that large profit margins would not always be possible. While the objective is obviously to make profit, the focus should remain on social returns, community development and sustainable job creation through self-employment. The Business Framework is seen just a vehicle to achieve this vision.

Chapter 5

5 A CASE STUDY

Implementing such a comprehensive framework for testing would have been too costly and would take too long. This case study provides a demonstration of the idea that a Business Framework to implement and grow SMMEs could be successful and rewarding for all shareholders. Information and data used in this case study is provided by Stellenbosch University's Aquaculture Department for use as part of this research. The GCC in partnership with Linge Lethu acted as consultants between Woord en Daad (international investors) and the Aquaculture Department to facilitate foreign investment for the project. Some sentences have been re-written for easier reading and a clearer flow of reasoning, but most sections are similar to or extracts of the business proposal of the project. This was done with the intention of keeping to the original project and providing a valid case study. The Project Proposal is: Development of Small-Scale Aquaculture Farming Systems, March 2004; and the Project Presentation: Development of Small-Scale Fish Farming in the Western Cape, April 2005.

5.1 BACKGROUND OF THE PROJECT

The Aquaculture Department at Stellenbosch University saw a business opportunity to supply fish for the growing demand of trout in the South African market. It has been estimated that the shortage of trout supplies are in the order of 200 tons per year. Furthermore, the Western Cape is the natural habitat for Rainbow Trout and is an area with lots of farms and irrigation dams. The question was how to exploit the Western Cape as an environment for the business opportunity. Aquaculture provides an opportunity for rural communities to participate in agribusiness and regional economies without owning land, which is usually a prerequisite.

The following resources available for utilisation are typically found in the Western Cape:

- Lots of wine and fruit farms with irrigation dams (>2000 dams).
- Seasonal farm workers who live on the farms but who do not have a stable income outside of harvesting seasons.
- Wives and children of permanent farm workers who live on the farms throughout the year.
- Good roads and transport infrastructures, communication and organizing capacity.

- Farms are well equipped with necessary farming implements and tools.

Although farmers generally provide a healthy style of living and market-related salaries to their workers, these workers can earn much more if their wives and children contribute to the family income.

The proposal was to utilise irrigation dams on farms by equipping unemployed people on these farms to operate small fish farming businesses. For this, fish farming rights needed to be secured by legal agreement. Building the necessary business infrastructure around this idea was similar to the generic business framework presented in the previous chapter.

The following is taken from the project proposal submitted by the Aquaculture Department. Financial figures were adjusted to reflect current situations.

> *With over 2000 registered dams, the Western Cape has a combined potential of producing a capacity of 8000 tons of fish per annum. This amounts to the per capita fish consumption of 2.5 million South Africans. The initial objective is to establish a network of 30 small-scale fish farming units. The Socio-economic assessment of the program indicates that an initial investment of R70 000 will create one direct job opportunity, with 6-8 beneficiaries and 21 people that receive secondary benefits in terms of temporary jobs and food supplies* (Aquaculture – Stellenbosch University, 2004).

5.2 PROJECT EXECUTION

The Project is officially named: *Small-scale Fish Farming Project*, and is supervised by Dr. Danie Brink from the Aquaculture Department at Stellenbosch University.

5.2.1 Project Objectives

The following objectives were set out by the project committee and coincide with the *Row One Models* of the Zachman Architecture as described in Section 2.4.6 and 4.2.1.

- Supply for the demand for trout in the South African Market. Deliver 200 tons of fish after three years from 30 farming systems.
- Improvement of the standard of living of rural communities regarding income, nutrition, training and skills development.
- Provide opportunities for participation in economic activities through job creation and small business development.

- Sustainable utilization of resources (people, water, land, and infrastructure) to the advantage and benefit of rural communities.

5.2.2 Business Partners

Formalising an operational structure for the project required several business partners, which are shown in the next picture.

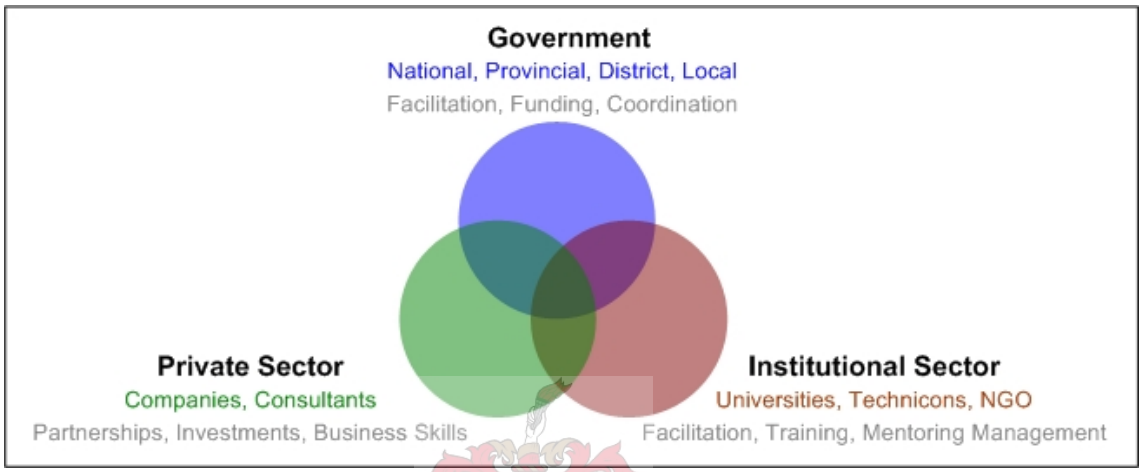


Figure 5-1. Business Partners for Small-scale Fish Farming Project.

Farmers of the small-scale farming units are not included above, because these business partners constitute the framework necessary to support these farmers.

The following people or organisations are role players in the project and contribute to the successful implementation of each farming unit by providing complementary services and input.

- Division of Aquaculture of Stellenbosch University.
- New Farmers Development Company.
- Linge Lethu and Woord en Daad.
- Land Owners and Local Councils.
- Three Streams Smokehouse.
- Hands-on Co-operative.
- Small Farmers.

Being in the Agri-business, the project team decided that the most suitable legal entity for the business environment of these small farmers would be a co-operative, representing the

commercial interest of individual participating small farmers. This agricultural co-operative is called Hands-on Fish Farmers Co-operative Ltd., and was established in 2003.

The operational structure with its role players is illustrated in the diagram below.

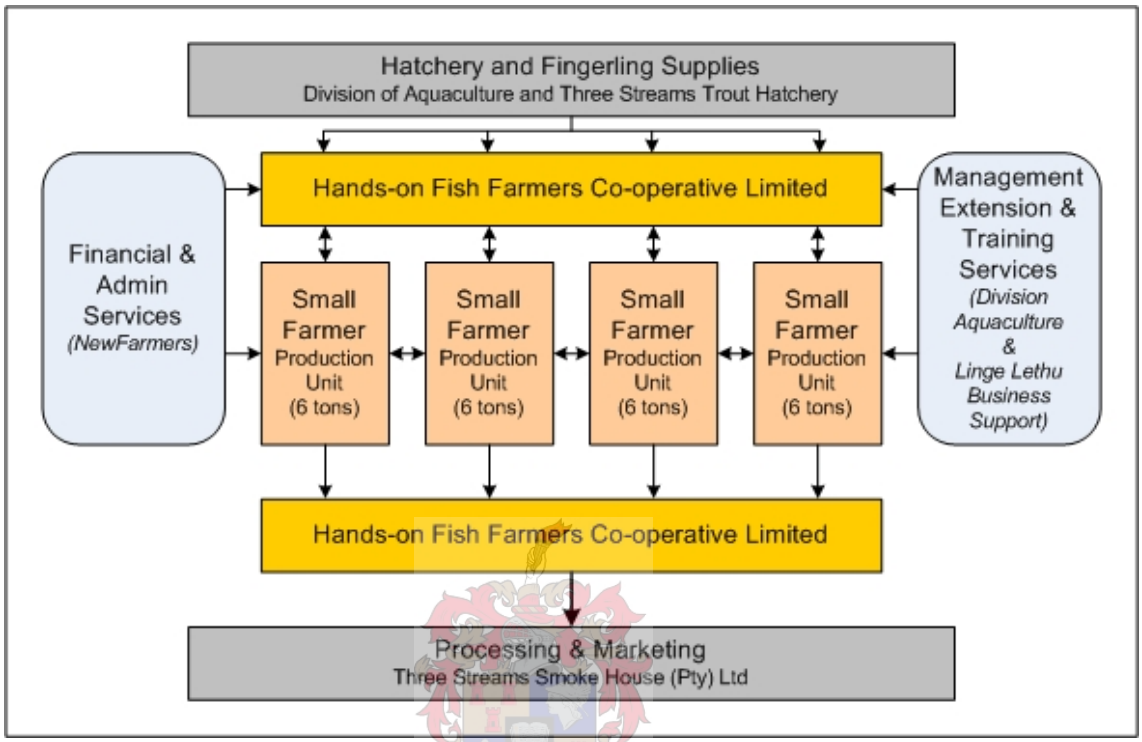


Figure 5-2. Operational Structure of Small-scale Fish Farming Project.

Business Partners and their specific roles are discussed in the next paragraphs and relate to the logical system models of the Zachman Framework in Chapter 4.

Responsibilities of the **Division of Aquaculture**:

- Identification and evaluation of opportunities in liaison with landowners and local government authorities with regard to site selection and identification of small-scale fish farmers.
- Development of least-cost production systems for use by small-scale fish farmers.
- Development and transfer of production technology.
- Supply of fingerlings, feeds and equipment.
- Provision of extension services.
- Provision of training courses and material for small-scale fish farmers.
- Co-ordination of marketing amongst small-scale fish farmers.

Responsibility of **New Farmers Development Company (Pty) Ltd**:

- Assistance with financial administration of individual farming projects and for the Hands-on Fish Farmers Co-operative.
- Bulk purchase agreements, e.g. feed, packaging and processing.

Contributions from **Landowners / Farm Management and Local Authorities**:

- Contractual availability of resources (dams and farm infrastructure) to Small-scale Fish Farmers.
- Assistance to Small-scale Fish Farmers with construction and maintenance of fish farming systems.
- Managerial assistance to Small-scale Fish Farmers.

Responsibility of **Hands-on Fish Farmers Co-operative**:

- Marketing and supplies agreements.
- Quality control and extension services.

Essential services from **Three Streams Smokehouse**:

- Market uptake agreements.
- Quality control, processing, distribution and marketing.

The **Small-scale Fish Farmer** is responsible for:

- Loan application and contractual responsibilities.
- Completion of provisional training programme.
- Production management, administration and reporting.

5.3 OPERATIONS

5.3.1 Small-scale Fish Farming Units

Small-scale Fish Farmers each implement a floating system that consists of a platform with two polyethylene cage nets of 10 x 10 x 5m each. Capital layout for these fish farming units and necessary accessories amounts to R70 000. An example of such a fish farming system is shown in Figure 5-3. Each unit can produce six tons of rainbow trout during the winter months, followed by the production of 1 to 1.25 tons of tilapia during the summer months. Trout are supplied under contract to existing processing companies for the manufacturing of

high-value products, while tilapia is sold as an affordable food source within local communities.

Fingerlings are bought at the beginning of each season and stocked in the floating cage systems. Fish Farmers feed and take care of the fish during the production cycle. An extension officer from the co-operative visits the farmers on a monthly basis, during which performance and managerial systems are evaluated.

Figure 5-3. Outlay of a Small-scale Fish Farming system.

The annual net profit of the small-scale farming units are up to three times the average annual wages of farm labourers in these rural areas. A budgetary outline of these small-scale farming units is given in Table 5-1. From these figures, the programme has proven its ability to make a meaningful contribution to the income and nutritional status of these communities, whilst also providing a means for the development of human resources (Appendix B).

An initial capital investment of R70 000 is required for the cage structure and other equipment. These items have an expected life span of 6 to 8 years. The gross profit margin of ±30% from the second year confirms the economic viability of these projects on an individual basis. Each farming unit is, however, reliant on financial, administrative and

technical support services, due to the limited background, training and experience of the prospective fish farmers. Costs for financial and administrative services are reflected in the Fish Farmers' budget outline, though associated costs for training and extension services are not included. The latter is included in the Budgetary Requirements for the Small-scale Fish Farmers Project (Table 5-2). Inflation is calculated at 6% per year.

Table 5-1. Budget Structure of a Small-scale Fish Farming Unit.

	Year 1 2005	Year 2 2006	Year 3 2007	Year 4 2008
INFLOWS				
Sales	R 150,000	R 159,000	R 168,540	R 178,652
Total	**R 150,000**	**R 159,000**	**R 168,540**	**R 178,652**
OUTFLOWS				
Operating Costs				
Fingerlings[2]	R 25,200	R 26,712	R 28,315	R 30,014
Wages & Salaries	R 14,400	R 15,264	R 16,180	R 17,151
Fish Food[3]	R 55,860	R 59,212	R 62,764	R 66,530
Maintenance	R 1,000	R 1,060	R 1,124	R 1,191
Admin & Interest	R 2,400	R 2,544	R 2,697	R 2,858
Transport & Fuel	R 4,500	R 4,770	R 5,056	R 5,360
Total	**R 103,360**	**R 109,562**	**R 116,135**	**R 123,103**
CAPITAL				
Cage culture units	R 42,500	-	-	-
Store room (Wendy house)	R 8,300	-	-	-
Nets, Ropes	R 15,500	-	-	-
Other equipment (scale, buckets, etc.)	R 4,100	R 1,200	R 1,272	R 1,348
Total	**R 70,400**	**R 1,200**	**R 1,272**	**R 1,348**
NET BEFORE FINANCING	R -23,760	R 48,238	R 51,133	R 54,201
Cumulative	R -23,760	R 24,478	R 75,611	R 129,812

1. Sales = 6000kg of fish @ R 25.00 per kg
2. Fingerlings: n=6000; avg = 200g; total = 1200kg R 21.00 per kg
3. Feed costs: R6650 per ton; Feed conversion ration = 1.4:1

Based on the Logical System Model discussed in Section 4.2.3 and Figure 4-9 of the Zachman Architecture, operations of the Hands-on Fish Farmers Co-operative are explained as follows:

The Hands-on Fish Farmers Co-operative fulfils the role of the Business Framework. The Marketing and Sales division of the Hands-on Fish Farmers Co-operative interact with a customer; in this case, it is Three Streams Smokehouse. Three Streams Smokehouse has agreed to buy 200 tons of trout per year. According to studies done by Research Institutes like the Division of Aquaculture at Stellenbosch University, the Hands-on Fish Farmers Co-

operative estimates that a small-scale fish farm can produce about 6 tons of trout per year. From this information, the Hands-on Fish Farmers Co-operative orders fingerlings from its suppliers, which is the Division of Aquaculture and also Three Streams Smokehouse. The number of fingerlings ordered is determined by the number of Small-scale Fish Farms affiliated to the Co-operation. The Hands-on Fish Farmers Co-operative establishes an agreement with the suppliers for the payment for the fingerlings. These fingerlings are then shipped to the Small-scale Fish Farms where they are fed until they can be harvested at the end of the season. The Hands-on Fish Farmers Co-operative supplies the Small-scale Fish Farmers with food supplies and maintenance material, as well as the fish cages. The Co-operative buys these raw materials when necessary. The full-grown trout is harvested at the end of the season and supplied back the Co-operative. From the Co-operative, the fish are shipped to Three Streams Smokehouse. The Co-operative is responsible for planning harvesting times, controlling the flow of finances between the customer and suppliers and the Fish Farms, and also providing interim financing for the Small-scale Fish Farmers during the feeding season. The Co-operative interacts with the Government to ensure compliance with legislative measures and to obtain benefit from governmental support programmes, like start-up capital, tax incentives, etc.

5.3.2 Hands-on Fish Farmers Co-operative

The Hands-on Fish Farmers Co-operative, established in 2003, was founded with the assistance of the Department of Economic Affairs and the Stellenbosch Business and Learning Centre. The idea was to have an improved business structure for participants in the Small-scale Fish Farming project in terms of purchases, marketing, loans, security, quality controls, management, etc.

The Hands-on Fish Farmers Co-operative has the following business objectives, according to co-operative practices:

- To act as a fish dealer and undertake the marketing of fish and fish products.
- To process fish and fish products.
- To buy, hire or otherwise acquire requisites, boats, permits or quotas necessary for use in fishing operations.
- To facilitate capacity building, including training and extension services.
- To supply members with essential inputs, i.e. feeds and fingerlings.
- To assist members in accessing finance to run their businesses effectively and efficiently.

5.3.3 Project Finances

The next table displays the overall budget structure for the Small-scale Fish Farmer Project. The Hands-on Co-operative is mainly responsible for management of project finances, while New Farmers Development take care of auditing and taxation.

Table 5-2. Budgetary Requirements for the Small-scale Fish Farmer Programme.

Item	Year 1	Year 2	Year 3	Total
	Total	Total	Total	
Section A: Business Development				
A.1 Capital Costs (R70 400 per project)	**704,000**	**746,240**	**791,014**	**2,241,254**
A.2 Operating Costs (R104 000 per project)	**1,040,000**	**1,102,400**	**1,168,544**	**3,310,944**
Section B: Business Development				
B.1 Training & Skills transfer				
B.1.1 Course fee (R900/person)	36,000	38,160	40,450	114,610
B.1.2 Course material (R400 per person)	16,000	16,960	17,978	50,938
B.1.3 Office administration (Telephone, fax, print, etc.)	12,000	12,720	13,483	38,203
	64,000	**67,840**	**71,910**	**203,750**
Section C: Business Support				
C.1 Marketing				
C.1.1 Promotions and branding	60,000	63,600	67,416	191,016
C.2 Financial services				
C.2.1 Monthly admin services (R400/month/project)	48,000	101,760	161,798	311,558
C.3 Extension Services				
C.3.1 Salaries (Project manager/Extension officer)	160,000	169,600	179,776	509,376
C.3.2 2nd Extension officer			90,000	90,000
C.3.4 Transport (500km/project/month @ R2.30/km)	138,000	292,560	465,170	895,730
C.3.5 Office administration (Telephone, fax, print, etc.)	12,000	12,720	13,483	38,203
C.4 Statutory approval & Legal documentation				
C.4.1 Consultancy services (R5000/project)	50,000	53,000	56,180	159,180
	468,000	**693,240**	**1,033,824**	**2,195,064**
TOTAL FINANCES NEEDED OVER 3 Years	**R 7,747,262**			

Financial requirements of each small farming unit amounts to ±R174 000 (±R104 000 operating costs and ±R70 000 fixed capital) for the first year can be seen in Table 5-1. Funds are made available to the Small Farmers in the form of Loan Capital. The Total financial requirement for the programme (30 farmers for 3 years) amounts to ±R7.75 million. New Farmers Development committed to facilitate 50% of the Loan Capital needed by individual small farmers. Furthermore, the company provides financial administration services to both the Hands-on Co-operative and each of the Small-scale Fish Farming businesses. Costs of

this service amounts to R400/month/project and is reflected in the respective project budgets. These services include a detailed monthly reconciliation and financial analysis, as well as audited year-end statements. Small farmers receive training in financial management in order to take over the responsibility for financial administration as from the third year of operation. An additional officer will be introduced in year three as support for the increase in workload of the first extension officer. The project received a R2.2 million grant from the Department of Science and Technology as part of the Government's poverty reduction programme. Woord en Daad, an international investor (Netherlands), has committed to provide finance for the capital layouts of two of these farming units.

5.3.4 Job Creation

The programme has the potential to create a substantial number of job opportunities. Table 5-3 indicates that 64 direct and 33 indirect jobs will be created. Estimations indicate that each direct job in rural areas supports 6 to 8 beneficiaries (family members); another 21 people receive secondary benefits, in the form of temporary jobs and affordable food supplies.

Table 5-3. Job Creation Potential from Small-scale Fish Farming Project.

Job description	Status	Year 1	Year 2	Year 3	Total
Programme Manager	Full time / Contractual	x1	Ongoing	Ongoing	x1
Researcher	Full time / Contractual	x1	Ongoing	Ongoing	x1
Extension Officer	Full time / Contractual	x1	x1	Ongoing	x2
Direct Jobs					
Small Farmers[1]	Full time / Self employed	x10	x10	x10	x30
Small Farmers Assistant[2]	Part time / Employed	x10	x10	x10	x30
Indirect Jobs					
Fish Processing[3]	Permanent / Full time	X8	X8	X8	x24
Fish Processing[3]	Contractual / Part time	x3	x3	x3	x9
		x34	x32	x31	X97

1. Each small-scale farmer is self-employed in his project, i.e. 10 new projects per year over 3 years.
2. Each small farmer will employ an assistant within his project, i.e. 10 new projects per year over 3 years.

3. Figures equivalent to current employment statistics at the Three Streams processing plant, based upon production volumes of 65 tons in year 1, a further 130 tons in year 2 and 200 tons in year 3, and onwards.

5.3.5 Business Support – Marketing

As a business partner, Three Streams Smokehouse has made a long-term agreement with the Hands-on Fish Farming Co-operative for an uptake of the amount of 200 tons (R5.0 million) of trout per year. Three Streams will also contribute through quality assessments of stock and training of small-scale farmers in harvesting procedures. This agreement makes provision for the establishment of 30 small-scale farming units in the Western Cape area. Special branding, promotion and marketing campaigns for the small farmers' products are envisaged. Marketing costs are reflected in the Business Support section of the project budget (Table 5-2).

5.3.6 Business Support – Extension Services

The background of the small farmers (lack of experience and training) and the physical nature of the programme require specialised extension- and managerial support services to ensure sustainability through the initial phases of the project. Both the marketing company (Three Streams Smokehouse) and the financial services company (New Farmers Development) insist on the provision of such support services to ensure that adequate quality standards, reliable logistics, co-ordination and control over operational risks are maintained. The Division of Aquaculture (Stellenbosch University) is contracted to provide these extension and managerial services to Small-scale Fish Farmers, including the system design, production planning, fish health management, water quality maintenance, product quality control, etc. The costs of these services are reflected in the Business Support section of the project budget (Table 5-2).

5.3.7 Business Support – Legal Services

Every Small-scale Fish Farm requires statutory approval from the Department of Environmental affairs, in accordance with the regulations of the Departments of Water Affairs, Environmental Affairs and Agriculture, as well as local authorities. Applications are administered by the environmental consultancy, registered at the Department of Environmental Affairs. Legal agreements are required to secure the rights of Small Farmers in terms of water-use rights, financial loans, etc. Costs of statutory approval and legal

documentation amounts to R5000 per small farming unit and is reflected in the Programme Budget (Table 5-2).

5.3.8 Business Training

Compulsory training and skills development is of utmost importance. Levels of technical and educational abilities in these rural areas are very limited. The Small-scale Fish Farmer Training Programme includes:

- An initial 2-week training programme at the Division of Aquaculture at the Stellenbosch University.
- A quarterly one-day training programme at the Division of Aquaculture at the Stellenbosch University.
- Monthly on-site (on the farm) training under supervision of the extension officer.

Training material consists of technical, financial and business management modules, and is conducted under supervision of the Division of Aquaculture at Stellenbosch University, with the input from all partners in the programme. Training costs are reflected in the Programme Budget under Business Training. A minimum of 60 people (2 per project) will receive training through the rollout of the Small Farmer Development Program.

5.4 PROJECT SUMMARY

The Division of Aquaculture launched the project in 1999 through the development of two pilot projects, which now act as demonstration, research and training units. The objective is to have 20 units established by the year 2005, 100 units by the year 2010 and 200 units by the year 2020, throughout the country.

An efficient structure between the Hands-on Co-operative and other institutional role players has been established. The Small-Farmers Development Program saw excellent co-operation from all role players in laying down a platform for infrastructure, facilities, training and extension services provision. The programme has developed a broad network between national and international institutions, allowing knowledge transfer through bilateral programmes.

The project has reached most of its operational and business goals and 14 of these fish farming units have been installed.

5.5 CONCLUSIONS

From a Business Framework development perspective, this project suits the role as Case Study perfectly in that it demonstrates the importance of a 'controlling company' that acts on behalf of the associated businesses. Emphasis is placed on the lack of skills of these prospective business owners and that, although they can perform physical operations, they need training in the fields of business skills, managerial skills, system design, production planning, financial analysis, etc.

Integration of the Business Framework (Hands-on Fish Farmers Co-operative) with other companies (suppliers and customers) is clearly visible. Three Streams Smokehouse agreed upon a market uptake, and supply 50% of the fingerlings to these small farming units. Furthermore, training in harvesting procedures, the acquisition of finances (New Farmers Development), transporting (Hands-on Co-operative), infrastructure provision by land owners and grants from the government demonstrate the combined effort of business partners can bring small businesses into the main stream economy.

Benefits can be seen in the creation of employment opportunities in rural areas, better nutrition and human resource development, all of which are listed as high priorities in government circles.

Practical and Theoretical Similarities

To highlight the similarities between the theoretical expressions and the practical implementation, the case study is mapped onto the Zachman Framework used in the development of the generic Business Framework.

Table 5-4. Practical and Theoretical Similarities.

ZACHMAN PHASES *(Theoretical)*	**PROJECT EXECUTION** *(Practical)*
OBJECTIVES / SCOPE *(Contextual)* ***Planner***	The project started out with a clear scope, listed as Project Objectives. Together with these objectives, it was decided What, How, and Where the project would be carried out. Business partners for the project are chosen according to specific services the Co-operative would be delivering to small farmers.

ZACHMAN PHASES *(Theoretical)*	**PROJECT EXECUTION** *(Practical)*
ENTERPRISE MODEL *(Conceptual)* ***Owner***	The conceptual model of the project is illustrated by the graphical design of the Hands-on Fish Farmers Co-operative, Figure 5-2. Selection of the Business Partners illustrates the process of designing the Enterprise Model, as described by Zachman's Architecture. These Business Partners are the *Owners* of the Enterprise Model.
SYSTEM MODEL *(Logical)* ***Designer***	The logical system is described in terms of the services that the business framework should provide to the small fish farmers. These services are enablers of knowledge transfer from the co-operative to the small fish farmers. Typical services are marketing and sales, extension services, legal services and training.
TECHNOLOGY MODEL *(Physical)* ***Builder***	The physical model is described by the roles of all the stakeholders. These are descriptions of the tasks of the fish farmers, the co-operative, the land owners, etc.
DETAILED REPRESENTATIONS *(Out-of-Context)* ***Sub-Contractor***	Detailed representations were discussed in the first paragraphs of the section on Operations (Section 5.3). These are the budget layouts of the fish farming units and the co-operative, as well as job creation opportunities.

Chapter 6

PROJECT CONCLUSION

The objective of this research project was to develop a sustainable solution that could support SMMEs through their start-up phases and to enable them to grow into sustainable businesses that actively participate in the mainstream economy. This was achieved through:

- Investigations of the reasons why many of these SMMEs struggle to survive.
- Research on current principles and policies implemented by the South African Government.
- Evaluation of the business processes within these SMMEs, using engineering methodologies and tools.
- The development of a Business Framework according to the Zachman Enterprise Architecture Framework.

Due to the conceptual nature of this project it is impossible to have calculated outcomes that prove acceptance for the generic Business Framework. However, the Small-Scale Fish Farmers Project serves as a suitable illustration where a specific solution, based on the same principles as the generic Business Framework, provided enough evidence for reaching the main objective. The Research Hypothesis as stated in the first chapter can therefore be accepted.

Implementing such a Business Framework in order to deploy SMMEs and equip entrepreneurs does not necessarily offer short-term (±2 years) benefits, but would in the long run (>2 years) produce many fish farmers capable of managing their own businesses and who could employ other people from their local communities. This approach is different from current BEE policies applied by the South African government, which forces companies to employ people from previously disadvantaged groups, regardless of their skills or lack thereof.

Support from the government and other organisations in terms of finances, business skills, expertise, etc. is vital for the successful development of such a Business Framework and the supporting processes that need to be provided to SMMEs.

The Enterprise Engineering Tools that were mastered and used for characterising SMMEs and the development of the generic Business Framework suited the application and were in line with the field of Enterprise Engineering Research. The Zachman Framework proved to be an excellent Enterprise Reference Architecture Framework in that it guides enterprise engineers systematically through the development of complex enterprise systems.

Chapter 7

FUTURE RESEARCH

As laid out in the scope of the project (Chapter 1), this research focused only on SMMEs and entrepreneurs that operate in the same line of business. This spectrum of SMMEs affiliated to a Business Framework could be broadened if different SMMEs took different responsibilities within the Business Framework environment. For example: Some SMMEs fulfil the role of operations, as in this thesis, but then instead of the Business Framework taking care of the rest of the business processes, other SMMEs could be responsible for financing, logistics, etc. The dynamics within in such a Business Framework would change dramatically and require further study.

Up to now it has been assumed that the Business Framework would start its operations by affiliating a specific number of SMMEs. These SMMEs are expected to mature at the same pace and would require the same training and support simultaneously. If they needed to dissociate from the Business Framework, it would most probably also happen in a single restructuring process. If the Business Framework could support a continuous flow of SMMEs of varying stages of maturity, the Framework would definitely be able to support more SMMEs concurrently. This would also require adjustments to the internal processes of the Business Framework and requires further investigation.

Research into the Product and Technology Life Cycles of informal SMMEs would also provide valuable insight into their internal business processes and could be used to refine the supporting functions of the Business Framework.

Chapter 8

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Appendix A

STATISTICS SOUTH AFRICA

The following section contains information published by Statistics SA about non-VAT-registered businesses and their owners. This data is included as an additional reference to support arguments in the literature survey and business evaluation sections. References to tables and figures are kept the same as in the source files. For the original document, please refer to:

Statistics South Africa, 2002, *The Contribution of Small and Micro Enterprises to the economy of the Country: A survey of non-VAT-registered business in South Africa: Part 1 – Summary and Tables*, pages 60-80, Stats SA Library, Pretoria, South Africa.

6. Supplies

Tables 6.1 and 6.2 indicate the distribution of persons who were running at least one non-VAT-registered business in March 2001 by province, area of residence of the owner, industry of the business and whether or not they use supplies. Supplies are defined as products that are not changed before being sold or resold. Tables 6.3 to 6.6 indicate the distribution of persons who were running non-VAT-registered businesses that use supplies, by the source of these supplies, area of residence of the owner and means of transporting supplies to the business. Figure 6 indicates the distribution of persons who were running at least one non-VAT-registered business that uses supplies by source of supplies and area of residence of the owner.

Summary

The results in Table 6.1 indicate that of an estimated 2.3 million persons who were running at least one non-VAT-registered business in 2001, 1.2 million were using supplies in their businesses and 1.0 million were not. Of the estimated 1.2 million persons who were using supplies in their businesses, 679 000 were in urban areas and 567 000 were in non-urban areas. Most of these people obtained their supplies from wholesalers (507 000 persons) followed by 355 000 persons who obtained them from retailers and then those who obtained them from fresh produce markets (109 000 persons) (Table 6.3). Figure 6 indicates that

although the largest group of persons obtained supplies for their businesses from wholesalers in both urban and non-urban areas, in the urban areas the proportion using wholesalers is much higher than the proportion using retailers, whereas in the non-urban areas retailers were cited almost as often as wholesalers. In the urban areas, the third most common source was fresh produce markets, whereas in the non-urban areas the use of their own produce featured more strongly.

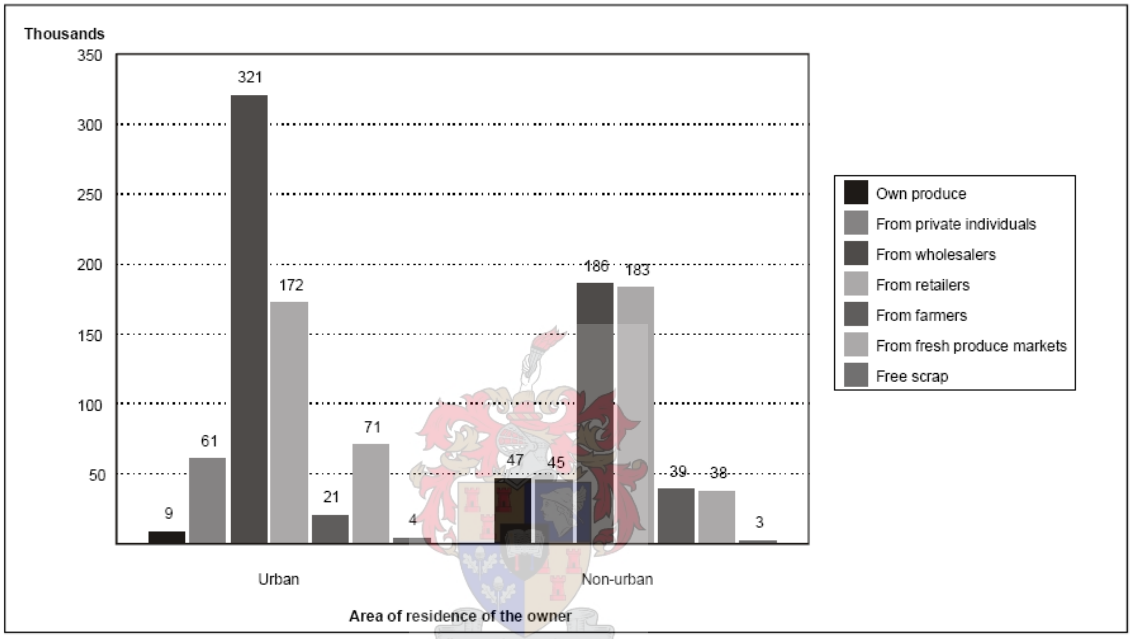


Figure 6: Distribution of persons running at least one non-VAT-registered business that used supplies by source of supplies and area of residence of the owner.

6. Supplies (products that are not changed before reselling)

6.1 Number of persons running at least one non-VAT-registered business by province, area of residence of the owner and whether the business uses supplies.

	('000)								
Province	**Uses supplies**			**Does not use supplies**			**Total**		
	Urban	**Non-urban**	**Total**	**Urban**	**Non-urban**	**Total**	**Urban**	**Non-urban**	**Total**
RSA	679	567	**1 246**	640	397	**1 037**	1 319	964	**2 284**
Western Cape	58	2	**60**	50	1	**51**	108	3	**111**
Eastern Cape	54	68	**121**	29	59	**88**	83	126	**209**
Northern Cape	8	2	**9**	7	1	**8**	14	3	**17**
Free State	53	17	**71**	46	12	**58**	99	30	**129**
KwaZulu-Natal	152	188	**340**	111	129	**240**	263	317	**580**
North West	32	62	**94**	30	51	**81**	62	113	**175**
Gauteng	272	7	**279**	323	14	**337**	595	21	**616**
Mpumalanga	32	66	**99**	33	49	**83**	65	116	**181**
Limpopo	18	155	**174**	11	80	**91**	30	236	**265**

Total includes unspecified usage of supplies.

For all values of 10 000 or lower the sample size is too small for reliable estimates.

6. Supplies (products that are not changed before reselling)

6.2 Number of persons running at least one non-VAT-registered business by industry and whether the business uses supplies.

	('000)		
Industry	**Uses supplies**	**Does not use supplies**	**Total**
Total	**1 246**	**1 037**	**2 284**
Agriculture, hunting, forestry and fishing	22	18	39
Manufacturing	29	182	211
Electricity, gas and water supply	-	-	-
Construction	10	61	71
Wholesale and retail trade	1 122	461	1 584
Transport, storage and communication	7	65	72
Financial intermediation, insurance, real estate and business services	12	152	165
Community, social and personal services	42	94	136
Private households with employed persons	-	3	3
Other	1	1	2

Total includes unspecified usage of supplies.

For all values of 10 000 or lower the sample size is too small for reliable estimates.

- = no respondents

6. Supplies (products that are not changed before reselling)

6.3 Number of persons running at least one non-VAT-registered business that uses supplies by source of supplies and area of residence of the owner

	('000)		
Source of supplies	**Urban**	**Non-urban**	**Total**
Total	**679**	**567**	**1 246**
Own produce	9	47	56
From private individuals	61	45	106
From wholesalers	321	186	507
From retailers	172	183	355
From farmers	21	39	60
From fresh produce markets	71	38	109
Free scrap	4	3	7
Other/unspecified	20	26	46

For all values of 10 000 or lower the sample size is too small for reliable estimates.

6. Supplies (products that are not changed before reselling)

6.4 Number of persons running at least one non-VAT-registered business that uses supplies by source of supplies and province

	('000)								
	Source of supplies								
Province	Own produce	From Private Individuals	From wholesalers	From retailers	From farmers	From fresh produce	Free scrap	Other/ Unspecified	Total
RSA	**56**	**106**	**507**	**355**	**60**	**109**	**7**	**46**	**1 246**
Western Cape	-	2	34	12	3	8	-	1	60
Eastern Cape	6	5	50	47	1	7	2	4	121
Northern Cape	-	1	4	3	-	1	-	-	9
Free State	2	10	25	24	3	5	-	1	71
KwaZulu-Natal	28	24	133	77	17	36	3	20	340
North West	1	5	44	32	3	6	1	1	94
Gauteng	3	21	138	71	8	29	-	10	279
Mpumalanga	5	17	27	29	8	7	1	4	99
Limpopo	10	21	52	61	17	9	-	4	174

For all values of 10 000 or lower the sample size is too small for reliable estimates.

- = no respondents

6. Supplies (products that are not changed before reselling)

6.5 Number of persons running at least one non-VAT-registered business that uses supplies by industry and place where supplies are obtained.

	('000)			
	Place where Products/Services are sold			
Industry	In Village/town/city where owner lives (including own produce)	Elsewhere*	Unspecified	**Total**
Total	**1 135**	**107**	**4**	**1 246**
Agriculture, hunting, forestry and fishing	20	1	-	22
Manufacturing	24	5	1	29
Construction	10	-	-	10
Wholesale and retail trade	1 026	95	2	1 122
Transport, storage and communication	7	-	-	7
Financial intermediation, insurance, real estate and business services	11	1	-	12
Community, social and personal services	36	5	-	42
Other	1	-	-	1

* Includes elsewhere within the same province, other provinces, SADC and non-SADC countries.

For all values of 10 000 or lower the sample size is too small for reliable estimates.

- = no respondents

6. Supplies (products that are not changed before reselling)

6.6 Number of persons running at least one non-VAT-registered business that uses supplies by means of transporting supplies to the business and area of residence of the owner.

	('000)		
Means of transport	**Urban**	**Non-urban**	**Total**
Total	**679**	**567**	**1 246**
On foot	130	138	267
Using own transport	134	58	191
Using hired transport	69	41	111
Using public transport	276	270	545
The supplier delivers	57	38	96
Other	12	21	33
Unspecified	1	1	2

For all values of 10 000 or lower the sample size is too small for reliable estimates.

7. Sale of goods and services

Tables 7.1 to 7.3 indicate the distribution of persons who were running at least one non-VAT-registered business in March 2001 by province, area of residence, industry of the business, place where products or services were sold, type of customer and means of transporting goods to the customers. Figure 7 indicates the distribution of persons running at least one non-VAT-registered business by type of customer.

Summary

Results in Table 7.1 indicate that the majority of persons who were running at least one non-VAT-registered business in March 2001 were selling their products or services in the village, town or city where they lived (2 million persons), compared with 67 000 persons who were selling their goods and services elsewhere. The same pattern was found among those residing in urban and non-urban areas. Figure 7 indicates that a large proportion of persons who were running at least one non-VAT-registered business during this period were selling their products or services to private individuals rather than to other businesses or to the government. Less than 0.5% of businesses were selling their products or services to government.

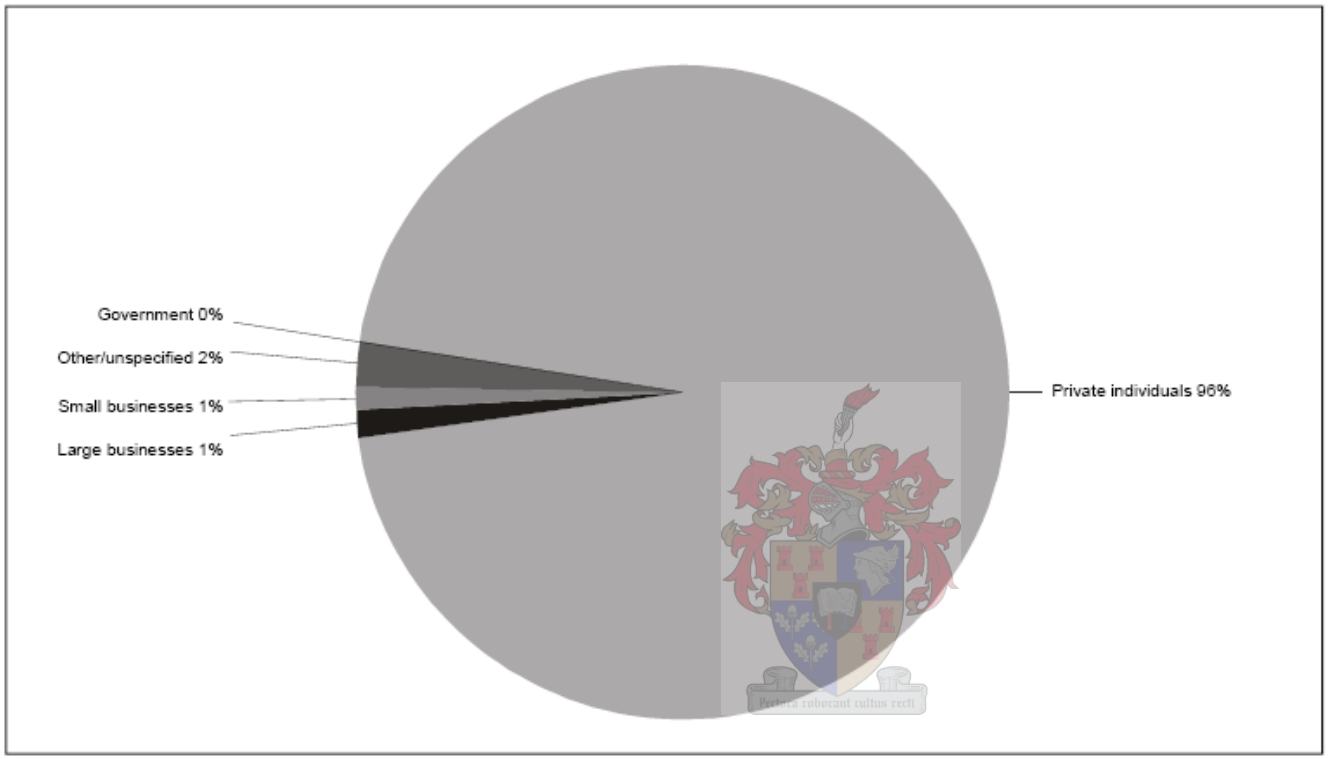


Figure 7: Distribution of persons running at least one non-VAT-registered business by type of purchaser of the goods and services.

7. Sale of Goods and Services

7.1 Number of persons running at least one non-VAT-registered business by area of residence of the owner, province and place where most products or services are sold.

	('000)			
	Place where Products/Services are sold			
Province and Area of Residence	In Village/town/city where owner lives	Elsewhere*	Unspecified	**Total**
RSA				
Total	**2 208**	**67**	**9**	**2 284**
Western Cape	105	5	1	111
Eastern Cape	206	3	1	209
Northern Cape	17	-	-	17
Free State	122	7	-	129
KwaZulu-Natal	564	12	4	580
North West	168	7	-	175
Gauteng	601	15	-	616
Mpumalanga	170	11	1	181
Limpopo	256	7	1	265
Urban				
Total	**1 279**	**36**	**5**	**1 319**
Western Cape	102	5	1	108
Eastern Cape	82	1	-	83
Northern Cape	14	-	-	14
Free State	94	5	-	99
KwaZulu-Natal	256	4	2	263
North West	60	2	-	62
Gauteng	580	15	-	595
Mpumalanga	63	2	-	65
Limpopo	29	1	-	30
Non-urban				
Total	**929**	**32**	**4**	**964**
Western Cape	3	-	-	3
Eastern Cape	124	1	1	126
Northern Cape	3	-	-	3
Free State	28	2	-	30
KwaZulu-Natal	308	7	2	317
North West	108	5	-	113
Gauteng	21	-	-	21
Mpumalanga	107	9	-	116
Limpopo	228	7	1	236

* Includes elsewhere within the same province, other provinces, SADC and non-SADC countries.

For all values of 10 000 or lower the sample size is too small for reliable estimates.

- = no respondents

7. Sale of Goods and Services

7.2 Number of persons running at least one non-VAT-registered business by industry of the business and type of purchaser.

	('000)					
Industry	Private Individuals	Large Businesses	Small Businesses	Government	Other/ Unspecified	**Total**
RSA						
Total	**2178**	**27**	**27**	**3**	**48**	**2284**
Agriculture, hunting, forestry and fishing	33	3	2	0	1	39
Manufacturing	202	1	4	1	4	211
Construction	67	2	0	1	1	71
Wholesale and retail trade	1529	12	15	1	26	1584
Transport, storage and communication	65	1	2	0	4	72
Financial intermediation, insurance, real estate and business services	147	8	2	-	8	165
Community, social and personal services	129	1	2	1	4	136
Private households with employed persons	3	-	-	-	0	3
Other	2	-	-	-	0	2

For all values of 10 000 or lower the sample size is too small for reliable estimates.

- = no respondents

7. Sale of Goods and Services

7.3 Number of persons running at least one non-VAT-registered business by area of residence of the owner, province and means of transporting goods to the customers.

	('000)						
	Means of transport						
Province and Area of Residence	The customer collects the goods /materials/equipment or comes personally for the service	Delivered on foot	Delivered using own transport	Delivered using hired transport	Delivered using public transport	Other/ unspecified	**Total**
RSA							
Total	**1 622**	**189**	**124**	**46**	**113**	**188**	**2 284**
Western Cape	69	7	18	4	4	8	111
Eastern Cape	172	15	5	2	7	8	209
Northern Cape	12	2	1	-	1	1	17
Free State	100	6	9	2	3	8	129
KwaZulu-Natal	406	60	31	8	38	37	580
North West	129	13	7	4	8	15	175
Gauteng	402	39	38	16	29	93	616
Mpumalanga	130	21	5	7	8	12	181
Limpopo	203	27	10	4	16	6	265
Urban							
Total	**905**	**88**	**97**	**29**	**59**	**142**	**1 319**
Western Cape	67	7	18	4	4	8	108
Eastern Cape	70	4	3	1	2	4	83
Northern Cape	10	1	1	-	1	1	14
Free State	77	4	8	2	2	6	99
KwaZulu-Natal	184	18	24	2	15	20	263
North West	47	4	2	1	2	6	62
Gauteng	386	38	37	16	28	91	595
Mpumalanga	42	9	2	3	3	6	65
Limpopo	22	3	2	-	2	1	30
Non-urban							
Total	**718**	**101**	**28**	**17**	**54**	**47**	**964**
Western Cape	2	-	1	-	-	-	3
Eastern Cape	102	11	2	1	5	5	126
Northern Cape	2	-	1	-	-	-	3
Free State	23	2	2	-	1	2	30
KwaZulu-Natal	222	42	7	6	23	17	317
North West	81	9	5	3	6	9	113
Gauteng	16	1	1	-	1	2	21
Mpumalanga	88	11	2	3	5	6	116
Limpopo	181	24	8	4	13	6	236

For all values of 10 000 or lower the sample size is too small for reliable estimates.

- = no respondents

Appendix B

SMALL-SCALE AQUACULTURE SYSTEMS

Summary of

AN INVESTIGATION INTO THE LONG-TERM SUSTAINIBILITY OF SMALL SCALE AQUACULTURE SYSTEMS IN THE WESTERN CAPE OF SOUTH AFRICA

by

Jacobus Oberholster, Division of Aquaculture, University of Stellenbosch

88pp

November 2001

The aim of the study was to investigate the sustainability of small-scale aquaculture systems in the Province Western Cape and its ability to contribute towards rural development programmes. Sustainability was evaluated in the broad context with cognisance of biological, economic, socio-economic, marketing, production factors that may contribute to or threaten the sustainability of small-scale aquaculture systems.

Sustainability with regard to biological criteria relies mainly on the integrated use of water resources, namely for aquaculture and crop irrigation. Current data generated by a three-year water-quality monitoring programme present no evidence of a negative impact of aquaculture systems on water quality, with reference to crop irrigation and fish farming standards. Possible long terms effects will however require the maintenance of an on-going water-quality monitoring programme.

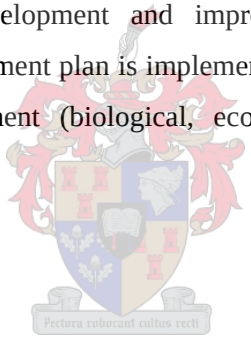
Economic analysis of current small farmer projects provides firm evidence (i.e. net present value, internal rate of return, etc) in support of economic sustainability. Long-term profitability is however expected to come under pressure and emphasis should be place on ways to reduce input costs (production systems, input commodities) and to improve productivity (skills development, training).

In terms of socio-economics the expectations of current participants are being met in term of improvement in skills, nutritional status, per capita income and quality of life. An awareness

of benefits to the broader community is however not well established and need to be created in order for the programme to succeed in the long run. Given the recent nature of its introduction the programme has the potential to extend its benefits to also include the broader communities. Community participation is essential to ensure future support and sustainability of the projects, particularly on communal land.

With regard to production related factors the study concluded that operational risks (theft, disease, natural, human error, etc.) was relatively low with no thread to sustainability. Small farmers are however currently reliant on extension services that contributes largely to the reduction in risks. If the services can not be maintained it will inevitably lead to increased risk and reduced sustainability, particularly during the first phase of recruitment of new small farmers.

In conclusion the study revealed that the Small Scale Fish Farming Programme meets all the requirements of analysis of sustainability. It also confirms its potential to contribute substantially towards rural development and improvement of life of disadvantaged communities if a holistic development plan is implemented that take into account all aspects related to sustainable development (biological, economic, socio-economic, marketing, production factors).



Appendix C

ABSTRACTS FROM THE SOUTH AFRICAN SMALL BUSINESS ACT, 1996

PRESIDENT'S OFFICE

No. 1901. 27 November 1996

NO. 102 OF 1996: NATIONAL SMALL BUSINESS ACT, 1996.

It is hereby notified that the President has assented to the following Act which is hereby published for general information:-

ACT

To provide for the establishment of the National Small Business Council and the Ntsika Enterprise Promotion Agency; and to provide guidelines for organs of state in order to promote small business in the Republic; and to provide for matters incidental thereto.

(Afrikaans text signed by the President.)

(Assented to 12 November 1996.)

BE IT ENACTED by the Parliament of the Republic of South Africa, as follows:-

CHAPTER I

Definitions

1. In this Act, unless the context otherwise indicates-

(i) "Agency" means the Ntsika Enterprise Promotion Agency established by section 9; (i)

(ii) "Board" means the Board of Directors of the Agency contemplated in section 11; (iii)

(iii) "Chief Executive Officer" means the Chief Executive Officer of the Agency appointed as contemplated in section II (1)(b); (vi)

(iv) "constitution of the Agency" means the constitution of the Agency contemplated in section 13 and adopted in terms of section 16(1); (ix)

(v) "constitution of the Council" means the constitution of the Council contemplated in section 4 and adopted as contemplated in section 8(3); (x)

(vi) "Council" means the National Small Business Council established by section 2; (xv)

(vii) "Director-General" means the Director-General of the Department of Trade and Industry, or an officer of that Department designated by that Director-General; (iv)

(viii) "Minister" means the Minister of Trade and Industry; (xi)

(ix) "National Coordinator" means the National Coordinator of the Council appointed as contemplated in section 6(1); (xiii)

(x) "National Small Business Support Strategy" means the national policy in respect of small business support as published by the Minister in the Gazette, and includes the policy as stated in the White Paper on National Strategy for the Development and Promotion of Small Business in South Africa (Notice No. 213 of 1995, published in Gazette No. 16317 of 28 March 1995); (xii)

(xi) "prescribed" means prescribed by regulation; (xvii)

(xii) "provincial council" means a provincial small business council for small business established under the constitution of the Council; (xiv)

(xiii) "regulation" means any regulation made under this Act; (xvi)

(xiv) "service provider" means any public or private entity providing support services to small business; (ii)

(xv) "small business" means a separate and distinct business entity, including cooperative enterprises and non-governmental organisations, managed by one owner or more which, including its branches or subsidiaries, if any, is predominantly carried on in any sector or sub sector of the economy mentioned in column I of the Schedule and which can be classified as a micro-, a very small, a small or a medium enterprise by satisfying the criteria mentioned in columns 3, 4 and 5 of the Schedule opposite the smallest relevant size or class as mentioned in column 2 of the Schedule; (vii)

(xvi) "small business organisation" means any entity, whether or not incorporated or registered under any law, which consists mainly of persons carrying on small business concerns in any economic sector, or which has been established for the purpose of promoting the interests of or representing small business concerns, and includes any federation consisting wholly or partly of such association, and also any branch of such organisation; (viii)

(xvii) "this Act" includes the regulations. (v)

<< Some chapters have been omitted to keep the document concise>>

Short title and commencement

22. This Act is called the *National Small Business Act, 1996*, and comes into operation on a date fixed by the President by proclamation in the Gazette.

SCHEDULE (See definition of "small business" in section 1)

Sector or sub-sectors in accordance with the Standard Industrial Classification	Size or class	Total full-time equivalent of paid employees *Less than:*	Total annual turnover *Less than:*	Total gross asset value (fixed property excluded) *Less than:*
Agriculture	Medium	100	R 4.00 m	R 4.00 m
	Small	50	R 2.00 m	R 2.00 m
	Very small	10	R 0.40 m	R 0.40 m
	Micro	5	R 0.15 m	R 0.10 m
Mining and Quarrying	Medium	200	R30.00 m	R18.00 m
	Small	50	R 7.50 m	R 4.50 m
	Very small	20	R 3.00 m	R 1.80 m
	Micro	5	R 0.15 m	R 0.10 m
Manufacturing	Medium	200	R40.00 m	R15.00 m
	Small	50	R10.00 m	R 3.75 m
	Very small	20	R 4.00 m	R 1.50 m
	Micro	5	R 0.15 m	R 0.10 m
Electricity, Gas and Water	Medium	200	R40.00 m	R15.00 m
	Small	50	R10.00 m	R 3.75 m
	Very small	20	R 4.00 m	R 1.50 m
	Micro	5	R 0.15 m	R 0.10 m
Construction	Medium	200	R20.00 m	R 4.00 m
	Small	50	R 5.00 m	R 1.00 m
	Very small	20	R 2.00 m	R 0.40 m
	Micro	5	R 0.15 m	R 0.10 m
Retail and Motor Trade and Repair Services	Medium	100	R30.00 m	R 5.00 m
	Small	50	R15.00 m	R 2.50 m
	Very small	10	R 3.00 m	R 0.50 m
	Micro	5	R 0.15 m	R 0.10 m
Wholesale Trade, Commercial Agents and Allied Services	Medium	100	R50.00 m	R 8.00 m
	Small	50	R25.00 m	R 4.00 m
	Very small	10	R 5.00 m	R 0.50 m
	Micro	5	R 0.15 m	R 0.10 m
Catering, Accommodation and other Trade	Medium	100	R10.00 m	R 2.00 m
	Small	50	R 5.00 m	R 1.00 m
	Very small	10	R 1.00 m	R 0.20 m
	Micro	5	R 0.15 m	R 0.10 m
Transport, Storage and Communications	Medium	100	R20.00 m	R 5.00 m
	Small	50	R10.00 m	R 2.50 m
	Very small	10	R 2.00 m	R 0.50 m
	Micro	5	R 0.15 m	R 0.10 m
Finance and Business Services	Medium	100	R20.00 m	R 4.00 m
	Small	50	R10.00 m	R 2.00 m
	Very small	10	R 2.00 m	R 0.40 m
	Micro	5	R 0.15 m	R 0.10 m
Community, Social and Personal Services	Medium	100	R10.00 m	R 5.00 m
	Small	50	R 5.00 m	R 2.50 m
	Very small	10	R 1.00 m	R 0.50 m
	Micro	5	R 0.15 m	R 0.10 m

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Final Page

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Each single one of us is said to be of infinite worth... each one of us is a God carrier, each one of us God's viceroy. Can you imagine if we really believed that?

Archbishop Desmond Tutu

I've come to believe that each of us has a personal calling that's as unique as a fingerprint - and that the best way to succeed is to discover what you love and then find a way to offer it to others in the form of service, working hard, and also allowing the energy of the universe to lead you.

Oprah Winfrey, O Magazine, September 2002
