

An assessment of corporate entrepreneurship in the gas industry in South Africa

TS SEQHOBANE

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Supervisor: Prof SP van der Merwe

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ABSTRACT

The background in which global organisations operate in at present is very competitive. In an ever faster growing global economy the role of the entrepreneur within the large organisation becomes more and more important to ensure the company keeps the competitive edge.

The Linde Group is a world class company with a world class management strategy and systems to support the strategy. Part of the The Linde Group management strategy is being a high performing organisation, wanting to give all employees the opportunity to contribute to improvement by sharing their ideas with the company. This study was done at African Oxygen Limited, South Africa, a regional business unit in Africa for The Linde Group. African Oxygen Limited embarked on various programmes to create opportunities for employees to think in an entrepreneurial way.

Middle managers at African Oxygen Limited play an important role in the innovation programs implemented at African Oxygen Limited. Against this background, this study seeks to confirm whether African Oxygen Limited, South Africa has a true entrepreneurial climate and whether the middle management level involved with these initiatives share this perception.

Corporate entrepreneurship is characterised by people who are innovative, creative, spend time and take risks. To support these entrepreneurial activities, the organisation needs a climate and culture that is beneficial to these activities. An entrepreneurial orientation within an organisation is marked by dimensions such as innovativeness, pro-activeness, risk-taking, competitive aggressiveness and autonomy. The entrepreneurial behaviour among middle level managers is most critical to the effective implementation of corporate entrepreneurship.

The primary objective of this study was to assess the entrepreneurial climate in African Oxygen Limited and to make recommendations to foster corporate entrepreneurship within the organisation. The literature review was instrumental to gather secondary data on corporate entrepreneurship and to understand its

dynamics. In order to gain primary data, quantitative research was carried out. The study population comprised lower and middle management, who were requested to complete questionnaires. This was followed by statistical analysis.

The empirical results indicate no practical significance in respondents' perception based on the gender of the respondents. However, the results do indicate practical significant differences between the relationship between the groups of middle and lower management level with respect to entrepreneurial climate and the perceived organisational success.

An evaluation of the corporate entrepreneurial climate in the organisation was performed and the average mean for the study calculated. Seven out of 13 constructs evaluated had a mean above the average mean of $\bar{x} = 3.502$, the other six constructs evaluated had a mean ranked lower than the average mean. All of the constructs still had a mean above three out of five.

All four of the used variables measuring the perceived organisational success, were reported by respondents to have a mean above three which is the neutral point. The average mean of the perceived success of the organisation was 3.688. It was clear that the constructs for perceived organisational success had a fairly strong presence, but there is still room for improvement.

With reference to the entrepreneurial climate within Afrox the conclusion is that it is not optimally entrepreneurial and initiatives put into practice that should encourage entrepreneurial behaviour, are falling short.

The study concludes with practical recommendations on assessment of the achievement of objectives and suggestions for future research.

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CHAPTER 1

NATURE AND SCOPE OF THE STUDY

1.1 INTRODUCTION

The endurance of the business enterprise in the corporate environment is not simple (Oden, 1997: 1). Under these conditions, the venture is formed within a background that supports and rewards innovation and corporate entrepreneurship. But such an ultimate position is not always encountered even in the best-managed organisations. Prospective innovators face a number of momentous obstructions, including the competition for resources. Flourishing venture managers must know how to use the system to rise above such obstructions and progress their venture.

Over the past few years, corporate entrepreneurship occupied a fundamental point in the strategic plan of the large organisation. Top management is faced with the challenge of getting their employees to behave entrepreneurially. Innovation is a key strategic instrument for continuous growth and profit in competitive global markets. Innovations can not only be determined by Research and Development departments within the organisation, but also by a pervasive entrepreneurial culture of the employees within an organisation (Oden, 1997: 242).

Middle managers play a very important role in influencing the strategic plan of their organisations. According to Kuratko, Ireland, Covin and Hornsby (2005: 699), middle managers influence the types and amount of corporate entrepreneurship actions in their respective corporations. Middle managers' entrepreneurial actions are coupled to flourishing corporate entrepreneurship, because they bring together top management's viewpoint with execution issues arising at lower managerial levels.

Corporate entrepreneurship might possibly aid to release substantial potential within the organisation (Sathe, 2001: 12). There is a huge resource of unexploited and unused ideas in the majority of the organisations. If these ideas are used properly by the organisation, it could lead to better organisational prosperity and working conditions. Therefore it is advisable for organisations to explore corporate

entrepreneurship as a resource to flourish and progress in their ventures. According to Risner, Phyllis and Anderson (1994: 261), intrapreneurs are dreamers, innovators and creators. They are always excited about alternative career paths. They are also risk takers who are dedicated to the organisation in order to help bridge the creation-implementation gap of innovation.

Corporate entrepreneurship (intrapreneurship) can therefore be summarised as a dominant vehicle for guaranteeing the nourishment and development of the organisation. It is also a fundamental means for attracting and retaining superior talent, as far as employees are concerned. In today's compound business situation, the people closest to the consumers and marketplace are the ones mostly expected to closely comprehend customer requirements. They are likely to have a profound insight on how to produce superior customer value through innovation and entrepreneurship. This chapter will conclude by providing a summary of the rest of the dissertation.

1.2 PROBLEM STATEMENT

African Oxygen Limited (Afrox) is one of the sub-Saharan Africa's market leaders in gasses and welding products. The manufacturing of products takes place in 41 different sites throughout South Africa. The company had been trading well in the market until middle of year 2009 after a slump occurred. The slump was as a result of the lower commodity prices. With the world economic downturn putting a lot of pressure on Afrox, the focal point from 2009 onwards was to set a tighter working capital, to reduce overhead costs, to reduce the costs of complexity of doing business and to preserve liquidity at these times when the credit is tight and risk aversion is rampant.

Afrox is part of the Linde Group which has set aside an annual budget of two billion rand in support of the research and development programs. This highlights the importance of creativity and generation of new ideas within the group with the intention of maintaining the leading position in the market place. Sarkar and Mitali (2006: 166) concur with the statement above by implying that in the rapidly changing

business environment of today, it has become necessary for the organisations to move from boundary-oriented thinking and continuous improvement towards a systemic reinvention of their models. This is believed to provide the superior competitive advantages necessary to survive and thrive in an environment where the 'rules' of the game change quickly in almost all organisations.

Corporate entrepreneurship can help in features such as development and economic wealth (Heinonen, 2007: 310). This also includes features such as an inventive approach to investigations, a high willingness for transformation, as well as confidence and innovations. Corporate entrepreneurship can thus be perceived as an instrument to deal with the present challenges along with the uncertain future faced by Afrox. In light of the varying economic background and new challenges still on the horizon, it is thus clear that a culture of entrepreneurship could be beneficial to Afrox going forward. The measurement thereof and recommendations as to how such a climate can be bettered or encouraged should be worthwhile and value-adding.

1.3 OBJECTIVES OF THE STUDY

The objectives of this study were sub-divided into primary and secondary objectives. These objectives are discussed below.

1.3.1 Primary objective

The primary objective of this study, which outlines the foundation of this research, was to assess the level of entrepreneurial climate in Afrox South African operations. This was done by measuring the existence of entrepreneurial behaviour in the middle and low-level management teams and the current entrepreneurial environment.

Recommendations were then prepared on ways in which the entrepreneurial climate can be encouraged and promoted in order for the organisation to achieve the positive outcomes related to corporate entrepreneurship.

1.3.2 Secondary objectives

The secondary objectives were aimed at supporting and addressing the above-mentioned primary objective, these particular objectives were formulated to:

- Acquire a general understanding of the Afrox business background.
- Define corporate entrepreneurship and entrepreneurial climate.
- Acquire insight into the dynamics of corporate entrepreneurship through a literature review.
- Assess the reliability of the measuring questionnaire.
- Assess the entrepreneurial climate within Afrox by means of statistical analysis.
- Determine the relationship between selected demographic variables and the constructs that measure entrepreneurial climate.
- Determine the relationship between selected demographic variables and the constructs that measure perceived organisational success.
- Propose practical recommendations to foster and improve entrepreneurship in the organisation.

1.4 SCOPE OF THE STUDY

1.4.1 Field of the study

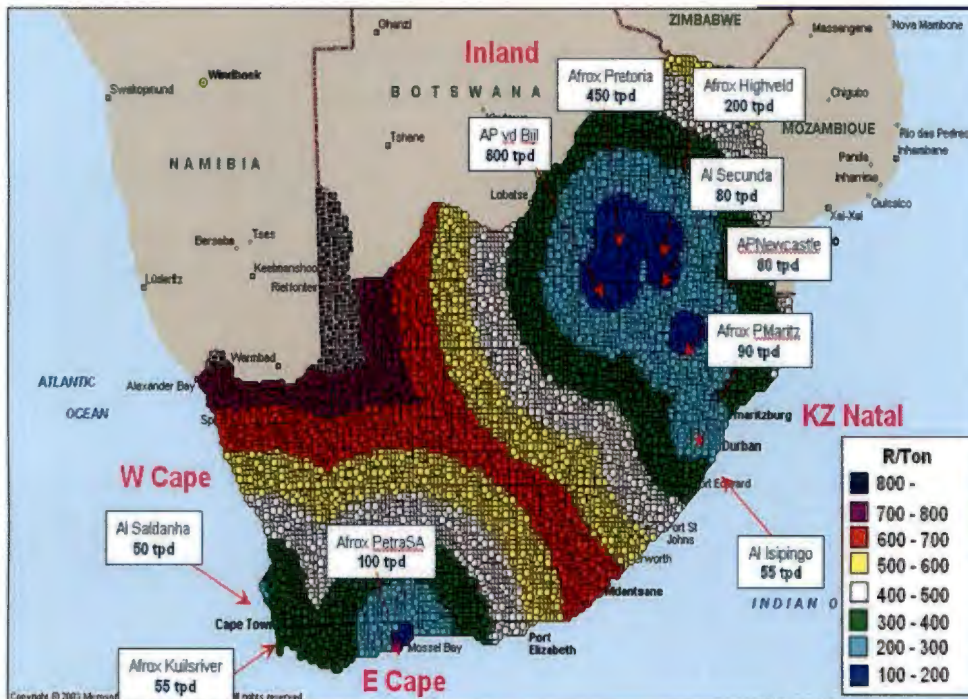
The field of this study falls in the subject discipline of entrepreneurship with specific emphasis on corporate entrepreneurship.

1.4.2 Geographical demarcation

This study focussed on the assessment of the entrepreneurial climate within private sector large organisations with special reference to Afrox. Afrox has its head office located in Selby, Johannesburg. The majority of Afrox managers are working from the Selby offices. The geographical demarcation of regional offices and operations units are within the boundaries of South Africa. The prices and outputs of different

regions as presented on the map are shown in figure 1.1 below, a detailed description of the company will be dealt with later on in chapter two.

Figure 1.1: South African map



Source: <http://bocwebsearch.boc.com/lindeGlobalIntranet/MicrositeMaps>

For the purpose of this study, the research survey will be limited to middle and lower-level managers. It will also evaluate the staff's perceptions of the entrepreneurial climate within their working environment.

1.5 RESEARCH METHODOLOGY

The methodology used for this research was divided into two phases, the literature review and the empirical research phases. The systematic flow of the research process assisted the researcher to proceed from an identified problem to proposing meaningful solutions or providing recommendations for improvement of the organisation.

The objective of the study was to establish the present level of corporate entrepreneurship within the organisation. The level of corporate entrepreneurship

present was measured in terms of current entrepreneurial climate. The importance and prospective advantages of an entrepreneurial culture at the Afrox was also dealt with. The two phases will be discussed at the moment in more detail.

1.5.1 Literature review

The first part of the literature review will focus on gaining overall information on Afrox and its parent company The Linde Group. The history of the organisations as well as the roles of the two will also be looked at. This part of literature review will conclude by discussing the casual factors to the study. The main source of information here will be the company intranet, Internet and annual reports.

The second part of the literature review will focus on entrepreneurship with special reference to corporate entrepreneurship. It will incorporate obtainable theoretical information as a foundation for this research and it will include the following:

- Definitions of the concept.
- The determinants of an entrepreneurial climate – the thirteen entrepreneurial constructs and the five constructs that measure perceived organisational success.
- The dimensions of corporate entrepreneurship.
- The work environment determinants for corporate entrepreneurship.
- The role played by middle managers in creating and fostering an entrepreneurial climate.

The source of the literature review will be the data published sources, previous study reports from all relevant institutions, textbooks, newspapers articles, web or internet articles, published articles, journals, and other reference resources applicable to the research.

1.5.2 Empirical research

The empirical research was aimed at gaining secondary data from the respondents. It was also aimed at analysing respondents' opinions of the intensity of the

entrepreneurial climate within the organisation. Empirical data was gathered by sending out self-completed questionnaires to the middle and lower management staff. Before distributing the questionnaires, respondents were guaranteed that the responses to the questionnaires will be anonymous and confidential. No harm was foreseen by contributing to this research study.

A corporate entrepreneurship measuring instrument was utilised using the following approach:

1.5.2.1 Constructing the questionnaire

The researcher should additionally uncover information on variables that are related to the literature study completed (Neumann, 2006: 276). The primary purpose of the questionnaire was to gather applicable data with the intention of evaluating it within the sample selected. The data should ultimately be analyzed in an objective manner; it must also be compared to an industry standard or related benchmark if applicable.

A tested and properly structured questionnaire developed by Oosthuizen (2006: 337-341) and adapted by Jordaan (2008) which has a strong correlation with the current literature study, was used for this study as the instrument for measuring entrepreneurial climate. The main aim for analysis was to assess the organisation in order to determine whether the organisational climate is favourable to promote and encourage corporate entrepreneurship.

Permission has been granted to use Oosthuizen's questionnaire as measurement instrument for this study. The questionnaire specifically focused on measuring the perception of middle and low-level management on the entrepreneurial climate within the organisation. Oosthuizen (2006) identified thirteen constructs that should be evident in an organisation perceived to have an entrepreneurial climate. The constructs essential for environment conducive for an intrapreneurial climate are:

Entrepreneurial leadership, management support, the presence of sponsors and champions, tolerance of risk, mistake and failure, innovation and creativity/new ideas encouraged, appropriate reward and reinforcement, vision and strategic

intent, discretionary time and work, empowered teams, resource availability and accessibility, continuous and cross-functional learning, customer orientation, and flat organisational structures with open communication.

The constructs necessary to measure perceived organisational success are:

Financial measures, customer or market measures, process measures, people development and future success (Long term) of the organisation

For each of the constructs, items were identified to evaluate that specific construct. The questionnaire used a five-point Likert scale and managers had to indicate their degree of agreement or disagreement (1 = strongly disagree; 5 = strongly agree) with a specific question or statement. A final section concentrated on the gathering of selected demographical information from the participating manager.

1.5.2.2 Study population

The target population consisted of all the middle and the low-level managers at Afrox, as supplied by the Human Resources department of the organisation. Lower level employees (non-managers) and top management were excluded from this research study. Every manager on the list provided by the Human Resource department was accessible on the e-mail address list. The list therefore seemed to be relevant and up to date. A total of 185 managers were identified by the Human Resource department. The total population was used as it exceeded requirements for this research.

1.5.2.3 Gathering of data

The data gathering technique used for this research was largely via the electronic medium. The targeted group of managers were available and accessible on e-mail. If required personal delivery of questionnaires to the respective workstations were made. Follow-up telephonic consultation would be conducted to make sure that the highest quantity of returned questionnaires or respondents was achieved for the purpose of this study.

Subsequent to the anonymous completion of the questionnaires, the respondents would be requested to return the completed questionnaires back to the researcher, either by e-mail or manual collection of the completed questionnaires. All completed questionnaires collected would be assembled and sent for statistical analysis. The research was done independent of management, but still, the permission from different senior managers, especially the Human Resources General Manager, was secured before conducting the research.

If required, follow-ups were made to ensure the accurate completeness of questionnaires. Where questionnaires were inadequately completed, the manager would be telephonically contacted to provide the omitted data. This was meant to ensure that all questionnaires collected to form part of the survey were fully completed.

1.5.2.4 Statistical analysis

The data collected was statistically analyzed, using Statistica (Statsoft, 2009) and SPSS (SPSS, 2009). The legitimacy of the questionnaire was assessed by means of calculating Cronbach alpha coefficients. The analysis concluded by the interpretation of data collected, which also dealt with:

- Demographic information of the respondents;
- Reliability of the questionnaires;
- Assessment of entrepreneurial climate;
- Assessment of perceived success of the organisation;
- Relationship between selected demographic variables and entrepreneurial constructs and the;
- Relationship between selected demographic variables and the perceived success factors of an organisation.

1.6 LIMITATIONS OF THE STUDY

The study was done in the South African operations of Afrox, and no other areas of concern were surveyed within The Linde Group. Additionally the study did not include members of top management and low level employees (non-managers) across the country. The results of the questionnaires were also restricted to managers who agreed to complete the survey. The voluntary manner in which the survey was conducted may also lead to the sample not comprehensively representing the managers or even all the employees at Afrox. The managers included would thus only represent the sample of the population of Afrox employees.

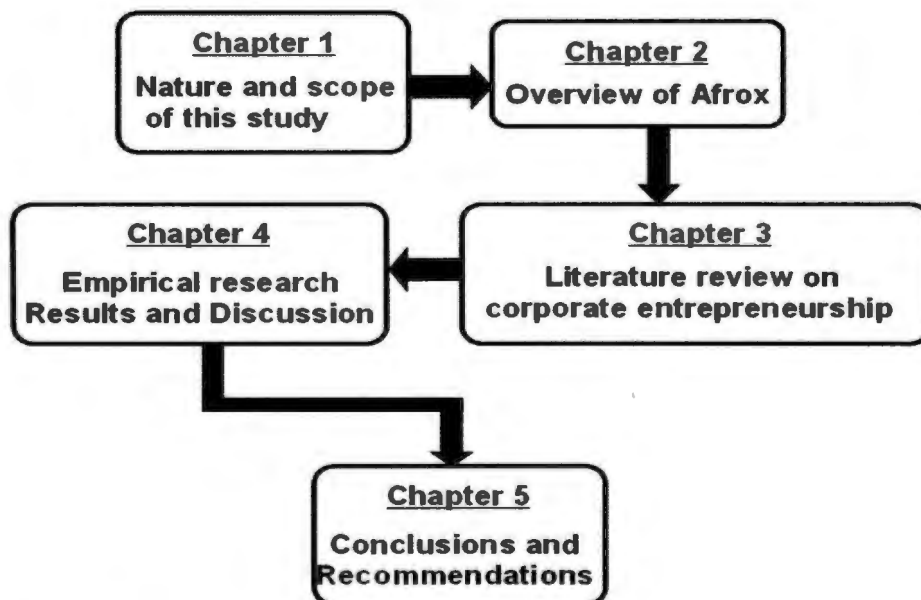
The study supplied some substantiation of construct legitimacy, but supplementary investigation is further required before the instrument could be used to analyse corporate entrepreneurship. Care should therefore be taken when generalising the results.

The intention of the study was not to extrapolate the results in order to make deductions but rather to learn about the entrepreneurial climate in the gas industry. The population of 185 managers identified for this study was small, it might therefore be difficult to obtain enough responses to achieve statistically valid sample.

1.7 LAYOUT OF THE STUDY

The study can be graphically represented in Figure 1.2 below, which shows the steps that the research followed from the start to the end.

Figure 1.2: Graphical representation of the study



Source: Researcher's view

It is clear from figure 1.2 that the sections, which were divided into five different chapters, would flow from one into another while executing the study. The details of the chapters were as follows:

CHAPTER 1: NATURE AND SCOPE OF THE STUDY

This chapter sorely focused on the outline of the study. The core focal point of this chapter was to illustrate the nature and the scope for this research, and give the details of how the study would be done to prove that corporate entrepreneurship can add value to the business. This chapter established the problem statement and set out the objectives, research method, and limitations of this study.

CHAPTER 2: OVERVIEW OF AFROX

This chapter will provide a short overview and the history of The Linde Group and Afrox within the bigger organisation in order to understand the specific business background. The chapter will also present the history of the two organisations. It will

conclude by addressing specific causal factors to the study which highlight both the need and the potential benefit of corporate entrepreneurship to Afrox.

CHAPTER 3: LITERATURE REVIEW OF CORPORATE ENTREPRENEURSHIP

As the basis for this research this chapter will cover the literature review on corporate entrepreneurship. It will start by defining the entrepreneurship and corporate entrepreneurship concept, the interlinking of the expression will also be addressed. Corporate entrepreneurship will be examined in more detail.

The chapter will continue by identifying and discussing dimensions of corporate entrepreneurship, being:

- **Entrepreneurial leadership**
- **Management support**
- **Sponsors and champions**
- **Tolerance for risks, mistakes and failure**
- **Innovation and creativity/new ideas encouraged**
- **Appropriate rewards and reinforcement**
- **Vision and strategic intent**
- **Discretionary time and work**
- **Empowered team**
- **Resource availability and accessibility**
- **Continuous and cross-functional learning**
- **Customer orientation and**
- **Flat organisational structures**

The constructs necessary to measure perceived organisational success are:

- **Financial measures**
- **Customer or market measures**
- **process measures**
- **People development and**

- **Future success (Long term)** of the organisation

This chapter will also describe an entrepreneurial climate, the role of middle managers within the entrepreneurial organisation and establishment of corporate entrepreneurship in an organisation will be identified and discussed. The chapter concludes by suggesting practical ways in which an entrepreneurial climate can be established at an organisation such as Afrox.

CHAPTER 4: EMPIRICAL RESEARCH

This chapter will deal with the data collected for this study, the gathering method of data and the findings of the empirical research. The data gathering method includes a review on the structure of the questionnaire. Explicit information of the respondents will be examined with respect to gender, age group, divisions in which they work and managerial level. The reliability of the entrepreneurial climate questionnaire will eventually be analysed and evaluated. This chapter furthermore presents and discusses the results of the study.

CHAPTER 5: CONCLUSIONS AND RECOMMENDATIONS

This chapter will present the **conclusions** of the study, which are diagnosis to the problem statement at hand. This will be based on the research findings and will highlight the accomplishments of the study objectives and present the level of corporate entrepreneurship within Afrox. The chapter continues by proposing **practical recommendations with action plans to establish corporate entrepreneurship**, based on the conclusions reached and suggestion for future research. The **objectives set for the study** will be evaluated to confirm whether they have been achieved. These recommendations are aimed at helping the organisation to achieve better entrepreneurial climate. The evaluation of the **achievements of objectives** and **suggestions for future research** will wrap up this chapter and the study.

CHAPTER 2

OVERVIEW OF THE AFROX WITHIN THE LINDE GROUP

2.1 INTRODUCTION

The Linde Group is one of the world leading gases and engineering organisations. It was founded in 1879 and has been growing from strength to strength since its inception. It has almost 52 000 employees in around 100 countries worldwide. The Linde Group is also focused on expanding its fast-growing Healthcare section. It is also in the forefront in the development of environmentally-friendly hydrogen technology. In the 2008 financial year it achieved sales of 12.7 billion Euros (The Linde Group, 2008: 16).

The strategy of The Linde Group is geared towards sustainable earnings-based growth. It strongly focuses on the expansion of its international business with forward-looking products and services. Its Gases Division is one of the leading international suppliers of gases. Linde acts responsibly towards its shareholders, business partners, employees, society and the environment in each of its business areas, regions and locations across the globe. Linde is committed to technologies and products that unite the goals of customer value and sustainable development (The Linde Group, 2008: 24).

Afrox is one of sub-Saharan Africa's market leaders in gases and welding products. Afrox was founded in 1927 and listed on the Johannesburg Stock Exchange in 1963. It has prospered by constantly meeting the needs of customers and developing solutions that add value to customers' applications. Afrox operates in South Africa and in 11 other African countries and manages operations in five more on behalf of their parent company, The Linde Group (Afrox Company Profile, 2010: 2).

This chapter will provide an overview of Afrox within The Linde Group. History and origin of The Linde Group as well as Afrox will be examined briefly. The current situation of Afrox will place the rest of the study in context. Unique causal factors

which ensure that the Afrox is a very good fit for the incorporation of a potential entrepreneurial climate, will also be addressed.

2.2 OVERVIEW OF THE LINDE GROUP

The Linde Group is a rich collection of businesses and brands, each with its own history and proud legacy. Their strength comes from close to 52 000 people, spread across more than 70 countries. Each employee has a unique ability to contribute and add value to the organisation. They have different cultures, traditions, languages, beliefs and styles. What binds the employees together is their shared humanity, a shared vision for the company, and a shared set of core values and foundational principles (Afox Company Profile, 2010: 2).

2.2.1 General operations overview

The Linde Group operates three business divisions, aligned with the commodities which the company extracts and markets. The business divisions are:

Gases Division: This division is one of the leading international suppliers of gases. It is also focused on expanding its fast-growing Healthcare section, and is in the vanguard in the development of environmentally-friendly hydrogen technology. The division supports customers in around 100 countries with procedures, applications know-how, extensive services and hardware. Product lines at Linde Gas consist of oxygen, nitrogen, argon, acetylene and other burnable gases, protective welding gases, carbon dioxide, hydrogen, carbon monoxide, inert gases, medical gases, purified gases, testing gases, gases for electronics, plus procedures, facilities and equipment for gas applications.

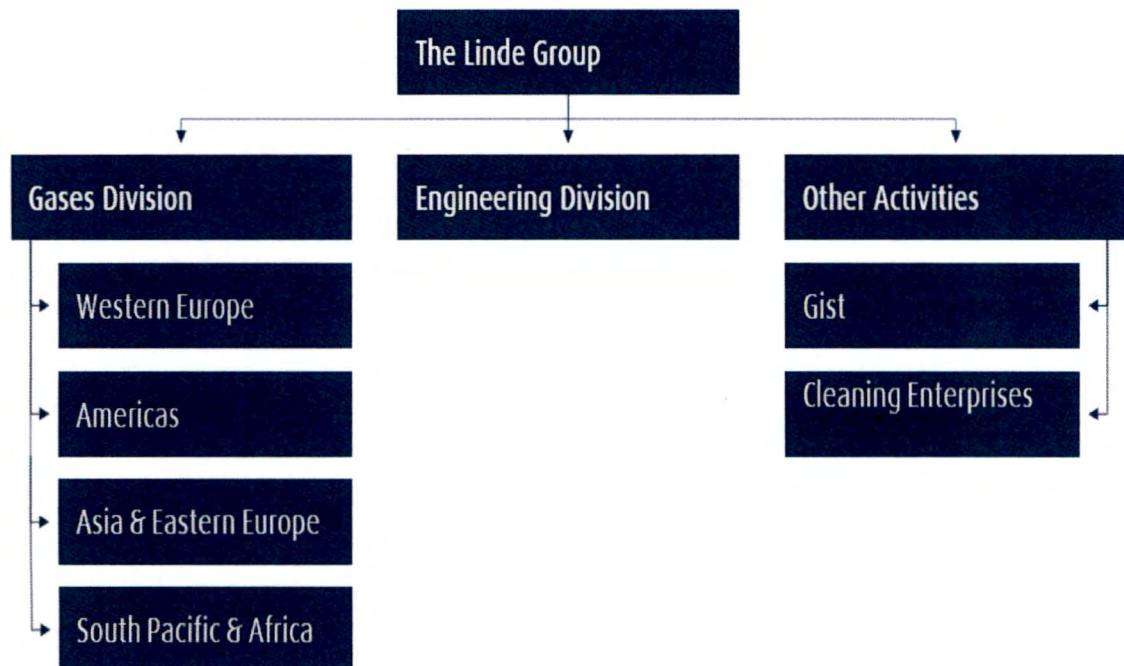
Engineering Division: This division acts as a global engineering contractor for a variety of industrial plants. Its focus is on promising market segments such as air separation plants, hydrogen and synthesis gas plants, olefin plants as well as natural gas plants. In contrast to virtually all the competitors, engineering division is able to call on its own extensive process engineering know-how in the planning, project

development and construction of turnkey process plants. Engineering division also runs fabrication facilities to manufacture key components such as heat exchangers for the plants. Engineering division is dedicated to support the business of the Gases Division in several roles. These roles range from door opener to new customers up to the supplier of state-of-the-art process plants.

Gist Division: The Gist Division is a leading provider of logistics and supply chain solutions in the UK, continental Europe, Asia Pacific and North America. Gist operates in a wide range of commercial and industrial sectors including grocery, retail, electronics and gas. The company employs 5,000 people in 40 locations, serving customers including Marks & Spencer, British Airways, Carlsberg United Kingdom and Intergreen.

Figure 2.1 presented in the next page, shows the organizational structure of The Linde Group with respect to the reporting structure for each of the three business units. Figure 2.1 clearly indicates that the Group consists of the Gases Division, the Engineering Division and Other Activities. Within the Gases Division, there are four operating segments: Western Europe, Americas, Asia, Eastern Europe, South Pacific and Africa. Other Activities comprises Gist, the logistics services business, and Linde's subsidiary Cleaning Enterprises, an environmentally friendly dry-cleaning organisation under the brand name Fred Butler.

Figure 2.1: The Linde Group organizational structure



Source: <http://intranet.linde/international/web/TheLindeGroupPresentation.pdf>

2.2.2 History of The Linde Group

Linde and Brin's Oxygen Company Ltd (BOC) have become The Linde Group. Both companies have more than 100 years of history and strong track records as innovators. Linde and BOC have worked together in the past. Today they stand together as the world's market leader in industrial gases. According to Afrox Company Profile (2010: 6), the history of the organization can be summarised as follows:

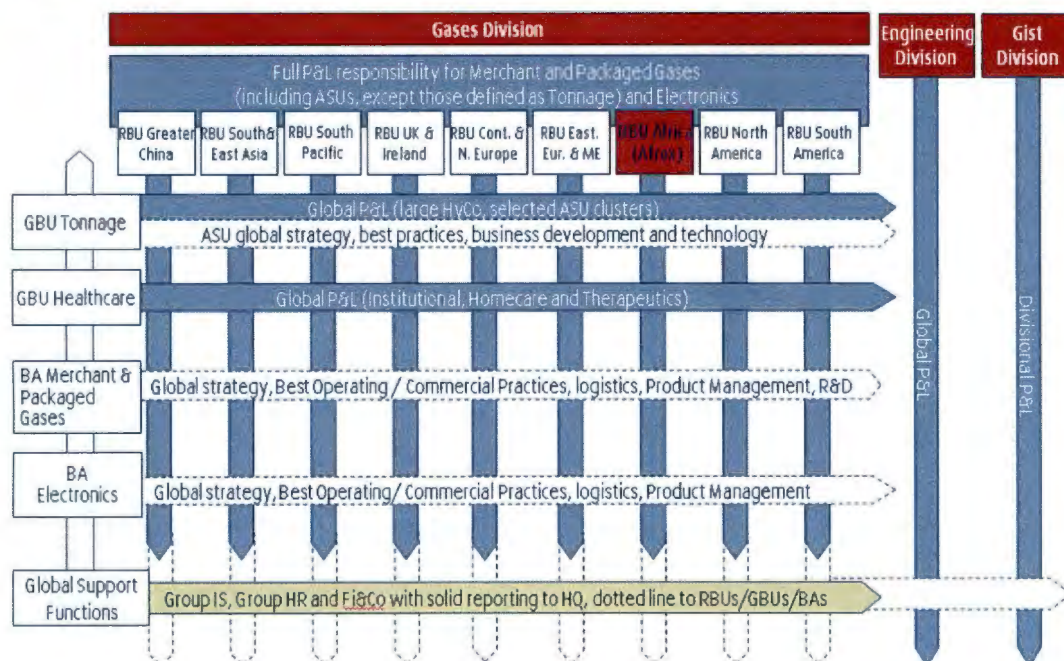
- 1879 – Linde was formed in Wiesbaden, Germany.
- 1885 - Foundation of Linde British Refrigeration Company in London, which was Linde's first non-German company.
- 1886 - Brin's Oxygen Company Ltd was formed.

- 1895 - Exclusive rights were given to Carl von Linde for the process of liquefying atmospheric air or other gases. By 1902 air separation and the construction of the first air separator allowed oxygen purity to reach 97 percent.
- 1906 – Linde used its patents to gain shares in Brin's Oxygen Co.
- 1907 - Foundation of the Linde Air Products Co. in USA and by 1914 BOC operated high purity gas plants in six major British cities.
- 1927 - Afrox was formed in South Africa. A year later they opened offices in Zambia and Zimbabwe.
- 1935 - BOC bought controlling stake in African Oxygen, South Africa, becoming the leading gas company in Africa, now called Afrox.
- 1954 - Foundation of Linde-BOC joint venture BOL Ltd. This venture coordinated the technical design and sales of air separation plants. Afrox launches Handigas.
- 1963 – Afrox lists on the Johannesburg Stock Exchange.
- 1969 - Foundation of Linde-BOC joint venture in refrigeration solutions.
- 1991 - Linde expanded their gas business in Eastern Europe with the purchase of a then leading Czech gas company, Technoplyn.
- 2000 - Construction of world's largest nitrogen plant to pump heavy crude oil under high pressure in the Cantarell Oil fields, Mexico – an innovative joint project involving Linde, BOC and partners. European Commission approved Linde takeover of Swedish gas company AGA. Statoil placed order with Linde for Europe's largest LNG plant (operational from 2007).
- 2002 - Foundation of USA engineering joint venture Linde-BOC-Process Plants LLC, Tulsa, Ohio.
- 2006 - Linde and BOC join forces to become The Linde Group.
- 2007 - Successful Group reorganisation was achieved which resulted in sales increase by 13.9 percent to reach EUR 12.3 billion.
- 2008 - Despite a significant deterioration in the economic situation towards the end of 2009 fiscal year, sales and operating profit reached a record high in The Linde Group's history. In October 2009, Linde moved to its new head office in the centre of Munich.

2.3 AFROX WITHIN THE LINDE GROUP

Afrox is the Linde Group's regional business unit for Africa as represented in figure 2.2 below. Afrox is one of the leading suppliers of high purity gases and gas mixtures. It has a product range that covers every possible gas application. Afrox also provides a total service commitment based on many decades of experience in production, purification and distribution. Afrox gases and gas supply equipment are used by thousands of customers in applications as diverse as scientific laboratories, refrigeration systems, aerosol propellant products, high technology medical and pharmaceutical processes, environmental emission control, and food processing.

Figure 2.2: Afrox within The Linde Group organisational matrix



Source: <http://intranet.linde/international/web/TheLindeGroupPresentation.pdf>

According to The Linde Group (2008: 43), Afrox within The Linde Group has its own top management team comprising of the Chief Executive Officer, Chief Finance Officer and two Operational Board members. The latter will have multiple roles running the Divisions, Regional Business Units (RBU), Global Business Units (GBU) and Business Areas (BA) – strong cooperation between them is imperative as shown on the organisational matrix presented in figure 2.2. From the matrix it is clear that Afrox comprises of:

- Global businesses (Tonnage and Healthcare) are GBU's with full profit and loss responsibility and global solid reporting lines – Tonnage is defined via large selected Air Separation Unit clusters
- Local activities which include bulk gasses, packaged gas and products are part of the RBU. They also have full regional profit and loss responsibility for these businesses
- Country's business units report into RBU which is headed by the country's Managing Director.
- Global business areas (BA) for Merchant and Packaged Gases (MPG) report solid line into Operational Board members. Managers responsible for local MPG within RBU's report functionally to the global BA's. This is done to ensure strategy deployment, enforce best practice roll-out and enable global optimisation.
- Group HR, Group Information Services and Operational Finance Control/ Investments are globally organised and managed. They support all parts of the organisation as objective partners.
- Further 13 Global Support Functions provide global support to the various business functions.

2.4 AFROX MANAGEMENT STRATEGY

The overall Afrox management strategy is summarised in the Afrox Profile manuscript. The vision statement of Afrox is as follows, *"We will be the leading gases and welding products company admired for our people by any measure in sub-Saharan Africa."*

Afrox's mission statement reads as follows: *"Afrox will provide services and a focused range of performance enhancing gases and welding products to valued customers, through excellence in operations, customer service and delivery, and investment in infrastructure, people and technology for the benefit of all stakeholders."*

The following values, also quoted from Afrox Company Profile (2010: 13), support the vision and mission statements:

- Passion to excel
- Innovation for customers
- Empowering people
- Thriving through diversity
- Safety
- Integrity
- Sustainability
- Respect

The Afrox management strategy clearly supports development and innovation in the company as a means of keeping the competitive advantage (Afrox Company Profile, 2010: 12). This is highlighted in the company values containing the words "innovation for customers and empowering people" and the company mission that specifically refers to this: "investment in infrastructure, people and technology" and the company characteristic "innovation".

2.5 STRATEGIC CHANGES AT AFROX

As part of the Linde Group, Afrox had to align their management strategies with that of the group's strategies. The Afrox Sustainable Development Policy and values are directly related to that of The Linde Group. In order to specifically fulfil the innovation fundamental as included in The Linde Group's management strategy, Afrox developed and implemented the Six Sigma strategy.

Business performance improvement has been high on the agenda of most successful and less successful companies globally for many years. Several methodologies have come and gone to aid the companies, but none as powerful as Six Sigma. Linde / Afrox Slogan "**Six Sigma is the way we do our business**" shows how much the organisation values Six Sigma.

2.5.1 Definition

Six Sigma can be described as a business performance enhancement strategy that is compiled of a set of methodologies, each with its tools and techniques, that work to promote continuous processes improvement, increased innovation, reduction of waste and promotion of speed (MBB Afrox, 2009: 1).

According to Afrox Company Profile (2010: 12), Six Sigma is a rigorous and disciplined methodology that uses facts and statistical analysis to measure and improve a company's operational performance by identifying and eliminating "defects" in operational and service-related processes. Commonly defined as 3.4 defects per million opportunities, Six Sigma can be defined and understood at three distinct levels: business, operational and process.

The author perceives Six Sigma as a methodology for pursuing continuous business improvement and innovation by reducing inherent variation. It requires a thorough process and product/service understanding and is clearly focused on customer driven expectations.

Six Sigma is about creating value for all stakeholders.

2.5.2 Methodologies

Six Sigma methodologies focus on creating value for all stakeholders, beginning with the customer. They employ data driven principles that make use of statistical techniques to better understand a problem or opportunity. These methodologies also rely on change management techniques to bring about improvement through the implementation of new solutions (The Linde Group, 2008: 22).

The fundamental objective of the Six Sigma methodology is the implementation of a measurement-based strategy that focuses on process improvement and variation reduction through the application of Six-Sigma improvement projects. These projects typically last between four and eight months (MBB Afrox, 2009: 2).

MBB Afrox (2009: 2) further describes Six Sigma as an ever evolving study that currently consists of three main methodologies. These are:

2.5.2.1 Define-Measure-Analyse-Improve-Control (DMAIC)

This is the grand father of Six Sigma methodologies and the most pervasive of the three. DMAIC's main focus is on process improvement through defect reduction. Simplistically it follows a process of understanding a practical problem. It statistically verifies the problem, uncovers the key factors causing the problem and statistically proving them. DMAIC statistically demonstrates a solution's success, and practically implements a sustainable solution.

2.5.2.2 Design for Six-Sigma (DFSS)

Define-Measure-Analyse-Design-Verify assist with the creation, development and commercialisation of an innovative solution. The DFSS tool kit tends to be larger than that of DMAIC. Although it follows structured processes, the use of these tools and techniques are dictated by circumstance (MBB Afrox, 2009: 3).

2.5.2.3 LEAN

Lean is less analysis orientated and focused on removing waste and promoting speed through continuous flow. Although the LEAN toolbox may not be as extensive as the other two methodologies, these tools form the basis for better quality and cost reduction by focusing on value adding processes and activities (MBB Afrox, 2009: 4).

Lean Sigma or Lean Six Sigma is the combination of LEAN and DMAIC Six-Sigma. While LEAN focuses on speed and Six Sigma on quality, when combined they better quality faster (MBB Afrox, 2009: 4).

These methodologies are successfully applied to either services or transactional and manufacturing or operational environments. It is important to note that services environments can also contain operational process elements and manufacturing can include transactional elements. At this time Afrox have chosen to focus its

deployment predominantly on the DMAIC methodology with a lesser measure of LEAN (MBB Afrox, 2009: 6).

2.5.3 Key principles and philosophies

Six Sigma is more than a proven business improvement and quality methodology. Six Sigma is a philosophy, a doctrine of excellence that permeates a business culture. Six Sigma is an attitude that is embraced throughout the organisation. According to MBB Afrox (2009: 13) key principles include:

- Focus on the customer.
- Data and fact based driven decision making.
- Development of problem solving and decision making proficiencies.
- Prioritisation around value adding activities.
- Process focused improvement.
- Project management.
- Cross organisational team collaboration and innovation.
- Proactive management.
- Drive for perfection.
- Focus on achieving measurable and sustained quantifiable financial returns.

2.5.4 Key success factors

In order to maximise the results achieved from its Six Sigma efforts, Afrox must take heed of the following key success factors (as quoted from Afrox's 2009 annual report):

Clear strategic intent: Six Sigma should be deployed to support the achievement of the company's strategy not merely as an exercise that "...everyone else is doing and from which the company may gain a benefit from". The benefits and value of Six Sigma need to be clearly understood.

Leadership support: Usually, if the strategic intent is clear, leadership support follows. They need to prioritise project efforts and allocate the correct level of resources when required.

Project selection: This is a critical point. Projects selection needs to follow a proper selection and prioritisation process. Projects need to be aligned behind the company objectives and focused on the real 'pains' being experienced.

Knowledge transfer: New employees need to receive the correct level of training. They should be supported with ongoing coaching and mentoring provided by their line managers and more experienced colleagues.

Communication: Company wide communication will keep all the employees posted on how Six Sigma at Afrox is winning.

Team Participation: Team members form an integral part of a successful project. They possess in depth knowledge of the process. The appropriate use of tools and techniques can lead to the correct identification of key factors and variables that affect performance and develop best solutions. Team member's commitment is vital.

Project tracking and benefit logging: In order to show evidence of success and monitor progress it is important to have a system into which project status and benefits achieved are logged such as ProjX at Afrox.

Replication: Success stories and project work should be held in a repository with ease of access. Through replication of successes into other areas of a business, project cycle time is reduced and additional benefits achieved with reduced effort.

2.6 BECOMING A HIGH PERFORMING ORGANISATION

As a result of The Linde Group's global initiative, the drive for Afrox to become a High Performance Organisation (HPO) has been fostered. It is not something that can be achieved overnight. It is a journey over time requiring commitment from all within the

business. According to HPO - Afrox South Africa (2010:14), there are four dimensions to High Performance Organisations across The Linde Group, namely: Customer Focus, Process Excellence, People Excellence and Ability to Execute.

High Performance Organisations are characterised by a clear customer focus that stands for highest quality in all processes (HPO - Afrox South Africa, 2010:15). They have excellent and highly qualified people that have the ability to smoothly and successfully execute all tasks and projects. Afrox wants to be a high performing organisation by delivering exceptional results and being exciting company to work for. Their work environment must be characterised by fun and high energy. Tasks must always be challenging but on completion provide a sense of pride and satisfaction. Exceptional delivery is recognised and rewarded, staff must take every advantage of the opportunity to learn and grow.

2.6.1 Customer focus

The organisation's goals with regard to customer focus are:

- To understand and meet customer needs.
- To anticipate market trends.
- To be competitive.
- To constantly seek customer opinions.
- To create and deliver products and services that brings value to the customer.
- To run lean and efficient processes designed to serve the customer in a convenient way.

2.6.2 Process excellence

The organisation's goals with regard to process excellence are:

- To ensure that processes are structured and executed to support business performance.

- To run a world-class processes. Standardise the processes and have a common understanding of excellent execution.

2.6.3 People excellence

The organisation's goals concerning people excellence are:

- To be an 'employer of choice'.
- To have the right people in the right jobs.
- To think outside the box.
- To continuously learn, change and improve.
- To provide attractive careers, develop management and leadership capabilities.
- To support line managers and their ability to lead people.
- To manage and reward innovation and performance.

2.6.4 Ability to execute

The organisation's goals pertaining to ability to execute are:

- To ensure decisions are defined and prioritised.
- To be relentless in implementation.
- To make quick decisions and stick to them.
- To hold people responsible and accountable.
- To closely monitor success and actively manage upcoming issues.

2.6.5 How to recognise a High Performance Organisation within Afrox

Afrox have a very clear vision of the future. Afrox know where the organisation is going and what needs to be done to get there. What is more, every member of staff shares the vision. Employees also understand what they need to do every day to help the company achieve its vision. The business priorities and key strategies are defined and understood by all staff. The detailed goals and targets are defined and

articulated in a business scorecard which is cascaded down the organisation (HPO - Afrox South Africa, 2010:34).

Afrox is well aligned; business processes and procedures are well defined. The appropriate organisational structure is in place to support efficient and effective delivery of relevant activities. Each role in the organisation has been documented and staff trained to be effective and competent in their role. Afrox have good values and staff behaviour supports the company values (HPO - Afrox South Africa, 2010:36).

Afrox have great leaders who know and understand what is expected of them in terms of their behaviour and leadership styles. These leaders are able to inspire and motivate their staff to continually achieve their personal and organisational goals. Leaders spend time coaching and developing their staff and giving their staff constructive feedback on performance (HPO - Afrox South Africa, 2010:36).

The organisation engages with their employees and creates the environment for them to contribute and grow. Effective communication structures are in place to ensure that “the right people talk about the right things, at the right time and in the right way”. Typically this structure would enable opportunities for information sharing, continuous learning, participative problem solving and continuous improvement. Afrox leaders continuously optimise all aspects of the business. This would include reviewing business processes, training delivery systems, communication structures, performance management systems and employee competence levels (HPO - Afrox South Africa, 2010:45)..

Afrox have effective performance management and feedback mechanisms in place. They also have leaders who give appropriate recognition and reward to their staff and provide coaching and improvement support. People take accountability for their actions and behaviour and managers are held accountable (HPO - Afrox South Africa, 2010:47).

2.7 CAUSAL FACTORS TO THIS STUDY

Afrox creates opportunities for an entrepreneurial climate to exist and grow within the company. Middle and lower-level managers are at the heart of executing and sustaining innovation programmes. Top management participate in a supportive role. They measure middle management performance against the results from the diverse innovation programmes that have been executed. Looking at the constantly improving performance of Afrox for the past three years, these innovation programmes are contributing immensely to this success.

A broad perception exists that Afrox has good structures to promote an entrepreneurial climate. This study seeks to assess the perception of middle and low-level managers, as the key players in the innovation initiatives at Afrox, in the current entrepreneurial climate within the organisation. The casual factors for this study can be summed up as follows:

- The perceived entrepreneurial climate through high performance organisations must show the elements of an entrepreneurial organisation.
- Middle management is fostering corporate entrepreneurship with the implementation of high performance organisations.
- Afrox should adopt a more innovative and entrepreneurial approach to its operations in order to foster an entrepreneurial climate within the organisation.
- The strategy followed by top management and implemented by middle management must contribute to the enhancement of corporate entrepreneurship.

2.8 SUMMARY

The Linde Group is a world class organisation with a world class management strategy and systems to support the strategy. Much is done within the organisation to ensure that corporate strategy is implemented to the lowest operational level at all operations across the world.

Part of The Linde Group Management strategy is innovation, striving to give all employees the opportunity to contribute to improvement by sharing their ideas within the company. Many programmes and systems are utilised to foster this innovation strategy. Afrox, South Africa is a very good example of one of The Linde Group's operations that foster innovation through many different programmes. At first it seems that Afrox, South Africa has a true entrepreneurial climate. All levels of employees are motivated to participate in idea generation and different improvement initiatives. There is also a huge drive within the organisation to ensure that the programmes that are implemented are sustained and successful.

Middle and lower-level managers play an important role in the innovation programmes at Afrox, South Africa. They do not only actively participate in generating ideas and improvements. They are mainly responsible for the implementation of these programmes and to ensure that these are sustained. Top management monitors progress on the different programmes and act as sponsors not only financially, but also to ensure all barriers to success are eliminated.

Against this background, this study asks whether Afrox, South Africa has a true entrepreneurial climate. More specifically the study measures if the middle managers involved with these initiatives share this perception.

CHAPTER 3

LITERATURE REVIEW ON CORPORATE ENTREPRENEURSHIP

3.1 INTRODUCTION

The environment within organisations is constantly changing. The technological development and the scarcity of resources alone endanger stability and predictability of the market. Recently there has been a growing interest in the use of corporate entrepreneurship. Corporate entrepreneurship would be used as a means for corporations to enhance the innovative abilities of their employees and, at the same time, increase corporate success through the creation of new corporate ventures.

To face fierce competition, organisations must review practices and actively search for new ways to practice flexibility, increase its capacity of innovation and show more competitiveness (Van Vuuren, Groenewald & Gantsho, 2009: 325). Van Vuuren *et al.* (2009: 325) also state that the strengthening of entrepreneurship is an important objective for any enterprise that is building its responsiveness to a globalised changing environment. Aloulou and Fayolle (2005: 22) indicate that today's enterprises will not even survive in this time of rapid transformation and innovation if they do not maintain an entrepreneur's expertise.

According to Foba and De Villiers (2007: 1), a new economic paradigm recognises that: "while there is a need for new entrepreneurs to emerge and generate new economic activity which will eventually develop into larger businesses, thereby generating capital growth and employment opportunities, a substantial need also exists for entrepreneurship within the new knowledge-based, value-added business organisations of the global economic environment". Dess and Lumpkin (1996: 168) established that corporate entrepreneurship is a potentially practical means for promoting and sustaining corporate competitiveness. Dess and Lumpkin (1996: 168) also noted that corporate entrepreneurship can be used to improve competitive positioning and transform corporations, their markets and industries as opportunities

for value-creating innovation are developed and exploited. According to Zahra and Covin (1995: 55), empirical evidence exists to justify the proposition that corporate entrepreneurship leads to superior organisational performance.

With the industrial revolution and the development of big corporate organisations the role of the entrepreneur within these structures became more and more evident (Vosloo, 1994: 151). The corporate organisation today is to a large extent totally dependable on the entrepreneurs within the organisation to keep the competitive edge (Antoncic & Hisrich, 2003: 7). According to Morris and Kuratko (2002: 7), a sustainable competitive environment can only be achieved through continuous innovation and the creation of new ideas. Nayager and Van Vuuren (2005: 29) also suggest that organisations need to develop new and improved products and services, as well as better operating technology and methods that are more effective than those of competitors to ensure a competitive advantage. Oosthuizen (2006) identified thirteen constructs that are vital for establishing an entrepreneurial climate.

3.2 DEFINITION OF TERMS

Before discussing existing definitions in the field of corporate entrepreneurship, the term “entrepreneurship” should be discussed momentarily.

3.2.1 Entrepreneurship

Bulut and Alpan (2006: 65) acknowledged that amongst the definitions established in existing literature on entrepreneurship, a lot appear to rely on two distinct definitions of the “entrepreneur”. Bulut and Alpan (2006: 65) add that some authors focusing on economic processes define an entrepreneur as a person who establishes new organisations in order to seek higher returns than interest, rent, or wage earnings, i.e. a founder and owner/manager of production factors. Bulut and Alpan (2006: 65) also define an entrepreneur as an individual taking risks for the sake of innovation, creating new products, processes, markets, organisational forms, or sources of supply, i.e. an innovator.

Vesala, Peura, and McElwee (2007: 51) define an entrepreneur as an individual who manage a business with the leadership and managerial capabilities for achieving their goals, and with the intention of expanding that business. According to Zampetakis and Moustakis (2007: 21), entrepreneurship correlates with innovation and aims towards the availability and delivery of services that expand capital.

Hisrich, Peters and Sheperd (2005: 96) define entrepreneurship as: "the process of creating something new with value by devoting the necessary time and effort, assuming the accompanying financial, psychic, and social risks in order to receive the resulting rewards, personal satisfaction and independence". From this definition it is clear that the entrepreneur shows certain behaviours: creates, spends time and takes risk. These behaviours are frequently highlighted by Casson (2003: 21). Kuratko (2006: 2) uses the terms vision, change and creation, then adds that it requires an application of energy and willingness to take calculated risks.

3.2.2 Corporate entrepreneurship

Based on the definitions above, a new conceptualisation of corporate entrepreneurship emerged. The innovative middle manager who is neither the founder nor owner of production factors, but a salaried person who takes risks and innovates by using the owner's already organised resources and established facilities (Antoncic & Hisrich, 2001: 512). Antoncic and Hisrich (2001: 512) continue that this person, on the one hand is responsible to the owner for economic returns, yet on the other hand is rather autonomous in the initiation and execution of innovative and risky projects. The person is labelled a corporate entrepreneur. Bulut and Alpkın (2006: 65) describe the phenomenon of corporate entrepreneurship as a dependent, i.e. salaried, innovator's entrepreneurial actions within an existing organisation founded and owned by another.

Historically, researchers have conceptualised corporate entrepreneurship as entrepreneurial behaviour that requires organisational sanctions and resource commitments to develop different types of value creating innovations (Bulut & Alpkın, 2006: 62). Corporate entrepreneurship generally, refers to the development of new business ideas and opportunities within large and established corporations

(Scheepers, Hough & Bloom, 2008: 51). Antoncic and Hisrich (2001: 498) expand the definition of corporate entrepreneurship by elaborating on four entrepreneurship dimensions: New business venturing, innovativeness, self-renewal, and proactiveness. Various terms are thus used to describe entrepreneurial efforts and behaviour within the context of an existing organisation.

According to Gaw and Liu (2004: 2), entrepreneurial activity within a corporation is the ability to create and capture added value beyond that which the corporation is currently doing. Gaw and Liu (2004: 2) further state that value creation can result from new products or services, improvements in current product or service offerings, or process improvements. Central to the idea of value creation is the concept of innovation. Innovation is closely tied to entrepreneurship, and is an essential component of fostering entrepreneurial activities within a firm. In conclusion Gaw and Liu (2004: 2) mention that to foster entrepreneurial activities within an organisation is to enable a culture of learning and innovation.

Burgelman (1984: 154) conceptualises the definition of corporate entrepreneurship as a process of "extending the firm's domain of competence and corresponding opportunity set through internally generated new resource combinations". Thus corporate entrepreneurship is conceived as the efforts to extend an organisation's competitive advantage through internally generated innovations that significantly alter the balance of competition within an industry or create entirely new industries. Corporate entrepreneurship is a process of organisational renewal that has two distinct but related dimensions: innovation and venturing, and strategic stress creating new business through market developments by undertaking product, process, technological and administrative innovations (Sathe, 1989: 87).

Pinchot (1985: 35) used the term corporate entrepreneurship to define entrepreneurship within the organisation where individuals (intrapreneurs) champion innovative ideas from development to total beneficial reality. According to Dollinger (2003: 333), corporate entrepreneurship is a development of internal markets and relatively small independent (or semi-autonomous) business units within a large organisation. These business units manufacture products, services or technologies that employ the organisation's assets in an exclusive manner. As a result, corporate

managers get the opportunity to take initiative and try out new ideas in an internal corporate venture.

Corporate entrepreneurship entails individual employees and how they might be persuaded to operate in an entrepreneurial manner within a larger organisation. It looks at the systems, structures and cultures that control this activity and how they might be avoided or challenged (Burns, 2005: 12; Birkinshaw, 2003: 98). Corporate entrepreneurship can be described as an activity by an entrepreneur who works within the confines of an established organisation and perform the following roles: developing and communicating organisational vision; identifying new opportunities for the organisation; generating innovative strategic options; creating and offering an organisation-wide perspective; facilitating and encouraging change within the organisation; challenging existing ways of doing things, and breaking down bureaucratic inertia (Wickham, 2004: 574).

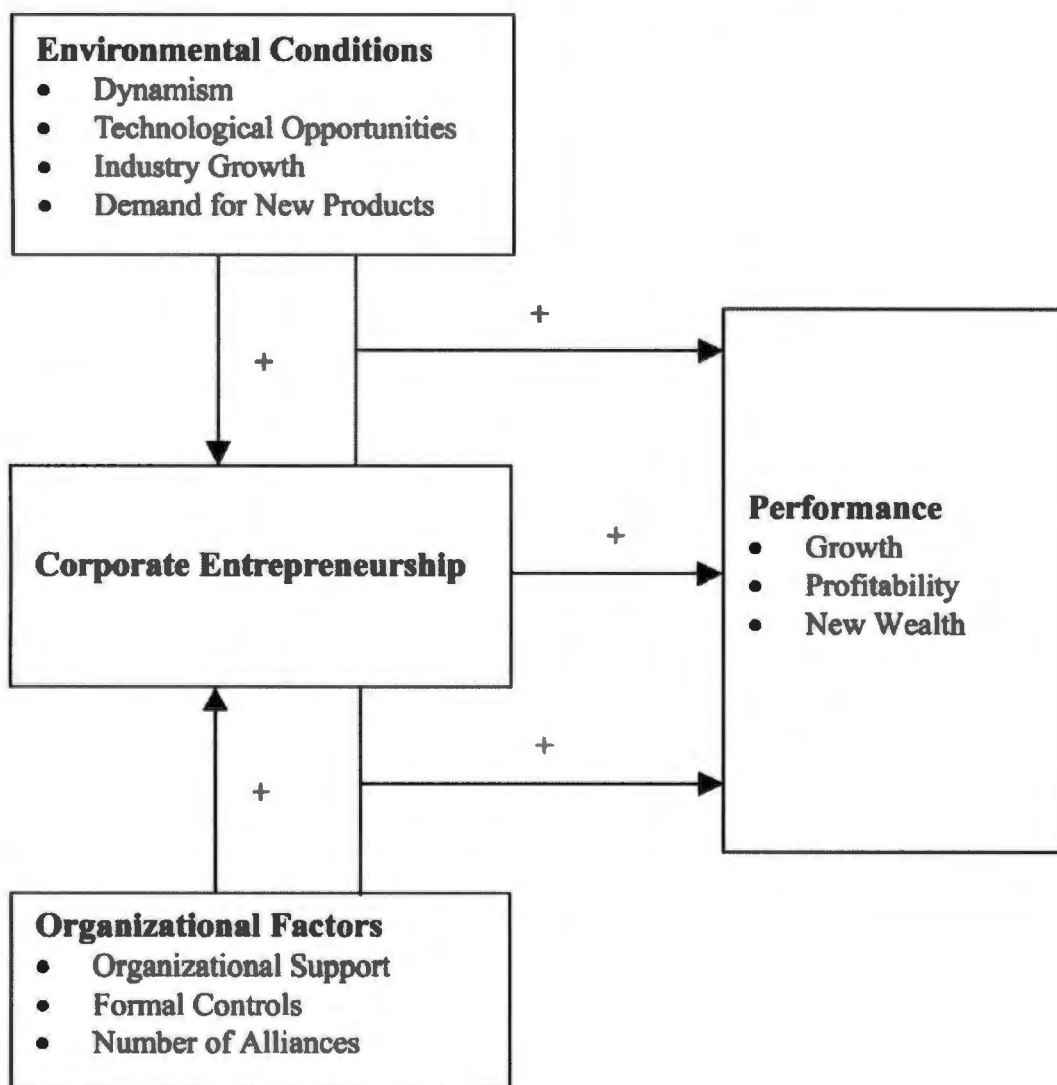
Wickham's (2004: 574) definition of corporate entrepreneurship is adopted and considered as relevant for the organisation under investigation. This definition has a broader view as it defines corporate entrepreneurship as an activity by an entrepreneur who works within the confines of established organisation. At the same time, this entrepreneur is someone who can develop and communicate organisational vision, identify new opportunities for the organisation, generate innovative strategic options, create and offer an organisation-wide perspective, facilitate and encourage change within the organisation, challenge existing ways of doing things and break down interfering apathy (Wickham, 2004: 574).

King (2004: 198) prefers to use the term intrapreneur and defines the intrapreneur as a person within a large corporation who takes direct responsibility for turning an idea into a profitable, finished product through assertive risk taking and innovation. Du Preez (1992: 86), who also prefers the term intrapreneur, defines the intrapreneur as a person who identifies opportunities, reacts to them by creating new ideas, products and services within the existing business, and accepts the risks of managing them.

According to Lassen, Gertsen and Riis (2006: 360), corporate entrepreneurship is considered "an entrepreneurial orientation, which permeates an organisation's

outlook and operations leading to a variety of outcome". Corporate entrepreneurship refers to a company's commitment to organisational renewal, innovation, constructive risk-taking, including the conceptualisation and pursuit of new opportunities and provides the basis for a strategic response to environmental changes (Brundin, Patzelt, & Shepherd, 2008: 223). According to Antoncic and Hisrich (2004: 533), a simplified form of the model depicting hypothesised relationships is indicated in Figure 3.1 below.

Figure 3.1: Model of corporate entrepreneurship and wealth creation



Source: Antoncic and Hisrich (2004: 534)

Antoncic and Hisrich (2004: 534) assert that no special problems were encountered during the estimation of the model in figure 3.1 above. The Lagrange Multiplier Test used to design the model indicated that significant improvements in the model fit would be achieved when including correlations among the antecedent dimensions and among performance measures, as well as the four direct relations of environmental conditions to performance elements. No multi-co-linearity was found among the predictors and the addition of correlations did not change the hypothesized relationships in the model. The four paths were also added to the model, since they represent important environmental controls in testing relationships of other model elements in predicting performance (Antoncic & Hisrich, 2004: 534).

3.2.3 Definition of entrepreneurial climate

Timmons and Spinelli (2007: 540) stress that organisational culture and climate are crucial in determining how well the organisation will deal with its own development. The climate of an organisation can have a considerable impact on its performance. Climate is more created by the expectations people bring to the organisation. The practices and attitudes of key managers are also critical in creating the climate. Personality traits, if depicted outside the sphere of the organisation, could harm the entrepreneur. This includes the thinking of knowing it all, being too impulsive or being controlled by his outward circumstances. Timmons and Spinelli (2007: 549) also regard a balanced ego development, as well as recognition of and compensation for weak points as essential attributes for the entrepreneur.

Bessant and Tidd (2008: 56) define climate as the persistent patterns of behaviours, attitudes and feelings that characterise life in the organisation. Oosthuizen (2006: 54; 60 – 62; 337) adds a few entrepreneurial characteristics of an entrepreneurial climate. The entrepreneurial characteristics as highlighted by Oosthuizen from his research are as follows:

3.2.3.1 Entrepreneurs value appropriate control systems

Even though an entrepreneur will predictably catch on some amount of risk, this will be done in a premeditated approach, and the risk will be minimised as far as possible

through hard work, preparation, and putting in place suitable control systems (Oosthuizen, 2006: 54).

3.2.3.2 Entrepreneurs are patient

An entrepreneur is typically not frightened by a complicated condition, but analyse it as a challenge which can be resolved given sufficient time (Oosthuizen, 2006: 60-61).

3.2.3.3 Entrepreneurs are very persuasive

As already alluded to earlier, the entrepreneur unavoidably has to take on some risk. One of the primary strategies utilised to reduce this risk is persuading others (for example business partners, suppliers and investors) to share the risk by investing money in the business, offering extraordinary credit terms or advancing products (Oosthuizen, 2006: 61).

3.2.3.4 Entrepreneurs possess a great deal of self-discipline

It is not sufficient for the entrepreneur to merely recognise an opportunity. It has to be acted on and followed through. At times the entrepreneur will have to compel himself to basically "do what must be done" in order to guarantee implementation of the original initiative (Oosthuizen, 2006: 61).

3.2.3.5 Entrepreneurs have a good judgment of people

Very few entrepreneurs can endeavour an enterprise themselves. They will characteristically have an extremely capable and well encouraged team to support them. They will also consult people inside and outside of the organisation to assist them, and for this it is fundamental that they are excellent judges of character so that they correlate with the correct persons (Oosthuizen, 2006: 62).

3.2.3.6 Entrepreneurs are generous

As the entrepreneur has to invest not only money but also time, and ensure that people around him are developed to the extent that they can properly assist him, it is essential that the entrepreneur is a generous individual who will provide time, money and energy to his venture and the people supporting him (Oosthuizen, 2006: 337).

Dess and Lumpkin (2005: 147) affirm that organisations that want to engage in successful corporate entrepreneurship need to have an entrepreneurial orientation. They continue that this characterises the frame of mind and perceptions about entrepreneurship that are reflected in the ongoing processes and corporate culture of an organisation.

3.3 THE DETERMINANTS OF AN ENTREPRENEURIAL CLIMATE

The external environment has historically been viewed as a determinant of entrepreneurial activity at both the individual as well as organisational level (Bulut & Alpan, 2006: 38). In terms of influencing corporate entrepreneurship, the external environment is an important determinant (Kuratko & Hornsby, 1999: 63). Bhardwaj and Momaya (2006: 91) affirm that certain environmental characteristics, such as dynamism, technological opportunities, industry growth, and demand for new products, are viewed as favourable for corporate entrepreneurship, whereas other variables, such as unfavourable change and competitive rivalry, are viewed as unfavourable.

Sharma and Chrisman (1999: 13) state that environmental munificence can be seen as a multidimensional concept that includes dynamism, technological opportunities, industry growth, and the demand for new products. Dynamism and technological opportunities are the first two environmental characteristics conducive to corporate entrepreneurship. Dynamism refers to perceived instability and continuing changes in the firm's markets. Increased dynamism may be seen as conducive to the pursuit of corporate entrepreneurship because it tends to create opportunities in a firm's markets (Geisler, 1993: 69). Organisations often respond to challenging conditions

found in dynamic or high-tech environments by adopting an entrepreneurial posture (O'Connor & Rice, 2001: 88).

Environmental changes in the industry competitive structure and the underlying technologies are thought to influence corporate entrepreneurship (Bulut & Alpan 2006: 90). Two other munificent environmental characteristics are perceived industry growth and increased demand for new products. Burgelman (1983: 1352) suggested that the perceived decline of an industry would push companies into increased renewal activities. Growth markets, on the other hand, offer opportunities that lead to increased intrapreneurial activities. Accordingly, high market growth was proposed to be related to corporate start-up success (Barringer & Bluedorn 1999: 488). Demand for new products also presents an important demand-pull (Zahra 1993: 56) that encourages corporate entrepreneurship. Therefore, it is expected that dynamism, technological opportunities, industry growth, and the demand for new products will be positively related to corporate entrepreneurship.

Different authors have emphasised essential characteristics which contribute to the creation of an entrepreneurial climate. Oosthuizen (2006) identify thirteen constructs or themes that are vital for establishing an entrepreneurial climate within the corporate environment. These constructs are discussed in details below:

3.3.1 Entrepreneurial leadership

Coglisera and Brighamb (2004: 778) define entrepreneurial leadership as leadership that creates visionary scenarios that are used to assemble and mobilise a supporting cast of participants who become committed by the vision to the discovery and exploitation of strategic value creation. Entrepreneurial leadership should involve idea generation, idea structuring and idea promotion. Idea generation is critical in the early stages of a venture and idea structuring and promotion are more important in latter stages.

Coglisera and Brighamb (2004: 778) state that of the above mentioned three, idea generation is most important in the early stages of the venture formation, and idea structuring and promotion are more important in the latter stages. In concert with

creativity, an entrepreneurial mindset, an entrepreneurial culture, entrepreneurial leadership, and the strategic management of resources are important dimensions for creating value in entrepreneurial ventures.

Kuratko (2007: 2) states that the concept of entrepreneurial intensity provides some measure of an organisation's or individual's entrepreneurial activity at any point in time. An *entrepreneurial perspective* can be developed in individuals and this perspective can be assessed. It is the level of entrepreneurial activity that forms the basis for assessing *entrepreneurial leadership*. Entrepreneurial leadership now permeates the strategies of larger established organisations.

As companies have found themselves continually redefining their markets, restructuring their operations, and modifying their business models, learning the skills to think and act entrepreneurially has become the source of competitive advantage. Entrepreneurial leadership is necessary for firms of all sizes to prosper and flourish. The challenge for leaders is to create an internal marketplace for ideas within their companies, and encourage employees to act on these ideas (Kuratko, 2007: 4).

Kuratko (2007:7) concludes that a leader has the unique opportunity to display honesty, integrity, and ethics in all key decisions. The leader's behaviour serves as a model for all other employees to follow. The research on entrepreneurial ethics has been evolving. Their value systems were demonstrated to be a critical component in business decisions.

According to Darling, Gabrielsson and Seristo (2007: 15), a primary measure of quality in successful entrepreneurial leadership is the degree to which the transformational leader also enables the other individuals in the organisation to be successful. This success is measured by such factors as personal achievement, professional satisfaction, job fulfilment, emotional health, and perhaps even the ability to cope with illness and other hardships or disappointments. Those entrepreneurial leaders who are the most successful in achieving this do so through the four leadership strategies noted above. Such entrepreneurial leaders are not necessarily the smartest, the best educated, the most experienced, the highest paid, the most gifted, or those with the greatest combination of talents and abilities. They

are, however, the leaders who possess and reflect in their leadership roles the greatest combination of joy, hope, charity and peace

Dess, Ireland, Zahra, Floyd, Janney and Lane (2003: 352) define entrepreneurial leadership as establishing the conditions conducive to role performance and social exchange. These conditions include organisation trust, consensus on dominant logic, and appropriate organisational controls. Astrid, Heidemann and Lassen (2007: 124) conclude by stating that entrepreneurial leadership, which creates a frame of innovation and creativity in the firm, this consists of development of opposing scenarios, a flexible use of resources, and a dynamic changeability in structures and processes.

3.3.2 Management support

According to Bhardwaj, Agrawal and Momaya (2007a: 51), the importance of management involvement, top management support, commitment, and style, and the staffing and rewarding of venture activities were felt to be important for corporate entrepreneurship. Bhardwaj *et al.* (2007a: 51) define management support as the willingness of management to promote entrepreneurial behaviour; including the championing of innovative ideas and providing the resources people require taking entrepreneurial actions. Bhardwaj *et al.* (2007a: 53) state that management support has been measured by receptivity (to employees' ideas), promoting innovative ideas, management encouragement, financial support, awarding ideas, and unconditional support.

According to Bulut and Alpan (2006: 68), it should hardly be expected that successful intrapreneurial endeavours will spontaneously flourish without management support. Management should support new ideas with incentives. Management support refers to the willingness of managers to facilitate and to stimulate entrepreneurial undertakings. The support of management manifests itself in project and/or idea development. Management support for idea and project development, participative decision-making, autonomous behaviour, allocation of resources and a tolerance of risk-taking, with the facilitating or moderating effects of extrinsic and intrinsic rewards, all seem to contribute foremost to the creation of

increased organisational commitment and job satisfaction among employees, shaping the future economic performance of an organisation (Bulut & Alpan, 2006: 68).

Kuratko and Hornsby (1999: 30) and Scheepers *et al.* (2008: 54) agree that management support indicates the willingness of managers to facilitate and promote entrepreneurship in the organisation. The support can be provided by championing innovative ideas, providing essential resources and expertise or even institutionalising the entrepreneurial activity within the organisation's structure and processes. In their findings, Scheepers *et al.* (2008: 65) recommend that the corporate entrepreneurship capability be a construct that could be managed and improved by focusing on a configuration of internal factors such as management support for corporate entrepreneurship, rewards for corporate entrepreneurship and allowing employees to function autonomously.

Bhardwaj and Momaya (2006: 41) advise organisations to follow the following recipe, as the core of management support for corporate entrepreneurship:

- Recognition and publicity is given to improve the group efforts.
- The internal leadership provides direct access and guidance to executive management. Organisational support system is also provided for entrepreneurial activities.
- Company's value proposition is used as a common language across all departments and divisions.
- Work group, departmental and divisional goals are all aligned and directly related to improving customer service and customer experience.
- A percentage of company's profits are shared with employees to encourage them and make them understand their efforts' contribution to the company's competitive edge.

Lack of visible and any means of top management support is a significant contributor to the disintegration of the team (Hitt, Nixon, Hoskisson & Kochhar 1999: 158). Hitt *et al.* (1999: 163) affirm that management support can be improve by encouraging the

development of ideas for the improvement of the company, as well as encouraging innovators to bend rigid procedures in order to keep promising ideas on track. Institutionalise a system that would enable top management to be aware of employees' ideas and suggestions (Urban & Oosthuizen, 2009: 186)

3.3.3 Sponsors for projects

Sponsorship has received considerable attention in the corporate entrepreneurship literature (Sharma & Chrisman, 1999: 23). Corporate sponsors bring integrity and influence to new ventures while operating sponsors contribute organisational knowledge and encourage recognition (Garvin & Levesque, 2006: 109). Sharma and Chrisman (1999: 23) and Garvin and Levesque (2006: 109) agree that dual sponsorship are likely to give the right mix of freedom and discipline to new businesses, and to balance identity with integration.

Geisler (1993: 61) state that with sponsorship, companies signal that the new business is a long-term commitment and that they have already given thought to its transition to maturity. If the new venture fails to attract influential sponsors, it won't receive sufficient resources or attention to survive (Garvin & Levesque, 2006: 105).

O'Connor and Rice (2001: 108) argue that most of the projects would perish without the project champion gaining access to a senior manager sponsor and convincing him that the project was important. Kuratko and Hornsby (1999: 30) affirm that sponsors commonly cited both their gut feelings that the project could have significant impact on the long-term success of the firm and their trust in the project champion. Effective entrepreneurial teams generally have a champion, a sponsor, and rewards to stir up the inventive spirit. Champions are people who support projects throughout the essential stages. They keep decision-makers and sponsors up to date, guide team members, and passionately encourage the project at all stages of the administration (Peterson & Johnson, 2004: 62).

Sponsor championing recognise the potential opportunity, rather than relying on the safety of a traditional evaluation process that uses criteria inappropriate for a breakthrough innovation (Ferreira, 2008: 13). Many of the projects would "fall

between the cracks" of the existing businesses of their corporations (Van Aardt, 2008: 15). The sponsor of each of these projects worked to keep them alive (even unofficially), and encouraged business units to adopt them. Thus, upward networks provide paths around conventional organisational processes that become pathological when applied to radical innovation.

Luchsinger and Bagby (2001: 12) list intrapreneurial sponsors within the entrepreneurial organisation as to:

- Focus on results and teamwork.
- Reward innovation and risk taking.
- Tolerate and learns from mistakes.
- Remain flexible and change-orientated.

3.3.4 Tolerance for risks, mistakes and failure

A good recipe for creativity is low *tolerance* for failure, accompanied by strategies to create an organisation with the courage to believe in change. Kuratko and Hodgetts (2004: 63) emphasise that when establishing the drive to innovate in today's organisations, the final and possibly most critical step is to invest in entrepreneurial activities that allow new ideas to flourish in an innovative environment.

To be successful with corporate entrepreneurial practices, firms usually have to take on riskier alternatives, even if it means forgoing methods or products that have worked in the past (Bhardwaj, Agrawal and Momaya, 2007b: 134). Brundin *et al.* (2008: 230) affirm that if a manager displays strain and thus signals that the current requirements of the job are at the high end of the manager's tolerances for work, employees will assume that greater personal effort will be required by them and will be uncertain whether such efforts will be sufficient.

Corporate entrepreneurs play a crucial role in organisations in that they improve organisational performance due to their increased pro-activeness and willingness to take risks through the innovation of products, process and services (Robinson, 2001: 95). It is commonly believed that leaders promote innovation by creating a shared

rule that team members are safe to take interpersonal risks (Chatman & Cha, 2003: 25).

Bulut and Alpan (2006: 66) conclude that conservative and risk-averse attitudes will inevitably diminish intrapreneurial boldness and the innovative potential of frustrated employees. If those intrapreneurs who experienced an unsuccessful innovative attempt in the form of a failed risky project are not heavily punished but tolerated by their managers, they may develop a higher level of normative and affective commitment to their organisation (Bulut & Alpan, 2006: 66). Burgelman (1983: 1362) states that top management needs flexibility and tolerance for ambiguity in its strategic vision in order to deal effectively with corporate entrepreneurship.

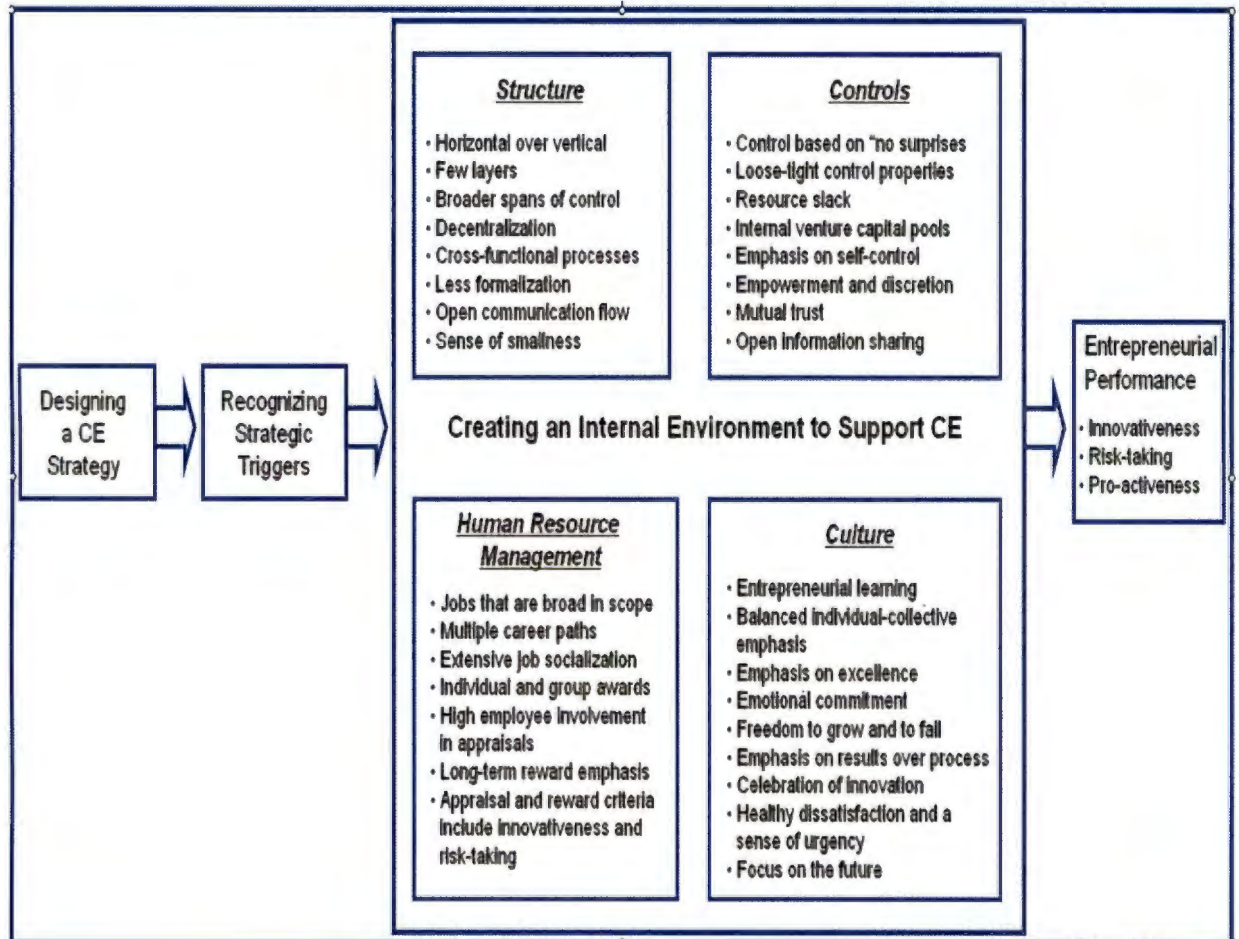
Bhardwaj *et al.* (2007b: 137) stress that intrapreneurial ventures, by their very definition, come with some risks. The top management, therefore, must be prepared to accept some failures. If one fails not for want of trying but because one simply did not know of any better way, one must not be penalized. Such failures must be regarded as opportunities for learning. The emphasis must be on extracting the maximum learning from the mistake rather than on pulling up the person responsible for it. In highly innovative companies such as 3M, the cost of intrapreneurial mistakes is regarded as an investment in the learning process.

Bessant and Tidd (2008: 65) agree with Bhardwaj *et al.* (2007b: 154) in that the employees of risk avoiding organisations complain about boring, low energy jobs in which they are frustrated by long, tedious processes to get their ideas into action. Ultimately, in such environments, intrapreneurial employees often leave the organisation to join a more intrapreneurial organisation in which creativity and innovation is valued.

According to Ireland, Kuratko and Morris (2006: 13), employees should be trained to be exposed to opportunities in order to develop their tolerance for risk, embrace change as a source of individual and organisational growth, and learn the realities of organisational politics so they will be able to obtain sponsors for their innovation-based projects.

Corporate entrepreneurship strategy requires four critical design elements – structure, controls, human resource management systems, and culture is presented in figure 3.2 below (Ireland *et al.*, 2006: 14).

Figure 3.2: Framework for suitable corporate entrepreneurship map



Source: Ireland *et al.* (2006: 14)

Cultural variables of flexibility, adaptability, tolerance of ambiguity, and offering praise for good performance are negatively related to the team effectiveness ratings (Hitt *et al.* 1999: 160). According to Hornsby, Kuratko, and Zahra (2002: 253 & 254), middle managers must perceive an environment that encourages calculated risk taking while maintaining reasonable tolerance for failure, this will indicate their willingness to take risks and show a tolerance for failure when it occurs. Hough and Scheepers (2008: 19) also agree that tolerance of failure should facilitate innovative, pro-active and risk taking behaviours in employees.

Menzel, Aaltio and Ulijn (2007: 733) state that organisational climate and management that fosters intense working relations between the people, elicits people's innovation capacity, tolerates risk, and supports personal growth and development, are all important. Finally Urban and Oosthuizen (2009: 186) recommend that the organisations must become more tolerant toward risks, mistakes and failure by allowing employees to take calculated risks and practical experimentation. Middle managers must therefore accept mistakes and failure as a learning process and learning necessitates mistakes.

3.3.5 Innovation and creativity, new ideas encouraged

One of the variables that inspire a firm's capability to act in an entrepreneurial way is a firm's capability to assess, promote and reward innovative and risk taking activities (Barringer & Bluedorn 1999: 423). Nieuwenhuizen, Hough and Nieman (2003: 351) differentiate creativity and innovation as follows: Creativity deals with attaining an idea, while innovation relates to implementing the idea. Baron and Shane (2005: 54) view creativity as the invention of ideas that are both original and potentially valuable. According to Bessant and Tidd (2008: 40), creativeness is the constructing and communicating of significant new connections to assist the company to think of various possibilities. It helps us to practice diverse ways, apply different points of view, and think of new and extraordinary possibilities. In addition, it guides us in generating and selecting alternatives.

According to Menzel *et al.* (2007: 745) and Hornsby *et al.* (2002: 245), the new connections and possibilities must end up in something of importance for the individual, group, organisation or society. It can be highlighted that innovative possibilities can stem from further efficient and effective business processes, new services and products that add value to customer needs. Utterback (1994: 256) conceptualises and identifies four phases in which innovation takes place. The myth that innovation is a preserve for the private sector but not for the public sector can be dispelled by the following elements of the four phases: (i) product innovation, (ii) process innovation, (iii) position innovation, and (iv) paradigm innovation.

Lowe and Sue-Marriott (2006: 63) affirm that innovation is the process by which the opportunities that have been recognised through individual and organisational creativity are exploited for the benefit of the organisation, society and the end consumer. A climate for creativity and innovation encourages the invention, consideration and utilization of new products and ways of working. Bessant and Tidd (2008: 40) emphasise that this climate supports the development, integration and employment of new and different approaches, practices, and concepts. Innovation and creativity are the means of support for corporate entrepreneurship inside organisations, bringing innovative outputs, new ideas, improved process, new products, and new ventures.

According to Kuratko and Hodgetts (2004: 57), another way to create an innovative corporate atmosphere is to apply rules for innovation. The following rules can provide hands-on guidelines for developing the necessary innovative philosophy:

- Encourage action.
- Use informal meetings whenever possible.
- Tolerate failure and use it as a learning experience.
- Persist in getting an idea into the market.
- Reward innovation for innovative sake.
- Plan the physical layout of the enterprise to encourage informal communication.
- Expect clever bootlegging of ideas (people secretly working on new ideas during the organisation's time as well as during personal time).
- Put people on small teams for future-oriented projects.
- Encourage personnel to circumvent rigid procedures and bureaucratic red tape.
- Reward and promote innovative personnel.

When these rules are followed, they create an environment conducive to and supportive of potential entrepreneurs. The end result is a corporate philosophy that supports intrapreneurial behaviour. A tolerance for experimentation will create an atmosphere of inquiry and critical thinking, which, in turn, will lead to ideas for improving the systems or products (Kuratko & Welsch, 2004: 57). Management should ensure that the consequences of pursuing a new idea will be that a person is

given a sense of satisfaction just for being "one who tried" (Stevenson & Jarrillo-Mossi, 1986: 77).

3.3.6 Appropriate rewards and reinforcement

It is extensively viewed that employees work harder when they attempt to accomplish demanding objectives than when they have no clear goals. People work harder when they recognise understandable contacts between their hard work, performance, and the incentive they receive. If these links are feeble or absent, people work lesser. People also work harder when they believe that they are fairly taken care of (Barron & Shane, 2005: 332). Employees normally feel appreciated when a incentive equals their expectations, when they feel valuable and when they are perceived as equitable among their team members.

Coetsee (2002: 153) supports this observation by emphasising that people need to know what they are getting in return for their hard work. They need to know what is in it for them. They expect their hard work to be acknowledged and remunerated. Rewards and reinforcement improve individuals' enthusiasm to engage in inventive behaviour. Organisations should be characterised by offering rewards depending on performance, providing challenges, increasing responsibilities and by making the ideas of innovative people known to others in the organisational hierarchy (Coetsee, 2002: 153).

Bhardwaj *et al.* (2007b: 139) affirm that recognition is the breakfast of champions. If a group of intrapreneurs has struggled successfully to overcome a threatening challenge, its contribution must be promptly acknowledged, celebrated, and rewarded. It serves two purposes: it gives them the recognition they value and find highly motivating and it also sends a signal to others about what they need to do to earn similar recognition. Stinginess in this regard saps psychological energy and initiative; it reduces potential intrapreneurs to being merely half-hearted wage-earners.

3.3.7 Vision and strategic intent

Intrapreneurial organisations should have strategic thinkers or leaders who construct links to move from the current to the future state of sustainable competitive advantage and effectiveness (Puccio, Murdock & Mance, 2007: 127). Leaders are required to encourage a culture of innovation among the employees.

When an organisation has an understandable sense of its function, direction and desired future position, and when this representation is extensively shared, individuals are capable of finding their personal responsibilities both in organisation, and in the society at large (Puccio *et al.*, 2007: 11). According to Wickham (2004: 268), visions are the initial face to shape and direct an entrepreneurial venture. Some sense of vision must be present prior to strategy development and planning can start. Organisations with aspirations to amuse their consumers with innovative processes, systems, excellent service delivery and quality products, must craft a vision with operational strategies that split them from the rest.

It is thus asserted that a vision is flourishing if it gets to a broad audience and tells an appealing story that people would like to be part of, a story that challenges them to be innovative, and creates a sense of urgency among the workforce. A vision is not merely an extended strategic plan or mission; it becomes achievable when it forms part of every day decisions and actions taken to those that are led (Lipton, 2007: 140). It is thus of paramount significance that all organisational members embrace the organisation's vision as their own through efficient change management.

3.3.8 Discretionary time and work

Gaw and Liu (2004: 5) divulge that, at the diversified manufacturing company, there is an apparent guideline that is traditional and commonly understood. The researchers can spend 15 % of their time working on a new idea without authorisation from supervision (Fattal, 2003: 8). Organisations must manage people's workload and evade putting limitation on all aspects of a person's job. People should be allowed to work with others in long-term problem solving (Ireland *et al.*, 2006: 27).

According to Bessant and Tidd (2007: 66), people are given liberty to define their own work in an environment with a bit of independence. They are able to implement judgment in their day to day routine. Employees have diplomacy to the degree that they are capable of making decisions and carry out work in an approach that they consider to be the most efficient (Kuratko & Hodgetts, 2004: 63). Kuratko and Hodgetts (2004: 65) argue that the encouragement of innovative ideas necessitate that individuals have time to develop ideas.

If organisations permit employees to make decisions concerning their work procedure and evade criticising them for making mistakes when innovating, an intrapreneurial climate will eventually be encouraged (Brundin *et al.*, 2008: 238). Nieuwenhuizen *et al.* (2003: 359) reveal that, environments that allow independent decision making result in employees that feel respected for their contribution to the organisation in attaining its goals and objectives.

3.3.9 Empowered team, multi disciplined teamwork and harnessing diversity

Covey (1990: 178) explains that one cannot give power to another individual or team but one has to earn confidence before they can be empowered. Gill (2003: 315) also highlights the fact that encouraging corporate entrepreneurship is an example of empowerment. An empowered team will function efficiently if a multidisciplinary team-approach is encouraged. Such an approach requires the involvement of organisational members to persuade an entrepreneurial climate, in spite of the organisational structure's area of specialisation (Hisrich *et al.*, 2005: 49).

Kreitner and Kinicki (2004: 455) are of the opinion that effective teamwork can be accomplished through cooperation, trust and cohesiveness amongst team members. They include that the exclusive function of successful teamwork should be to accomplish a cooperative objective. A multi-disciplinary team approach is often implemented in organisations to deal with organisational challenges and to successfully resolve them for the ultimate purpose of accomplishing organisational objectives.

According to Gill (2003: 315), empowerment is not about giving people authority, it is about giving people the knowledge, expertise, opportunity, independence, self-confidence and resources to control themselves and be responsible. Empowering a team is thus a progression of giving employees the power to make decisions about their work.

According to Burgerlman (1983: 1349), managing diversity requires an experimentation-and-selection approach. Burgerlman (1983: 1349) pronounce that middle level managers play a crucial role in this through their support for autonomous strategic initiatives early on, by combining these with various capabilities dispersed in the firm's operating system, and by conceptualising strategies for new areas of business. In his findings, Chowdhury (2005: 743) also suggest that the diversity in terms of gender, age and functional background does not contribute to the team-level cognitive comprehensiveness and team commitment.

Bhardwaj *et al.* (2007b: 131) state that bringing bright people from different functional backgrounds has the effect of sparking enough intellectual friction to launch a wave of innovation. Each person is both enriched and stimulated by the experience. Therefore, organisations should make it easier for people across functional boundaries to work closely together.

3.3.10 Resource availability

Corporate entrepreneurship cannot be created from a vacuum, individual talent and potential are highly relevant resources of the company (Menzel *et al.*, 2007: 738). Resources also refer to those possessions that businesses utilise to pursue its organisational requirements (Wickham, 2004: 200). People, money and operational assets are essential ingredients or resources for intrapreneurial venture. Organisational support in terms of resource availability has been identified as an important driver of the entrepreneurial activities of established firms (Antoncic & Hisrich, 2004: 526).

Starr and MacMillan (1990: 547) propose social techniques that may help entrepreneurs in resource acquisition. Resources need to be easily accessible in order to promote a climate of corporate entrepreneurship. Resources are not

supposed to be hampered by corporate administration. In pursuit of their goal, intrapreneurs make use of rare resources by converting efforts into productivity. They use innovation funds that add value to their customers in attaining organisational effectiveness or competitive advantages.

Hornsby, Naffziger, Kuratko and Montagno (1993: 34) suggested that resource availability was an essential organisational characteristic to the implementation of an intrapreneurial idea. According to Hough and Scheepers (2008: 19) and Kuratko, Montagno and Hornsby (1990: 55), one of the organisational factors supporting the corporate entrepreneurship capability is the availability of resources, which seems best to be portrayed by time availability.

On their analysis Urban and Oosthuizen (2009: 185) conclude that though they are always needed, resources may not always be readily available and accessible in pursuance of new ideas and opportunities, nor are attracting resource commitment for entrepreneurial ventures regarded as easy. Scheepers, Hough and Bloom (2007: 243) add that resource availability seems best represented by time availability. In entrepreneurial work environments, employees are permitted to conduct creative, entrepreneurial experiments in a limited portion of their working time.

In a Norwegian study, Sathe (2001: 65) researched the creation of new ventures within existing organisations to determine what is needed for success. Sathe (2001: 65) identified the following factors that influence the successful creation of new ventures:

Availability of funds: those organisations seeking to stimulate innovation outside the traditional Research and Development units, were allocating more funds in the earlier project stages, thus accelerating project development.

Structural rigidity and cost management: Many organisations have difficulty in stimulating the growth of new ventures because of structural rigidity and poor cost management.

Lack of support: Both financial and otherwise.

Bhardwaj *et al.* (2007b: 136) stress that good ideas and experiments require both moral and material support. Otherwise, they have little chance of succeeding. It is the responsibility of executives to serve as mentors to intrapreneurs and ensure that all the support they require is made available to them. Ensuring their success through such support is perhaps the essence of 'servant leadership.'

3.3.11 Organisational learning

Senge (1990: 2) and Van Aardt (2008: 13) conceptualise the term organisational learning as organisations where people frequently develop their ability to produce the results they truly aspire. In organisations where such learning transpires, new and expansive models of ideas are nurtured, shared ambition is set free, and individuals are constantly learning how to learn collectively. This occurrence of organisational learning is viewed by Cummings and Worley (2005: 498) as an organisational structure or social practice that permits employees and teams to learn and to distribute information among organisational members.

Kotzé (2002: 10) points out that an organisational learning climate is characterised by these core principles, honesty and transparency, innovation and creativeness, acceptance of reasonable risks, trustworthiness and development. A learning organisation can thus be regarded as one that allows a spirit of innovation, calculated risk-taking, transparency, and knowledge sharing. In such an organisation, management prospers with the ultimate goal of organisational effectiveness and competitive advantages.

Learning organisations have a strong background that encourages honesty, creativeness, and experimentation amongst members (Van Aardt, 2008: 13). These principles and norms present the fundamental collective support for flourishing learning. They support team members to attain practices and share information. They also cultivate innovation and supply the liberty to endeavour new things, to risk disappointments, and to learn from mistakes (Antoncic & Prodan, 2008: 260).

Antoncic and Prodan (2008: 260) indicate that an organisational learning climate is characterised by the principles such as honesty and transparency, innovation and creativeness, acceptance of rational risks as well as responsibility and development.

A learning organisation can thus be considered as one that tolerates a spirit of innovation, calculated risk-taking, transparency, and knowledge sharing. In such an organisation, management flourish with the eventual aspiration of organisational success and competitive advantages. Learning organisations have a strong culture that promotes openness, creativity, and experimentation among members. These values and norms provide the underlying social support for successful learning. They encourage team members to acquire process and share information. In addition, they nurture innovation and provide the freedom to attempt new things, to risk failure, and to learn from mistakes (Antoncic & Prodan, 2008: 261).

3.3.12 Strong customer orientation

Liu, Luo and Shi (2002: 369) describe customer orientation as a set of beliefs that customer needs and satisfaction are the priority of an organisation. It focuses on dynamic interactions between the organisation and customers as well as competitors in the market and its internal stakeholders. Customer orientation is one of the core aspects of marketing in the strategic marketing literature together with goal attainment, namely objectives and profitability, and integrated marketing organisation (Liu *et al.* 2002: 367). In conclusion Liu *et al.* (2002: 374) confirm that customer orientation and corporate entrepreneurship are positively related to learning orientation.

The understanding of customer requirements plays an influential part in invention and innovation (Roberts, 2007: 35). Customer-oriented behaviour develops long-term associations between the organisation and its customers and these relationships are advantageous to both parties. An understanding of what customers really value is a far more fruitful exercise than merely asking them to submit their own solutions. The process of innovation begins with identifying the outcomes that customers want to achieve, and ends in the creation of items or services they will use (Ulwick, 2002: 5).

According to Rogg, Schmid, Shull and Schmitt (2001: 435), total quality training would be effective in changing employees' customer orientation only if the organisation's transfer climate defined as supervisor and co-worker support were positive. In their conclusion Urban and Oosthuizen (2009: 185) affirm that it is doubtful whether the mining industry's product and service innovation are driven by a strong customer orientation, and whether sufficient resources are spent in determining customer needs and satisfaction.

3.3.13 Workplace autonomy and freedom

Workplace autonomy and freedom is described by van Vuuren *et al.* (2009: 341) as an opportunity to use own abilities, being own boss, freedom to follow non-conventional methods of doing own work, independent judgment and decision-making and latitude for making mistakes without fear of being punished. Bouchard (2001: 14) describes the autonomy required by corporate entrepreneurs as mainly an operational autonomy which concerns the means or the "how", while the autonomy that needs to be actively managed from a corporate standpoint is essentially a strategic autonomy regarding the goals or the "what".

Organisational restrictions, actual and imaginary, prevent people from looking at problems external their own jobs. People should be encouraged to look at organisations from a broader perspective. Organisations should keep away from having standard functional procedures for all main components of their jobs and should trim down reliance on narrow job description and strict performance standards (Kuratko & Hodgetts, 2004: 86).

Chatman and Cha (2003: 22) emphasise that too much dependence on prescribed regulations, policies, and procedures will not accomplish anything exceptional, be it customer services, innovation and quality. In order to create a trusting relationship among team members, and for innovation to prosper within the corporate environment, the intrapreneurial leader should encourage honesty and exchange of ideas. Hisrich *et al.* (2005: 50) agree that openness leads to the establishment of strong coalition of supporters and encouragers.

Corporate entrepreneurship must take place in a rigid and partitioned environment which limits the freedom of action and the circulation of information which are so important for its success (Bouchard, 2001: 4). Bouchard (2001: 13) emphasises that the autonomy and freedom of corporate entrepreneurs allow them to work and to react much faster than regular project teams, reducing the risk of missing the window of opportunity.

Environmental hostility (i.e., unfavourable environmental conditions) can also stimulate intrapreneurial activities. Hostility has been found to be related to the entrepreneurial posture of successful small firms (Utterback, 1994: 256) and was proposed to be positively related to the organisational entrepreneurial posture (Lowe & Sue-Marriott, 2006: 87). Hostility tends to create threats for the organisation and stimulates the pursuit of corporate entrepreneurship (Utterback, 1994: 256)

Bhardwaj *et al.* (2007b: 132) state that rather than reserve major organisational problems for exclusive 'think tanks' or external consultants, entrust them to the home-grown intrapreneurs. As they solve one problem after another, their confidence gets reinforced and they begin to yearn for more. Bhardwaj *et al.* (2007b: 132) affirm that it is not enough to challenge intrapreneurs. They must also be given the freedom to proceed with their plans and experiments. There is probably nothing eager intrapreneurs resent more than unnecessary bureaucracy and managerial control. Therefore, after throwing them a challenge, empower them fully to proceed as they deem it fit, of course without absolving them of responsibility for their results.

3.4 THE DETERMINANTS OF PERCEIVED SUCCESS OF THE ORGANISATION

The perceived success means one end of the continuum would be a change in the manager's behaviour, which fosters more innovation, creative problem solving, and circumvention of red tape (Thornberry, 2003: 340). Entrepreneurial thinking and acting were seen as key drivers in the future success of the organisation.

3.4.1 Financial measures

Corporate entrepreneurship research must include multiple measures of economic outcomes such as profitability and sales growth to capture the inherent tradeoffs between efficiency and effectiveness, respectively (Dess *et al.*, 2003: 369). Dess *et al.* (2003: 369) add that the desired outcomes of corporate entrepreneurship initiatives such as investment in research and development, new product development, or re-tooling a production facility with expensive new technology may not be realised for several accounting periods.

Rutherford and Holt (2007: 434), in proposing a framework for investigating the link between corporate entrepreneurship and organisation's performance, point out that financial measure may be just as important in the study of entrepreneurial outcomes. There is some fairly strong evidence that acting more entrepreneurially as a manager can have a significant impact on both attitudinal and financial measures, even if the manager does not create a new business (Thornberry, 2003: 340).

3.4.2 Customer or market measures

According to Deshpande, Farley and Webster (2000: 354), market orientation is the set of beliefs that puts the customer's interests first. It is the central element of the management philosophy based on the marketing concept. The financial indicators that reflect the results of actions already taken with indicators of operational measures of customer satisfaction, complements the internal processes, and the organization's innovation and improvement activities (Dess *et al.*, 2003: 370).

3.4.3 Process measures

Effective measurement systems should encompass a blend of both results and process measures so organizations can not only keep score and measure progress each day, week, or month; but also so they can more reasonably predict what the score will look like (Teng, 2007: 131). Kaya (2006: 2077, 2087) emphasises that the process measures are slightly more tactical in nature and typically reflect a predictive

element of the results measures. Often a process measure has a significant influence on, or is a major contributor toward, the ultimate performance of a results measure.

According to Seshadri and Tripathy (2006: 17), as in sports, knowing the score at the end of game is useful but limited information. By tracking the key processes which make up the game as it is played, you gain much better insight into what timely actions are required to provide you the outcome you want when the results are tallied. Process measures provide a predictive capacity to let you know how the game is going and the opportunity to intervene as necessary to adjust events in the direction you desire them to go (Seshadri & Tripathy, 2006: 17).

As identified by Burns (2004: 143), operational definitions enable a team to fully agree on how a particular characteristic of a process is to be measured:

- It is the process characteristic that is critical to the satisfaction of the customer.
- It is important for the team to fully understand and agree that the definition reflects exactly what information the team is attempting to gather on the process.
- Clarity is even more important when developing and selecting the measures that will be used to determine the performance of a process.

3.4.4 People development

According to Roberts (2007: 45), active programs of recruitment and training and are positive in the promotion of people, both men and women, to reflect the social reality of 21st century. Organisations need to offers education and training opportunities for advancement. Employee development takes the form of e-learning, on-the-job coaching and training, development projects, secondments and classroom-based training. In-house programs are provided to improve productivity by equipping employees with behavioural skills (Roberts, 2007: 46).

3.4.5 Future success

Brundin *et al.* (2008: 238) state that it is more important that managers signal high confidence and therefore high probability of future success. Bulut (2006: 67) noted

that the basis for future success is the ultimate outcome of a combination of managerial effectiveness and factors outside the control of the organisation. Technology has an extensive impact on the society and economy nowadays, and the organization's ability to continuously innovate its products and business model is essential to its future success (Menzel, 2007: 732).

3.5 THE ROLE OF MIDDLE MANAGERS WITHIN THE ENTREPRENEURIAL ORGANISATION

Kuratko *et al.* (2005: 699), referring to the role of the middle-level managers, affirm that their entrepreneurial behaviour is linked to successful corporate entrepreneurship. Effective entrepreneurial behaviour by middle-level managers is a necessary step to achieving various organisational goals (Kuratko *et al.*, 2005: 699). Kuratko *et al.* (2005: 699) further assert that the role of middle-level managers focus on effective communication of information between the two internal managerial stakeholders (top-level managers and low-level managers).

To fulfil this role, middle-level managers interactively synthesise information, disseminate that information to both top-and lower-level managers and then as appropriate, champion projects that are intended to create inventiveness (e.g. a product, service or business unit). In other words, once a commitment is made by all managerial parties to pursue a certain set of actions, such as those associated with corporate entrepreneurship, middle-level managers' communication responsibilities find them facilitating information flows that support project development and implementation efforts (Kuratko *et al.*, 2005: 701).

In conducting their research Kuratko *et al.* (2005: 702) suggested that there are five stable organisational antecedents of middle-level managers' entrepreneurial behaviour. These are:

Management support: The willingness of top-level managers to facilitate and promote entrepreneurial behaviour, including the championing of innovative ideas and providing the resources people require to take entrepreneurial actions.

Work discretion and autonomy: Top-level managers' commitment to tolerate failure, provide decision-making latitude and freedom from excessive oversight, and to delegate authority and responsibility to middle-level managers.

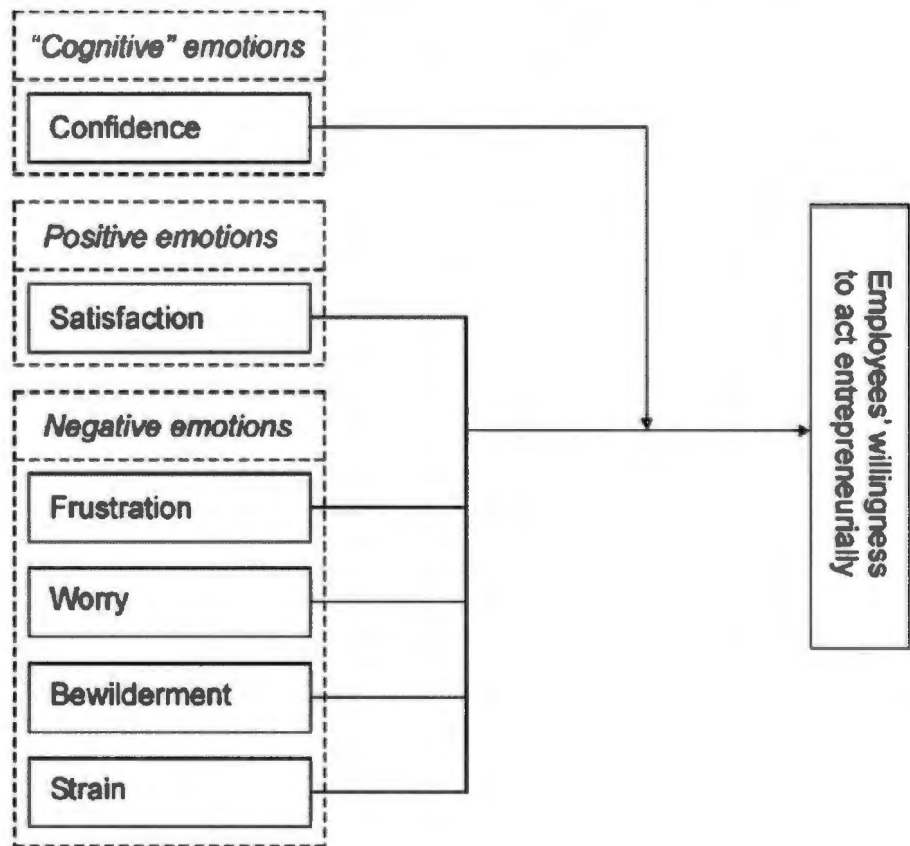
Rewards and reinforcement: Developing and using systems that reward, based on performance, highlight significant achievements and encourage pursuit of challenging work.

Time availability: Evaluating workloads to ensure that individuals and groups have the time needed to pursue innovations and that their jobs are structured in ways that support efforts to achieve short and long term organisational goals.

Organisational boundaries: Precise explanations of outcomes expected from organisational work and development of mechanisms for evaluating, selecting and using innovations.

Heinonen and Toivonen (2007: 168) highlight that entrepreneurial behaviour, among middle level managers, is most critical to the effective implementation of corporate entrepreneurship. Heinonen and Toivonen (2007: 168) continue that middle managers are in a position to influence their subordinates' commitment to entrepreneurial activities once they have been initiated. Brundin *et al.* (2008: 225) describe a number of factors influencing the willingness of individuals to act entrepreneurially. In their review, Brundin *et al.* (2008: 225) list, among others, the individual's propensity to take risks, goal setting, and drive. Figure 3.3 below summarises their model.

Figure 3.3: Model of managers contribution and employee’s reactions



Source: Brundin *et al.* (2008: 226)

Kuratko and Goldsby (2004: 15) note that senior managers are isolated from day-to-day activities and middle managers play a crucial role in fostering communication about the mission, goals and priorities of a company. Kuratko and Goldsby (2004: 15) continue that middle managers interact with diverse employees, which would allow them to use formal and informal approaches to encourage innovation and calculated risk taking. The authors highlight the importance of middle managers in promoting autonomous or informal corporate entrepreneurial activities, because middle managers can provide an environment that allows employees to experiment with and explore the feasibility of innovative ideas. Middle managers can also use different approaches to make the organisational structure less resistant to change, thereby allowing corporate entrepreneurial activities to flourish.

Kuratko *et al.* (2005: 705) further propose that middle-level managers' entrepreneurial behaviour is essentially focused on entrepreneurial opportunities and

resources. The authors proceed with the question: "What do middle-level managers do with respect to resources and entrepreneurial opportunities that might be understood as essential types or dimensions of their entrepreneurial behaviour?" And the answer: "Middle-level managers endorse, refine, and shepherd entrepreneurial opportunities and identify, acquire, and deploy resources needed to pursue these opportunities. Kuratko *et al.* (2005: 705) then discuss the true meaning of the terms used in the answer:

Endorsement: This behaviour is typically in support of initiatives originating below the middle management level and aimed at influencing the outlook and perceptions of those above the middle management level. In an induced sense, middle-level managers endorse corporate entrepreneurship perspectives coming from top-level executives and "sell" their value-creating potential to the primary implementers namely first-level managers and their direct supports.

Refinement: Refinement behaviour characteristically involves moulding the entrepreneurial opportunity into one that makes sense for the organisation, given the strategy, resources and political structure of the organisation. First-level managers will often have little idea of what the entrepreneurial opportunity must "look like" in order to be viable as their attention will be more focused on the technical merit or market demand for the business concept. Top-level managers, by contrast, will often have a very definite sense of the type of entrepreneurial initiatives that fit their organisations well. It is characteristically the job of the middle-level managers to convert entrepreneurial opportunities into initiatives that best suit the organisation.

Shepherding: This function closely corresponds to the above-mentioned refinement function. However, where refinement is focused on the content or substance of the entrepreneurial opportunity, shepherding is focused on the organisational context within which the entrepreneurial opportunity evolves and gathers momentum.

Identification of resources: While identifying the enabling resources is not the sole responsibility of any single level of management, middle-level managers tend to be positioned to know best which resources will be needed as entrepreneurial initiatives

gain organisational traction. Thus, these managers tend to appreciate best what it will take, from a resource standpoint, to sustain the initiative on its growth path.

Acquisition of resources: This behaviour requires a broad array of skills and points of leverage on the part of those leading the initiative. First-level managers tend to be relatively resource constrained in a formal budgeting sense due to the characteristically limited scope of their responsibilities and operations. By contrast top-level managers often have more discretionary resources at their disposal. Moreover, they are responsible for allocating resources in support of established operations as well as toward promising entrepreneurial activities. Middle-level managers operate between these two extremes.

Deployment of resources: Deployment can mean many things including, for example, how amassed resources are configured to enact the initiative how current resources are leveraged in support of the initiative the timing of the resource allocation process and the level and type of resources allocated in pursuit of the opportunity.

Kuratko and Goldsby (2004: 15) conclude that middle managers play a key role in shaping their companies' strategic agenda by influencing the types and intensity of corporate entrepreneurial activities in their respective corporations.

3.6 ESTABLISHING CORPORATE ENTREPRENEURSHIP IN AN ORGANISATION

It should hardly be expected that successful intrapreneurial endeavours will spontaneously flourish without management support (Bulut & Alpan 2006: 65). Bulut and Alpan (2006: 65) further state that management should support new ideas with incentives. Management support refers to the willingness of managers to facilitate and to stimulate entrepreneurial undertakings. The support of management manifests itself in project and/or idea development. Upper management willingness for stimulating entrepreneurial projects requires the participation of employees from lower hierarchical levels in the preparation of strategic plans.

In conclusion Bulut and Alpan (2006: 65) say that while the depth of employee involvement varies from one organisation to another, employee participation in the planning process facilitates opportunity recognition by maximizing the view points and variety of perspectives from all areas of the organisation. Dess and Lumpkin (2005: 147) highlight that corporate entrepreneurship is found in companies in which where the strategic leaders and the culture together generate a strong impetus to innovate, take risk and aggressively pursue new venture opportunities. Cooper and Mills (2005: 12) stress that a positive climate and culture for innovation and entrepreneurship, combined with effective cross-functional teams and backed by strong management support and empowerment are fundamental to success.

3.6.1 Development of entrepreneurial skills or characteristics

Echols and Neck (1998: 44) state that initially, managers should construct corporate hierarchies to be as flat as possible, and develop an entrepreneurial culture. Together these two changes should emphasize the detection of opportunities, opportunity facilitation, and motivation to pursue opportunity. Then, make sure the structures that support entrepreneurial behaviours foster:

- Front-line initiatives with clear communication.
- The creation of new organisational forms that are either separate from or subsets of other forms.
- A reduction of authoritarianism by relinquishing control to experts instead of basing it on seniority.
- Performance-driven systems with a focus on support, facilitation, and coaching.
- Systematic and disciplined innovation in pursuit of a distinct mission.
- High standards (inflexibility) in terms of acceptable values.
- High energy toward creatively shaping the organisation while taking calculated risks.
- Explicit assignments of authority.
- Challenges to stretch people's skills and ways of thinking.
- Measurements designed to enable assessment of different indicators of performance.

- Flexibility whereby bureaucracy is minimized and ad-hocracy is maximized.
- An emphasis on the importance of reputation, trust, reciprocity, and mutual interdependence.
- Teamwork and participative management styles.
- Celebration for the process more so than the end result.

Echols and Neck (1998: 45) point out that: "It may be more useful to view entrepreneurship as a result of the interaction between the individual, the organisation, and the external environment". They suggest that for organisations to survive in the dynamic environments of the twenty-first century, the best blue print to follow will include hiring and rewarding employees who demonstrate entrepreneurial behaviours and adopting structures that facilitate these behaviours.

Vosloo (1994: 155) states that it is essential to foster an enabling environment to encourage the development of entrepreneurship as well as to build up entrepreneurial capacity. Vosloo (1994: 155) suggests that a comprehensive development strategy be followed focusing on amongst others, combining vocational training with entrepreneurial development and providing entrepreneurship by including instruction in basic business practice and entrepreneurial behaviour in the curricula of educational and training institutions. Kuratko (2006: 10) confirms the fact that certain facets of entrepreneurship can be taught. Kuratko (2006: 10) adds that entrepreneurship is a discipline and therefore it can be learned. Timmons (2003: 10) is of the opinion that you can not teach people to think entrepreneurially, but you can teach them entrepreneurial practices and strategies.

Thornberry (2002: 329) undertook a study to determine whether large organisations, through management education and action learning projects could indeed turn managers into corporate entrepreneurs. Thornberry (2002: 340) conducted field research within four large companies that had embarked on formalised corporate entrepreneurship management development programmes to determine whether these training programmes had brought a significant change in new business results. In conclusion Thornberry (2002: 341) admits that there were several successes and many failures with the following lessons learned from the training programmes:

- Pockets of entrepreneurial activity can develop and thrive, at least for a while, in cultures that are not inherently entrepreneurial.
- A lot of ordinary corporate citizens can learn to act as corporate entrepreneurs with the right education, training and support.
- Catalytic coaching and the business planning process were the two most important educational tools for the development of new business opportunities.
- Entrepreneurs can come from anywhere in the organisation. One of the biggest lessons learned was the inability to predict who could become a corporate entrepreneur. When experience, creativity tools, coaching, and a person's own confidence and desire collide with market knowledge, customer intimacy information, and technological changes, entrepreneurial opportunities are identified.
- Decouple ideation and opportunity identification from implementation. Some individuals really do have the ability to identify, develop and implement a new business venture from start to finish.
- A little difference can make a big difference. Not every manager needs to be an entrepreneur to help a company spawn significant new business opportunities.

Hayton and Kelly (2006: 407) argue that the competencies of individual employees, specific to the pursuit of corporate entrepreneurship, are fundamental to the ability of companies to nurture and sustain innovation and new venture creation. Hayton and Kelly (2006: 409) further that employees seeking to promote corporate entrepreneurship need specific individual competencies in order to integrate existing and new knowledge and recognise, evaluate, and capture entrepreneurial opportunities. Hayton and Kelly (2006: 413) identified the four competencies specific to corporate entrepreneurship as:

Innovating: The innovator role requires an ability to identify new market, organisational, or technological opportunities and combine new or existing resources in unique and creative ways.

Brokering: The primary role of the broker is to access new sources of information and knowledge, transferring this knowledge and combining different sources, both existing and new.

Championing: Underlying championing competence are individual characteristics of emotional intelligence, transformational leadership skills, broad organisational experience, credibility and trustworthiness.

Sponsoring: Sponsors help entrepreneurs gain access to resources they need for their ventures, therefore competencies include deep technological and business knowledge, risk tolerance, persistence and passion, and transformational leadership skills.

Ireland *et al.* (2006: 29) state that understanding and supporting a corporate entrepreneurship system should not be left to chance. Ireland *et al.* (2006: 29) suggest that firms should develop a programme with the purpose of helping all parties who will be affected by a corporate entrepreneurship system to understand the value of entrepreneurial behaviour. Ireland *et al.* (2006: 29) outlined the following elements to form part of a corporate entrepreneurship employee development programme:

- Introduction to entrepreneurship.
- Entrepreneurial breakthroughs.
- Creative thinking.
- Idea development process.
- Barriers, facilitators and triggers to entrepreneurial thinking.
- Venture planning: the intra-plan.

3.6.2 Corporate entrepreneurship in an organisation

The top centre of the guideline is formed by the factor corporate entrepreneurship intensity which is influenced by the business development mission, the organisational environment and the organisational characteristics. With the information about the organisational characteristics, the most suitable business development type can be determined. The next step in the process is to determine an appropriate venturing portfolio. As a final step in the guideline, the composition of the venturing portfolio combined with the choice of business development type and the identified problem causes and success factors can be used to present recommendations regarding the characteristics that should be present in the business configuration.

Luchsinger and Bagby (2001: 12) describe organisations that foster corporate entrepreneurship as characterised by:

- Practicing enlightened management principles.
- Adopting an entrepreneurial style that avoids bureaucratic barriers and fosters an innovative climate.
- Encouraging corporate entrepreneurship and innovation among the workforce.

3.6.3 Measuring corporate entrepreneurship in an organisation

Ireland *et al.* (2006: 21) developed an entrepreneurial health audit. The audit serves as a tool to diagnose and address the extent to which an organisation is capable of fostering sustainable entrepreneurial behaviour as the path to improved performance.

Ireland *et al.* (2006: 22) stress that to assess the degree of entrepreneurship of an organisation, measures of innovativeness, risk-taking, and pro-activeness are needed. The authors use the entrepreneurial intensity instrument for this measurement. With this instrument Ireland *et al.* (2006: 22) use 12 items to measure the degree of entrepreneurship of a firm and then use the remaining items to measure the frequency of entrepreneurship. This instrument allows a firm to understand its entrepreneurial intensity at a point in time (Ireland *et al.*, 2006: 24).

Oosthuizen (2006) conducted a literature review of several scholars (Kuratko, Hornsby, Naffziger & Montango, 1993; Pinchot & Pellman 1999; Turner 2002; Antoncic & Hisrich 2004; Cohen 2004; Kuratko, Ireland, Covin & Hornsby 2005; among others), and then identified thirteen themes or constructs that seem necessary for an entrepreneurial climate in organisations. Oosthuizen (2006) identified the constructs or themes and the conceptual diagram, supporting Oosthuizen (2006) constructs is shown in figure 3.4 below. The constructs were discussed in detail in section 3.3.

Figure 3.4: Conceptual diagram of the 13 constructs



Source: Author's own view.

3.7 SUMMARY

Ever since the early development and progression of venture creation (historically) to date, the conventional responsibility of the entrepreneur transformed. The transformation has been from exclusively being the owner of a business enterprise to incorporation of those individuals within a large corporation with entrepreneurial skills. These individuals apply their entrepreneurial skills to benefit the corporation. In an increasingly rapidly growing worldwide economy the responsibility of the

entrepreneur inside the big company becomes more significant to ensure the company keeps the economical advantage.

Corporate entrepreneurship is characterised by persons who are innovative, creative, spend time and take risks. To sustain these entrepreneurial actions, the organisation requires a climate and culture that is beneficial to these activities. The shared ethics, norms and values of the corporation have to be such that entrepreneurial activities can flourish. Training workforce to be or perform entrepreneurially can turn out to be a very essential means to improve corporate entrepreneurship within the corporation. An entrepreneurial direction within an organisation is manifested by dimensions such as innovation, proactive, risk taking, aggressive, assertive and independence.

In order to assess the entrepreneurial climate within an organisation various measuring instruments can be utilised. The measuring instrument used in this research is the corporate entrepreneurship questionnaire developed by Oosthuizen (2006) and adapted by Jordaan (2008). It measures the entrepreneurial behaviour among middle and low-level managers, which is most essential to the successful implementation of corporate entrepreneurship. Middle managers are in a position to influence their subordinates' commitment to entrepreneurial activities once they have been initiated. The responsibility of middle managers focuses on efficiently communicating information linking the two internal managerial levels, the top-level managers and operating-level managers.

Chapter three dealt with the foundation of entrepreneurship and associated conditions have been recognised. Chapter four will build on this chapter and assess the entrepreneurial climate within Afrox South African operations in further detail. The model will first be defined. Then the 13 constructs of entrepreneurial climate will be acknowledged and studied in further detail. The chapter will look at results of empirical research.

CHAPTER 4

RESULTS AND DISCUSSION OF EMPIRICAL RESEARCH

4.9 INTRODUCTION

This chapter outlines the second stage of this study. The literature review was significant for adopting the measuring questionnaire utilised for the study. To investigate middle-level managers' entrepreneurial behaviour as a core feature of successful corporate entrepreneurship, the study integrates and expands preceding theoretical and existing empirical research within the corporation. Bulut and Alpan (2006: 68) acknowledged that empirical research can be used to help support the proposed rational behavioural outcomes of corporate entrepreneurship presented in the study. Empirical research design encompasses a full range of systematic approaches up to gathering of evidence, resulting from what may both be theoretical and practical questions (Scheepers *et al.*, 2008: 58).

By means of the data gathering methodology, this section summarises the findings of the empirical research. Bulut and Alpan (2006: 68) emphasise that empirical researchers:

- Identify and conceptualise the predicament they wish to investigate.
- Compile a research question.
- Survey the project to establish how valuable their results might be.
- Construct their research plans.
- Decide on the subjects to be used in order to respond to their research question.
- Assemble and analyse data and interpret their findings.

This chapter presents the analysis of the data collected during the empirical research in a quantitative method adopted for this study. It is frequently hypothesised that quantitative research is more structured than qualitative research in that sampling, research design, questionnaires and statistical methods are largely determined prior

to the respondents completing questionnaires (Antoncic & Prodan, 2008: 260). The core intention of this chapter is to assess corporate entrepreneurship.

4.10 DATA GATHERING

4.10.1 Empirical research

The paramount objective of performing this empirical research was to determine managers' distinctiveness and their awareness of an entrepreneurial climate. The respondents were administered with covering letters. It elaborated on the objectives of this study in addition to the questionnaires. The respondents were guaranteed that their responses would be confidential and anonymous.

4.10.2 Measuring instrument

The questionnaire was developed by Oosthuizen (2006: 337-341) and adapted by Jordaan (2008). It furthermore has a strong correlation with the current literature study and was used for this study as the mechanism for determining entrepreneurial climate. The questionnaire was specifically developed to measure the perception of low-level and middle managers on the entrepreneurial climate within the organisation. The questions were divided into three sections as outlined below.

Section A of the questionnaire measured the thirteen constructs that should be apparent in an organisation perceived to have an entrepreneurial climate. For each of the constructs five items were identified to evaluate that specific construct. The questionnaire used a five-point Likert scale as a measuring scale and managers had to indicate the extent of agreement or disagreement with a specific statement. The following scale was used to measure their agreement or disagreement with the construct under study: 1 = Strongly disagree, 2 = Disagree, 3 = Neither agree nor disagree, 4 = Agree, 5 = Strongly agree.

Section B necessitates the manager to evaluate his or her perceived success of the organisation. Five characteristics or statements are listed and again a five-point

Likert scale was used. Managers had to indicate the level to which each statement was applicable to their organisation.

Lastly, Section C was designed to gather demographic information of the respondents. Information required incorporated gender, age, race, highest academic qualification, departmental distribution and management level.

4.10.3 Study population

The target population of this research consisted of all middle and lower managers in Afrox within the South African boundaries and the results are shown in table 4.1 below.

Table 4.1: Responses to the survey

Response Type	Frequency	Percentage
Number of questionnaires distributed	185	100 %
Number of questionnaires returned	95	51 %
Number of questionnaires discarded	0	0 %
Number of questionnaires analysed	95	51 %

For the purpose of this research, the entire 185 managers were provided by the human resource department and their details taken from Afrox intranet database and e-mail address list. A total of 95 usable questionnaires were returned out of the 185 managers that were sampled, yielding a response rate of 51 % of the distributed questionnaires. Afrox structurally consists of operations, maintenance, engineering, sales, marketing, logistics and procurement departments. The sample identified all managers in the different operational departments. The present organogrammes within organisation were used to categorise the positions and individuals to be incorporated in the target population.

4.10.4 Data gathering method

The data gathering method for this research was through e-mail. Follow-up telephonic communications were conducted to make sure that the maximum number of respondents was achieved for the purpose of this study. Subsequent to the completion of questionnaires, the respondents were requested to send their responses back to the researcher. All questionnaires received were populated into a database and sent for further statistical analysis.

4.10.5 Data analysis

The data analysis was performed by means of Statistica (Statsoft, 2009) and SPSS (SPSS, 2009). The analysis used descriptive statistics and consisted of arithmetic mean ($\bar{x}$), standard deviation (s), inferential statistics (p -values for statistical significance and d -values for practical significance test) and Cronbach Alpha coefficients (for testing the reliability of the questionnaire).

4.10.6 Results and discussions

Statistical analysis of the questionnaires was done on the following data sets:

- Demographical information.
- Reliability of the questionnaire measuring the entrepreneurial constructs.
- Assessment of entrepreneurial climate.
- Relationship between demographic variables and entrepreneurial constructs.
- Relationship between demographic variables and the perceived success of the organisation.

4.11 DEMOGRAPHICAL INFORMATION

The relevant geographical information obtained from this the research was:

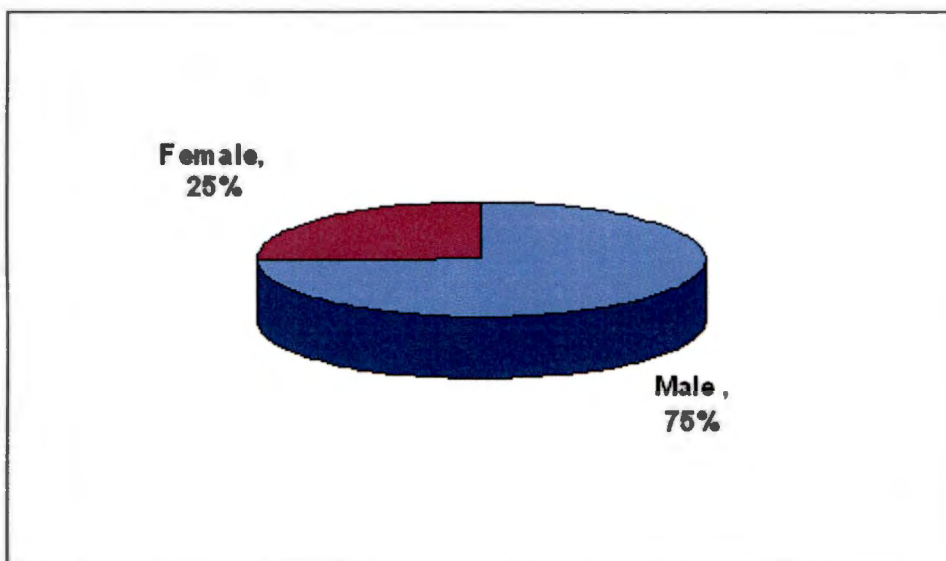
- The participant's gender.

- The participant's age group.
- The participant's race.
- The participant's highest academic qualification.
- The division the participant works for.
- The level of management.

4.11.1 Gender

The participants were firstly split by gender; this was then used as a combined basis with the rest of the geographical information going forward. Figure 4.1 below shows the results.

Figure 4.1: Gender distribution

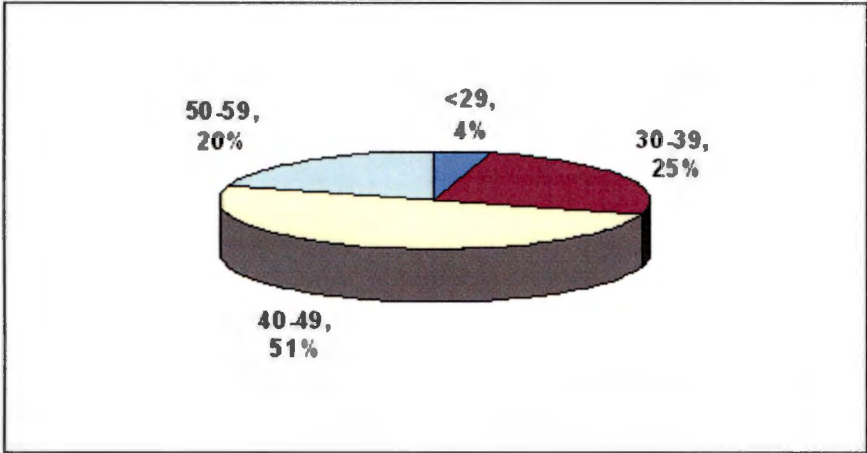


The gender representation was not comparatively even, there were more men (71; 75%) than women (24; 25%). However, the distribution was enough to meaningfully use the gender to test for differences in the mean values.

4.11.2 Age group

The respondents who completed the questionnaire were divided according to their age group, figure 4.2 shows the results.

Figure 4.2: Age distribution

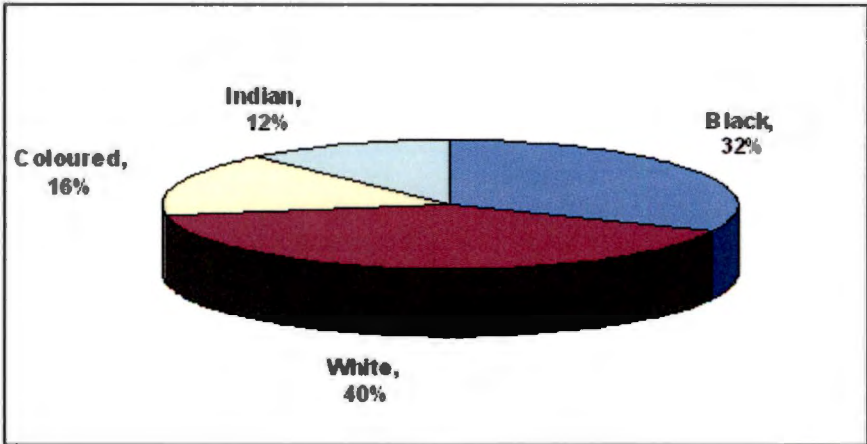


The age of participants were not evenly distributed. The majority of respondents (48; 51%) were in the age group of 40 to 49 years old. The age group 30 to 39 years old was the second largest group, with a total of 24 (25%) managers. Four (4%) managers were 29 years old and younger, and other age group, representing 20% of the total group being above 50 years old.

4.11.3 Race distribution

The respondents who completed the questionnaire were divided according to the South African racial group classification. The race distribution of the respondents is reflected in Figure 4.3.

Figure 4.3: Race distribution



The race of participants was also not evenly distributed. The majority of respondents (39; 40%) were white. The blacks were the second largest group, with a total of 30 (32%) managers. Fifteen (16%) managers were coloureds, and eleven (12%) managers were Indians.

4.11.4 Highest academic qualifications

The respondents were requested to reveal their highest academic qualification. The highest academic qualification distribution of the respondents is reflected in Table 4.2.

Table 4.2: Highest academic qualification distribution of respondents

Qualification Level	Frequency	Percentage
< Grade 12	0	0
Grade 12	2	2
Certificates	4	4
Diploma	17	18
Degree	50	53
Post-degree	22	23

The majority of respondents had a degree as the highest academic qualification. A total of 50 (53%) of the 95 respondents have completed a degree, 22 (23%) have passed a post graduate qualification, 17 (18%) have passed a diploma, 4 (4%) are in a possession of a certificate while only two have a matric (grade 12).

4.11.5 Departmental distribution

Different functional departments are faced with diverse kinds of challenges every day. The different functioning environments may have an effect on both the kind of person choosing to work there, as well as the presence or absence or an entrepreneurial climate. For this reason, the split was also done according to the

functional departments that respondents work for. Table 4.3 shows the functional departments of the respondents.

Table 4.3: Departmental distribution of respondents

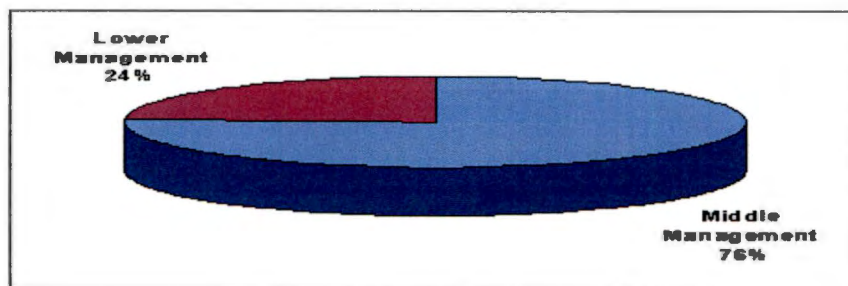
Functional Department	Frequency	Percentage
Operations	25	26.32
Sales and marketing	14	14.74
Finance	14	14.74
Human resources	6	6.32
Engineering	20	21.05
Procurement	5	5.26
Logistics	8	8.42
Other	3	3.16

The operations department was the leading category with 25 respondents (26.32%) followed by the engineering department with 20 respondents (21.05%). The other categories were fairly evenly distributed, ranging from 3.16% (Other business departments – knowledge management) to 14.74% (Sales & Marketing as well as Finance departments).

4.11.6 Distribution of management level

Managers were classified as being middle or lower level managers. Again, their different level of responsibility and exposure to the business might result in different perspectives. Figure 4.4 present the management levels of the managers participating in the research.

Figure 4.4: Management level of respondents



Questionnaires were distributed to employees on middle and lower management level according to the employee information lists received from the human resources department. The majority of the respondents (76%) were on the middle management level, while the rest (24%) were on the lower management level.

4.12 RELIABILITY OF THE QUESTIONNAIRE

In order to ascertain the constructs of the questionnaire, Cronbach Alpha coefficients were calculated (Schimtt, 1996: 350). The Cronbach alpha coefficient is based on the average correlation of variables within a test. It can furthermore be highlighted that coefficient alpha ranges from 0 to 1 and may be used to describe the reliability of factors extracted from dichotomous scales or questionnaires. Schimtt (1996: 351) and Cortina (1993: 99) indicated a coefficient alpha of 0.7 to be an acceptable reliability coefficient. However, from literature it is evident that lower thresholds are sometimes used (Field, 2008: 668).

Cortina (1993: 98) stated that the Cronbach Alpha coefficient measures reliability - meaning the extent to which measurements are repeatable in the same or a different environment. Although there are different measures of reliability, the Cronbach Alpha coefficient is appropriate when different items are used to test the same variable (such as five items/statements for each of the 13 constructs) and the internal consistency needs to be measured (Cortina, 1993: 98). The internal consistency refers to the degree or interrelatedness among the items (Cortina, 1993: 98).

A closer glimpse at Table 4.4 replicates high Cronbach alpha coefficients calculated for the entrepreneurial climate constructs, the highest being **resource availability**

and accessibility (0.871). Only one construct, **tolerance of risks, mistakes and failure** (0.674) had a Cronbach alpha coefficient lower than 0.7. For the purpose of this research, the **Tolerance of risks, mistakes and failure** construct will be included since the Cronbach alpha coefficients of this constructs is close to 0.7 (Field, 2008: 668).

Table 4.4: Reliability of the questionnaire measuring the constructs

No	Construct	Cronbach alpha
Constructs measuring entrepreneurial culture		
1	Entrepreneurial leadership	0.706
2	Management support	0.746
3	Sponsors and champions	0.873
4	Tolerance of risks, mistakes and failure	0.674
5	Innovation and creativity/new ideas encouraged	0.734
6	Appropriate rewards and reinforcement	0.851
7	Vision and strategic intent	0.708
8	Discretionary time and work	0.805
9	Empowered teams	0.850
10	Resource availability and accessibility	0.871
11	Continuous and cross-functional learning	0.831
12	Customer orientation	0.795
13	Flat organisational structure	0.793
Perceived success of the organisation		
1	Financial measures	0.875
2	Customer or market measures	0.866
3	Process measures	0.700
4	People development	0.788
5	Future success – Long term	- 0.246

Using table 4.4, in terms of the constructs measuring the perceived success of the organisation, one of the variables, **future success - long term** (-0.246), had a lower Cronbach alpha coefficient than 0.7. For the purpose of this study, the future success variable will be excluded from the rest of this study since the Cronbach alpha coefficient is too low.

4.13 ASSESSMENT OF ENTREPRENEURIAL CLIMATE

Section A of the questionnaire listed typical entrepreneurial characteristics questions. It is important to establish whether entrepreneurial managers are employed at Afrox as the potential success of trying to create corporate entrepreneurship would be reliant on the management team. Apart from establishing which types of managers are currently employed at Afrox, this section also sensitised respondents for the climate assessment.

The rest of section 4.5 will discuss the results of the entrepreneurial climate survey. Section 4.6 will compare the results of the entrepreneurial climate survey and the demographic variables (gender and management levels), and determine if there are differences based on the demographic variables. This will be done with a dependent / paired t-test (p) and effect sizes (d).

4.13.1 Entrepreneurial climate assessment

The reliability of the statements relating to the 13 constructs has been established and the results can now be analysed. Table 4.5 displays the results of the entrepreneurial climate survey. Thirteen entrepreneurial constructs were assessed on a Likert scale ranging from 1 to 5 (with 1 denoting definite weakness and 5 a definite strength).

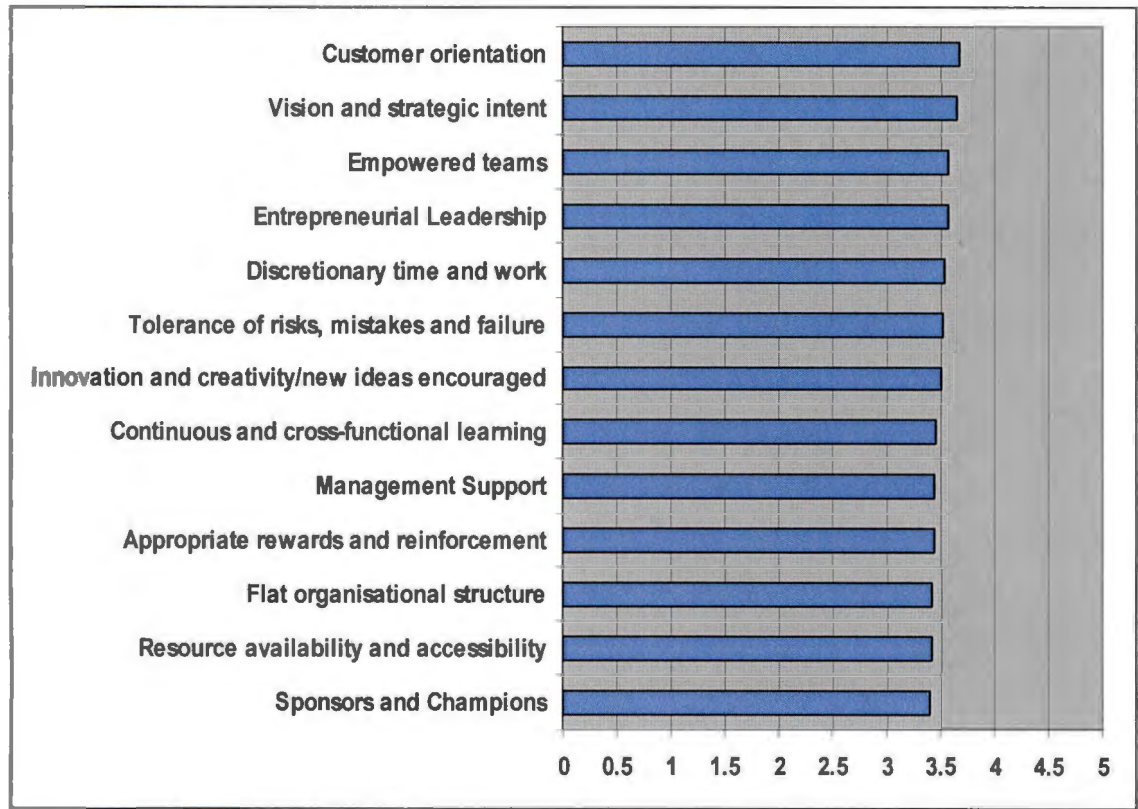
The average mean of all constructs as evaluated by managers was $\bar{x} = 3.502$, indicating that the occurrence of corporate entrepreneurship constructs within Afrox LTD as being three and a half out of five on the Likert scale. It would seem that the constructs for an entrepreneurial climate has a fairly strong presence, but there is still room for improvement.

Table 4.5: Entrepreneurial climate survey results

CONSTRUCT		<i>n</i>	mean	<i>s</i>
1	Entrepreneurial Leadership	95	3.568	0.711
2	Management Support	95	3.442	0.709
3	Sponsors and Champions	95	3.383	0.867
4	Tolerance of risks, mistakes and failure	95	3.518	0.689
5	Innovation and creativity/new ideas encouraged	95	3.505	0.776
6	Appropriate rewards and reinforcement	95	3.434	0.968
7	Vision and strategic intent	95	3.644	0.735
8	Discretionary time and work	95	3.531	0.739
9	Empowered teams	95	3.568	0.893
10	Resource availability and accessibility	95	3.406	0.969
11	Continuous and cross-functional learning	95	3.455	0.899
12	Customer orientation	95	3.669	0.786
13	Flat organisational structure	95	3.406	0.780
Total		95	3.502	0.642

The results of the entrepreneurial climate survey are illustrated in a cluster bar chart shown in figure 4.5 to follow. It compares and reflects the findings of this study from the highest arithmetic mean to the lowest arithmetic mean score.

Figure 4.5: Entrepreneurial climate analysis using highest to lowest mean



Seven out of 13 constructs, **Customer orientation** ($\bar{x} = 3.669$), **Vision and strategic intent** ($\bar{x} = 3.644$), **Empowered teams** ($\bar{x} = 3.568$), **Entrepreneurial leadership** ($\bar{x} = 3.568$), **Discretionary time and work** ($\bar{x} = 3.531$), **Tolerance for risks, mistakes and failure** ($\bar{x} = 3.518$) and **Innovation and creativity/New ideas encouraged** ($\bar{x} = 3.505$), evaluated had a mean above the average mean ($\bar{x} = 3.502$), but all of the constructs still had a mean above three out of five.

The other six constructs, **Continuous and cross-functional learning** ($\bar{x} = 3.455$), **Management support** ($\bar{x} = 3.442$), **Appropriate rewards and reinforcement** ($\bar{x} = 3.434$), **Flat organisational structure** ($\bar{x} = 3.406$), **Resource availability and accessibility** ($\bar{x} = 3.406$) and **Sponsors and Champions** ($\bar{x} = 3.383$), evaluated had a mean ranked lower than the average mean of 3.505.

The two constructs with the maximum mean values were **Vision and strategic intent** ($\bar{x} = 3.644$) and **Customer orientation** ($\bar{x} = 3.669$). The two other constructs

with minimum mean values were **Resource availability and accessibility** ($\bar{x} = 3.406$) and **Sponsors and Champions** ($\bar{x} = 3.383$). The difference in means between the highest and the lowest scoring construct is 0.286 which show that there is minimal difference between all the means of the constructs.

4.13.2 Variables measuring the perceived success of the organisation

The results of the means analysis of the variables determining the perceived success of an organisation are presented in table 4.6 below. The variable future success was excluded from this study due to a too low Cronbach Alpha coefficient of -0.246.

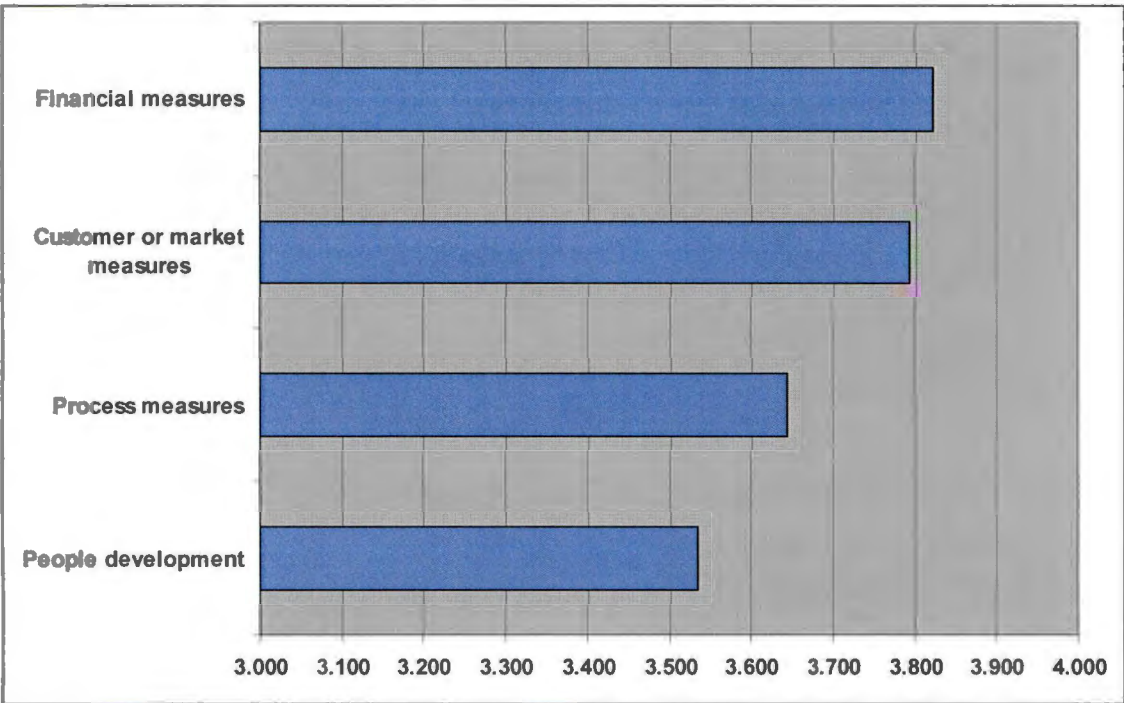
Table 4.6: Perceived organisational success survey results

CONSTRUCT		<i>n</i>	mean	<i>s</i>
1	Financial measures	95	3.821	0.927
2	Customer or market measures	95	3.793	0.772
3	Process measures	95	3.642	0.774
4	People development	95	3.533	0.934
Total		95	3.688	0.667

The findings of the Perceived organisational success survey results are illustrated in a graphical chart shown in figure 4.6 to follow, and it ranked from highest to lowest mean values.

All four of the used variables measuring the perceived organisational success were reported by respondents to have a mean above three which is the neutral point. The average mean is $\bar{x} = 3.688$. The construct **People development** ($\bar{x} = 3.533$) obtained the lowest mean score, but is still above the being three out of five on the Likert scale. It would seem that the constructs for perceived organisational success has a fairly strong presence, but there is still room for improvement especially on people development construct.

Figure 4.6: Perceived organisational success survey



The constructs **Customer/market measures** ($\bar{x} = 3.793$) and **Financial measures** ($\bar{x} = 3.821$) have comparatively high means, this is an indicative of an above average presence of an perceived organisational success within an organisation.

The following are the description of the variables determining the respondents' perceived success of the organisation:

Financial measures ($\bar{x} = 3.821$; $s = 0.927$). Most of the middle and low-level managers were of the view that the organisation has experienced escalation in earnings, income and market-share over the past few years.

Customer/market measures ($\bar{x} = 3.793$; $s = 0.772$). Managers believe that the organisation take exceptional care of their consumers or clients, the organisation has a high customer retention rate by keeping customers' needs in mind, and customers are relatively satisfied with the organisation's product. This eventually leads to relative loyal customers.

Process measures ($\bar{x} = 3.642$; $s = 0.774$). Managers were of the opinion that the efficiency and effectiveness of the organisation has improved over the past few years. This is as a result of the improved competitive position of the organisation.

People development ($\bar{x} = 3.533$; $s = 0.934$). Managers expressed that the employees are relatively committed to the organisation although they are not always viewed as the most valuable assets of the organisation. The job satisfaction slightly got better over the past few years.

4.14 RELATIONSHIP BETWEEN DEMOGRAPHIC VARIABLES AND ENTREPRENEURIAL CONSTRUCTS

In order to test for statistical significance, the mean scores are compared by means of *t*-test in terms of the entrepreneurial climate. In order to test the differences between two arithmetic means of respondents, *p*-values and *d*-values were scrutinised. A smaller *p*-value (<0.05) is considered as sufficient evidence that there is a statistically significant difference (Ellis & Steyn, 2003: 51).

Statistical significance tests have the tendency to yield small *p*-values (indication of significance) as the size of the data set increases. The effect size, however, is independent of sample size and is a measure of practical significance (Ellis & Steyn 2003: 51). In this study, independent *t*-test (*p*-value) and effect sizes (*d*-values) were calculated between the mean values to examine the relationship between the constructs and selected demographical variables. In practice that means that this analysis aim to determine if there is a significant practical difference between the evaluation based on the mean score of, for instance male and female respondents with regard to a specific construct.

The *d*-value is thus employed to test the practical significance of a standardised difference between the means of two populations (Ellis & Steyn, 2007: 32). The *d*-values will be interpreted as follows: small effect would be indicated by *d*-value of 0.2 till 0.49, medium effect would be indicated by *d*-value of 0.5 till 0.79, and large effect would be indicated by *d*-value of 0.8 and higher. Results with medium effects can be

regarded as visible effects and large effect ($d \geq 0.8$) as practically significant, since it is the result of a difference having a large effect (Field, 2005: 32; Ellis & Steyn, 2003: 51-53).

4.14.1 Relationship between gender and the entrepreneurial constructs

Table 4.7 indicate the relationship between the thirteen constructs assessing entrepreneurial climate and the demographic variable (gender), through mean ($\bar{x}$), the standard deviation (s), t -test (p) and effect sizes (d).

Table 4.7: The relationship between constructs and the gender of respondents

		Gender							
		Male			Female			Comparison	
Construct		<i>n</i>	$\bar{x}$	<i>s</i>	<i>n</i>	$\bar{x}$	<i>s</i>	<i>p</i>	<i>d</i>
1	Leadership	71	3.487	0.726	24	3.808	0.617	0.055	0.44
2	Support	71	3.363	0.724	24	3.675	0.618	0.062	0.43
3	Sponsor	71	3.318	0.912	24	3.575	0.701	0.212	0.28
4	Tolerance	71	3.462	0.670	24	3.683	0.734	0.175	0.30
5	New ideas	71	3.377	0.780	24	3.883	0.638	0.005	0.65
6	Rewards	71	3.307	1.033	24	3.808	0.620	0.027	0.49
7	Vision	71	3.544	0.750	24	3.942	0.611	0.021	0.53
8	Timework	71	3.499	0.753	24	3.625	0.704	0.472	0.17
9	Teams	71	3.459	0.959	24	3.892	0.563	0.040	0.45
10	Resources	71	3.352	1.028	24	3.567	0.761	0.351	0.21
11	Learning	71	3.372	0.932	24	3.700	0.758	0.123	0.35
12	Customer	71	3.603	0.789	24	3.867	0.761	0.156	0.33
13	Structure	71	3.397	0.812	24	3.433	0.692	0.846	0.04

From the table it can be seen that nine of the p -values are bigger than 0.05, which indicate that there is no sufficient evidence that a statistically significant difference exist between males and females regarding nine of the constructs of an entrepreneurial climate.

Only four constructs, i.e. **innovation and creativity/new ideas encouraged** (with a p -value of 0.005), **appropriate rewards and reinforcement** (with a p -value of 0.027), **vision and strategic intent** (with a p -value of 0.021) and **empowered teams** (with a p -value of 0.040) demonstrate sufficient evidence that there is a statistically significant difference between males and females regarding any of the four constructs mentioned above.

In all instances the effect sizes the d -values, have small to medium significance since. Ranging from 0.17 to 0.65 none of the effect sizes even came close to a large effect (d -value = 0.8). The factor **flat organisational structure** (d -value = 0.004) had no significant effect.

There is thus small to medium significant difference between the perceptions of males in direct comparison with females with regard to any of the entrepreneurial climate constructs.

4.14.2 Relationship between entrepreneurial constructs and the management levels of respondents

Table 4.8 on the next page indicates the relationship between the thirteen constructs assessing entrepreneurial climate and the demographic variable (management level), with mean ($\bar{x}$), standard deviation (s), t -test (p) and effect sizes (d).

Table 4.8: The relationship between management levels and the constructs

		Management level							
		Lower management			Middle management			Comparison	
Construct		<i>n</i>	$\bar{x}$	<i>s</i>	<i>n</i>	$\bar{x}$	<i>s</i>	<i>p</i>	<i>d</i>
1	Leadership	23	2.930	0.662	72	3.772	0.599	0.000	1.27
2	Support	23	2.704	0.565	72	3.678	0.577	0.000	1.69
3	Sponsor	23	2.678	0.850	72	3.608	0.748	0.000	1.09
4	Tolerance	23	2.861	0.592	72	3.728	0.580	0.000	1.46
5	New ideas	23	3.000	0.827	72	3.667	0.690	0.000	0.81
6	Rewards	23	2.757	0.961	72	3.650	0.871	0.000	0.93
7	Vision	23	2.991	0.699	72	3.853	0.618	0.000	1.23
8	Timework	23	2.939	0.495	72	3.719	0.705	0.000	1.11
9	Teams	23	3.078	0.886	72	3.725	0.843	0.002	0.73
10	Resources	23	2.661	0.806	72	3.644	0.896	0.000	1.10
11	Learning	23	2.887	0.822	72	3.636	0.850	0.000	0.88
12	Customer	23	3.191	0.883	72	3.822	0.692	0.001	0.71
13	Structure	23	2.704	0.572	72	3.631	0.702	0.000	1.32

All the *p*-values are smaller than 0.05, which indicate that there is sufficient evidence that statistically significant difference exist between lower-level management and middle managers regarding all the constructs of an entrepreneurial climate.

When taking the *d*-values into account, it can be seen that in all instances the effects have a practical significance since they range from 0.71 to 1.69. Most of the effect sizes have more than a large effect (*d*-value = 0.8).

There is thus practical significant difference between the perceptions of lower-level management in direct comparison with middle managers with regard to all the entrepreneurial climate constructs. This means that middle managers in practice are more positive (large effect) with regard to all the constructs in direct comparison with the lower level managers.

4.15 RELATIONSHIP BETWEEN DEMOGRAPHIC VARIABLES AND THE PERCEIVED SUCCESS FACTORS OF AN ORGANISATION

4.15.1 Relationship between perceived success factors and the gender of respondents

Table 4.9 signifies the correlation between the four usable factors assessing perceived success factors and the demographic variable (management level), by means of mean ($\bar{x}$), standard deviation (s), t -test (p) and effect sizes (d).

Table 4.9: The relationship between gender and the perceived success factors

		Gender							
		Male			Female			Comparison	
Construct		<i>n</i>	$\bar{x}$	<i>s</i>	<i>n</i>	$\bar{x}$	<i>s</i>	<i>p</i>	<i>d</i>
1	Financial	71	3.742	0.923	24	4.056	0.920	0.153	0.34
2	Customer market	71	3.742	0.793	24	3.944	0.700	0.269	0.26
3	Process	71	3.559	0.784	24	3.889	0.700	0.070	0.42
4	People development	71	3.413	0.967	24	3.889	0.740	0.030	0.49

Three of the four p -values are bigger than 0.05, which indicate that there is no sufficient evidence that a statistically significant difference exist between males and females with regard to any of the four variables. This indicates that males are not statistically more or less positive than females regarding any of the perceived success factors of the organisation.

When taking the d -values into account, it can be seen that in all instances the effects have small to medium significance since they range from 0.26 to 0.49, none of the effect sizes even came close to a large effect (d -value = 0.8).

There is thus small to medium significant difference between the perceptions of males in direct comparison with females with regard to any of the perceived success

factors of the organisation. This means that males in practice are not more positive with regard to all the constructs in direct comparison with females.

4.15.2 Relationship between entrepreneurial constructs and the management levels of respondents

Table 4.10 indicates the relationship between four usable factors assessing perceived success factors and the demographic variable (management level), through mean ($\bar{x}$), standard deviation (s), t -test (p) and effect sizes (d).

Table 4.10: The relationship between management levels and the perceived success factors

		Management level							
		Lower			Middle			Comparison	
Construct		<i>n</i>	$\bar{x}$	<i>s</i>	<i>n</i>	$\bar{x}$	<i>s</i>	<i>p</i>	<i>d</i>
1	Financial	23	3.232	0.997	72	4.009	0.826	0.000	0.78
2	Customer market	23	3.196	0.736	72	3.984	0.685	0.000	1.07
3	Process	23	3.261	0.899	72	3.764	0.693	0.006	0.56
4	People development	23	2.928	1.010	72	3.727	0.827	0.000	0.79

All the p -values are smaller than 0.05, which indicate that there is sufficient evidence that statistically significant difference exist between lower-level management and middle managers regarding the perceived success factors. Middle managers are generally more positive than the low-level managers.

When taking the d -values into account, it can be seen that in all instances the effects have medium to a practical significance since they range from 0.56 to 1.07. One of the four effect sizes (**customer market**) is more than a large effect (d -value = 1.07). The factor **process measure** (d -value = 0.56) had medium effect.

There is thus a practical significant difference between the perceptions of lower-level management in direct comparison with middle managers with regard to all the

perceived success factors of the organisation. This means that middle managers in practice are more positive with regard to all the constructs in direct comparison with the lower level managers.

4.16 SUMMARY

The empirical research done for this study was of a quantitative nature. A survey questionnaire was used to attempt to measure the thirteen constructs of entrepreneurial climate in an organisation, and five factors evaluating the perceived success of an organisation. These were defined in the literature study done in chapter 3. The scores obtained fall between 3 and 4, and this served to indicate that some work still has to be done to achieve the ultimate goal of being strong (scoring above 4) in terms of entrepreneurial competencies or characteristics.

The sample size for the study consisted of the complete study population, given that the research questionnaire was circulated to all low-level and middle managers in the population. 95 of the 185 distributed questionnaires were returned, and all the returned questionnaires were analysed.

The analysis started with the demographic information, which was sub-divided in the following sections:

- Gender of respondents (male or female);
- Age group of respondents (< 29, 30 -39, 40 -49, 50 -59 and 60 and older);
- The participant's race.
- The participant's highest academic qualification.
- Departments that the respondents work for; and
- The managerial level (lower or middle).

The next step was to evaluate the current entrepreneurial climate and the perceived success factor of the organisation. The reliability of the questionnaire had to be established first by using the Cronbach Alpha Coefficient. It was found that all thirteen constructs are of reliable measurement, and therefore the entrepreneurial

climate was subsequently assessed. Of the five perceived success factor only four were of reliable measurement, and therefore they were assessed. One of the variable, future success - long term (-0.246), had a lower Cronbach alpha coefficient than 0.7. For the purpose of this study, the future success variable was excluded from the rest of this study since the Cronbach alpha coefficient was too low.

An evaluation of the corporate entrepreneurial climate in the organisation was performed and the average mean for the study calculated. Seven out of 13 constructs evaluated had a mean above the average mean of $\bar{x} = 3.502$, the other six constructs evaluated had a mean ranked lower than the average mean. All of the constructs still had a mean above three out of five.

All four of the used variables measuring the perceived organisational success, were reported by respondents to have a mean above three which is the neutral point. The average mean of the perceived success of the organisation was 3.688. It was clear that the constructs for perceived organisational success had a fairly strong presence, but there is still room for improvement.

The 13 constructs and four usable factors assessing perceived success factors were compared between various demographic groups; which was the gender, and management level. There was no significant difference between the perceptions of males in direct comparison with females, with regard to the entrepreneurial climate constructs and the constructs measuring the perceived organisational success. There was a significant difference between the perceptions of lower-level management in direct comparison with middle managers with regard to all the entrepreneurial climate constructs and the constructs measuring the perceived organisational success.

With reference to the entrepreneurial climate within Afrox the conclusion is that it is not optimally entrepreneurial and initiatives put into practice that should encourage entrepreneurial behaviour, are falling short. All constructs measured are clearly present, but not to the level one would expect of an organisation that is considered to foster an entrepreneurial climate.

CHAPTER 5

CONCLUSIONS AND RECOMMENDATIONS

5.1 INTRODUCTION

This chapter outlines the last stage of this study by interpreting the empirical research presented in chapter 4. Conclusions will be drawn with regard to the empirical research accomplished and the statistical analysis results as discussed in chapter 4. Additionally, the significance of relationships between demographic variables, constructs of the corporate entrepreneurial climate and perceived organisational success will be demonstrated.

The Linde Group regards itself as one of the most flourishing *global* organisations. The company is successful and growing, this is apparent just by looking at the pace at which it has grown over the past few years and the excellent returns shareholders got on their investments. A sound business strategy for a high performance organisation is in place, support structures are present and leading management practices are all part of their procedure for success.

Traditional habits of doing business are not a guarantee for success in a constantly quicker changing worldwide economy in which companies are functioning. Not only are the resource organisations faced with economic challenges, they are enforced to preserve the environment.

The Linde Group realised at an early stage that if they were to stay at the forefront of their competition, supporting innovation and giving employees the chance to be innovative should be part of their policy. The top management team at Afrox employed various initiatives and programmes. These initiatives and programmes supported innovation in order to align the organisation with The Linde Group strategy and to ensure their success in the organisation and the global economy.

Innovation and corporate entrepreneurship cannot be detached, and simply employing ideas and programmes that support innovation, is not enough to ensure that a true entrepreneurial climate will grow and exist within an organisation. This chapter will conclude by discussing ways of fostering entrepreneurial climate within Afrox in South Africa, the results from the empirical data form the base for the conclusion and recommendations. The achievement of the study objectives will also be discussed.

5.2 CONCLUSIONS

In the previous chapter the findings of the empirical research were discussed in detail. Using the basic structure of the questionnaire, conclusions drawn from the 95 respondents are as follows.

5.2.1 Conclusions on demographic information

Demographic information of respondents was obtained and analysed in chapter 4. From the results of the survey questionnaire, the following conclusions about demographical information were made.

5.2.1.1 Conclusions on gender information

The gender distribution of participant followed a general bell-shape, with men representing 75% of the sample. As gas production takes place in a very harsh environment, there are few females at the operational level. Services departments, which are based at head offices, for example Human Resources, consist generally of females.

5.2.1.2 Conclusions on age group information

The pattern was also repeated for the age group. The majority of respondents (51%) are in the age group of 40 to 49 years old. The age group of 30 to 39 years old, is the second largest group, there are 24 (25%) out of 95. Ages younger than 29 years and

between 50 and 59 years have four respondents (4%) and 19 respondents (20%) respectively. It is thus seen that the majority of the managers (71; 75%) are older than forty years. A lot of work needs to be done in order to lure more young, energetic and innovative people into the organisation.

5.2.1.3 Conclusions on race information

It was noted that the respondents were unequally distributed racially. The majority of respondents (40%) were white, while 32% were black. It was conspicuous from Figure 4.3 that 16% of the respondents were Coloureds and 12% were Indians. This is beneficial to the organisation as it suggests that a lot of work has been done in order to achieve employment equity targets within the organisation.

5.2.1.4 Conclusions on qualifications information

The majority of respondents (53%) have completed a degree, 23% have passed a post graduate qualification, 18% have passed a diploma, 4% are in a possession of a certificate while the last two have a matric. Afrox have done well to lure people with high academic qualifications within the organisation. This will impact positively to the organisation as they will translate the knowledge gained academically to the success of the organisation.

5.2.1.5 Conclusions on departmental information

The respondents are not evenly spread over several departments. Operations department made up 26% of the sample, followed by the engineering department (21%). The two departments Sales and Marketing as well as Finance were represented by 14%, while knowledge management had 3.16%.

5.2.1.6 Conclusions on management level information

The requirement for this research was to assess the perception of low level and middle managers with regard to the state of corporate entrepreneur in the organisation. Middle managers can provide a corporate entrepreneurial environment

within an organisation. This will then allow employees to experiment with and explore the feasibility of innovative ideas. The majority of the respondents (76%) are on the middle management level, while the rest (24%) are on the lower management level. Middle managers play a crucial role in fostering communication about the mission, goals and priorities of a company.

5.2.2 Conclusions on the reliability of the measuring instrument

A coefficient alpha of 0.7 is observed as an acceptable reliability coefficient. Following the results of the survey, the construct **tolerance of risks, mistakes and failure**, measuring entrepreneurial climate obtained a Cronbach Alpha Coefficient calculated below 0.7, but at 0.674 it was included in this research as it was said to be close to the limit point of 0.7.

One of the variables measuring the perceived success of the organisation **Future success - long term** obtained a Cronbach Alpha Coefficient calculated far below 0.7 (-0.246). For the purpose of this study, the future success variable was excluded from the rest of this study since the Cronbach alpha coefficient is far too low.

For the reason that Cronbach alpha coefficient values of 0.7 and higher were confirmed with reference to twelve of the constructs measuring corporate entrepreneurial climate, and four of the variables measuring perceived success of the organisation, it has been concluded that the research instrument used in this research to measure the corporate entrepreneurial climate in Afrox has acceptable reliability.

5.2.3 Conclusions on the corporate entrepreneurial climate

Thirteen constructs measuring the entrepreneurial climate in the organisation were assessed on a Likert scale ranging from one to five, with three regarded as average.

To interpret the results of this study, the average score on the Likert scale (three) was used as a point of reference for the intention of constructing recommendations. For the purpose of this study, the mean scores of less than three were deduced as

being suggestive of observations by middle managers that those constructs have lower than average prevalence in an organisation and therefore indicates areas that require development. The mean scores of higher than three were deduced as being suggestive of observations by middle managers that those constructs have higher than average prevalence in an organisation.

The average mean of all constructs as evaluated in the previous chapter was 3.502, indicating that there is occurrence of corporate entrepreneurship constructs within Afrox. For the purpose of this study, this indicates a relative strong prevalence of corporate entrepreneurship constructs within the organisation. Given that the average of all the constructs had a mean score nearer to four than three, this is an indication of a slight concurrence with the appropriate substance, but there is still a lot of room for improvement.

Due to a lack of norms, all the scores are relative. A more detailed look at each of the thirteen constructs reveals the following about the entrepreneurial climate and behaviour within Afrox:

5.2.3.1 Entrepreneurial leadership

The first construct, **entrepreneurial leadership** scored an average rating of 3.568 which is the fourth highest score on the 13 entrepreneurial constructs. Respondents observed their leaders to behave entrepreneurially whilst inspiring employees to act in the same way. It was apparent that **entrepreneurial leadership** seems to be established in the organisation, with managers being encouraged by their leaders (top management) to behave entrepreneurially. Top management is also open to the new ideas coming from bottom-up and employees coming up with innovative ideas are recognised and encouraged on their activities.

Respondents were of the view that Afrox have a long term view of the organisation and efforts are made to communicate the vision and longer term plans to all levels of employees. The balance between production on the one hand and safety, health and the environment on the other is good. Opportunities are created in a very structured way, for employees to think in innovative ways and are challenged to bring their

ideas for improvement to the table. Management proactively seeks to maximise value from opportunities generated, even though some constraints do exist regarding the availability of resources.

5.2.3.2 Management support

With an average rating of 3.442, respondents observe their leaders to be “supportive of their innovativeness”. The construct **management support** was ranked ninth on the 13 entrepreneurial constructs and scored below the average score ($\bar{x} = 3.502$) of thirteen constructs.

It was apparent that **management support** seems to be established in the organisation, as the rating is more than an average of three. The respondents are of the perception that management supports ideas developed by employees to improve the organisation. The feeling among the respondents was that formal structures are present within the organisation to guarantee that management is alerted of new ideas generated and gives their support for the execution of these ideas. Some employees may nevertheless occasionally believe that they are not supported, as some of the ideas they may have generated are placed on hold.

5.2.3.3 Sponsors and champions

This construct, sponsors and champions, with a mean score of 3.383, had a mean ranked lower than the average mean. Respondents observed their **sponsors and champions** to be less supportive of their innovativeness. The construct sponsors and champions was ranked last (thirteenth) on the entrepreneurial constructs. **Sponsors and champions** seem to be established in the organisation, as the rating is more than an average of three.

As stated before, formal structures are present within an organisation to guarantee management is alerted of new ideas generated and gives their support for the execution of these ideas. The respondents established that the organisation's managers are effective champions of corporate entrepreneurial initiatives. Some employees may nevertheless occasionally believe that they are not supported

adequately. They perceive the sponsors of their projects not have worked hard enough to keep the projects alive, and encouraged business units to adopt them.

5.2.3.4 Tolerance of risks, mistakes and failure

With an average rating of 3.518, **tolerance of risks, mistakes and failure** had a mean ranked higher than the average mean. Respondents observe their tolerance of risks, mistakes and failure from management to be a bit more supportive of their innovativeness. The construct **tolerance of risks, mistakes and failure** was ranked sixth on the entrepreneurial constructs. Management's tolerance of risks, mistakes and failure seem to be more acceptable within the organisation. A lot of the respondents established that the organisation's managers are tolerant to risks, mistakes and failure when it comes to innovativeness and new initiatives.

A good recipe for creativity is low tolerance for failure, accompanied by strategies to create an organisation with the courage to believe in change. When establishing the drive to innovate in today's organisations, the final and possibly most critical step is to invest in entrepreneurial activities that allow new ideas to flourish in an innovative environment (Kuratko & Hodgetts, 2004: 63).

5.2.3.5 Innovation and creativity/new ideas encouraged

The construct **innovation and creativity or new ideas encouraged** received an average rating of 3.505, a mean which is a little bit more than the average mean. The construct was ranked seventh on the entrepreneurial constructs. It is apparent that management encourage innovation and creativity or new ideas within the organisation.

Respondents observe management to be a bit more supportive of their innovation and creativity. This is because opportunities for employees to be innovative are created through high performing organisational structures. The process is further encouraged by setting idea generation as a key performance indicator for individuals and teams at lower levels. The organisational structure was adopted to make specific persons available to assist with the idea generation process. The person also helps

to track progress and contributions from ideas that have been generated. Respondents were a bit positive in their observation of the number of employees at the organisation that are implicated in generating and implementing new ideas.

5.2.3.6 Appropriate rewards and reinforcement

The construct had an average rating of 3.434, a mean ranked lower than the average mean. Respondents observe management to be a bit more supportive of their innovation and creativity by properly rewarding and reinforcing them. **Appropriate rewards and reinforcement** was ranked a perturbing tenth on the entrepreneurial constructs, considering that it should be one of the best ways in which to nature the required performance of the employees. It is worrying that management do not appropriately rewards and reinforcements within the organisation.

Vigilance should be applied when interpreting the response on this construct. Cummings and Worley (2005: 382) stress that almost 40% of employees in the United States of America believe that there is no relationship at all connecting performance and pay, therefore a construct assessing fulfilment with rewards is not likely to be highly rated in any of organisations. Individuals executing flourishing innovative projects do not often obtain further rewards and reimbursement, nor are successful intrapreneurs commonly rewarded.

5.2.3.7 Vision and strategic intent

Ranked the second highest construct, vision and strategic intent, had an average rating of 3.644, a mean ranked higher than the average mean. Respondents observe management to have vision and strategic intent to promote their innovation and creativity. Considering that it should be one of the best ways in which to nature the required performance of the employees, it is excellent to see it being highly regarded by the respondents.

According to the respondents, management have vision and strategic intent to promote corporate entrepreneurship within the organisation. Middle managers, and low level employees know the strategic intent and this guides them to set priorities.

The organisation strives to amuse their consumers with innovative processes, systems, excellent service delivery and quality products. It crafted a vision with operational strategies that split them from the rest. The vision and strategies of the organisation frequently aid employees in setting precedence in their work.

5.2.3.8 Discretionary time and work

Discretionary time and work, had high average rating of 3.531, a mean ranked a bit higher than the average mean. Respondents observe management to have discretionary time and work to promote their innovation and corporate entrepreneurship within the organisation. Taking into consideration that it should be one of the conducts in which to nature the essential performance of the employees, it is outstanding to see it being ranked an impressive fifth highest by the respondents.

Some self-government and autonomy was allowed for people to do their own work and safely redirect from assigned responsibilities to investigate new ideas, without having to request consent. Spending too much time on developing ideas however can be regarded as only slightly tolerable.

The inventiveness of employees in the organisation is improved by permitting employees the period at work, to investigate new ideas and by providing sufficient opportunities for learning and development.

5.2.3.9 Empowered teams

With an average rating of 3.568, a mean that was bit higher than the average mean. Respondents observe management to have empowered teams to promote their innovation and corporate entrepreneurship within the organisation. Considering that there is a lot of skill shortage within the country, this conduct will be able to nature the essential performance of the employees. It is outstanding to see it being ranked an impressive third highest by the respondents.

An empowered team will function efficiently when a multidisciplinary team-approach is encouraged at Afrox. Such an approach requires the involvement of organisational

members to persuade an entrepreneurial climate, in spite of the organisational structure's area of specialisation. Afrox promotes the bringing of bright people from different functional backgrounds to have the effect of sparking enough intellectual friction to launch a wave of innovation within an organisation. Each person is both enriched and stimulated by the experience. Therefore, the organisation makes it easier for people across functional boundaries to work closely together.

5.2.3.10 Resource availability and accessibility

The construct dealing with **resource availability and accessibility** had an average rating of 3.406, a mean ranked lower than the average mean. Respondents observed management to have a bit more availability and accessibility of resources in order to support employees' innovation and creativity. The construct, resource availability and accessibility, was ranked a perturbing twelfth on the entrepreneurial constructs, since it should be one of the needs to nature the required performance of the employees. It is worrying that respondents do not believe management have enough resource available and accessible within the organisation.

People, money and operational assets are essential ingredients or resources for intrapreneurial venture. Organisational support in terms of resource availability has been identified as an important driver of the entrepreneurial activities within Afrox and The Linde Group in general. Resources need to be easily accessible in order to promote a climate of corporate entrepreneurship. Resources are not supposed to be hampered by corporate administration.

5.2.3.11 Continuous and cross-functional learning

With an average rating of 3.455, **continuous and cross-functional learning** had a mean ranked lower than the average mean. Respondents observe **continuous and cross-functional learning** from management to be a bit less supportive (with respect to average mean) of their innovativeness. The construct was ranked eighth on the entrepreneurial constructs. It is apparent that management's willingness to provide continuous and cross-functional learning seem not to be as much acceptable within the organisation.

Ample opportunities for learning and growth exist within the organisation. Employees are encouraged to stay abreast of developments in their functional field. Knowledge is shared across departments and different organisations within The Linde Group, especially by production units, using equipment that is related. Cross functional teams are used for Six Sigma and Lean projects.

5.2.3.12 Strong customer orientation

The construct, **strong customer orientation**, obtained an above average rating of 3.669 and was ranked first. Respondents strongly feel that a **strong customer orientation** exist within Afrox.

Due to the nature of Afrox's product, external customer involvement is not limited. Also, a strong focus exists on internal customer service. A system is in place through which external and internal customer complaints can be registered to the departments. The department at fault must then investigate the complaint and put actions in place to prevent recurrence of the incident.

5.2.3.13 Flat organisational structure

The last construct, **flat organisational structure** scored an average rating of 3.406. Respondents observed the organisational structure as not flat. This causes employees not to act entrepreneurially. The construct received third lowest score. It is apparent that flat organisational structure is not established in the organisation.

Having to make a decision without having to go through some justification and approval is still a challenge. Open communication structures are established, but even though these structures exist, employees still experience some barriers to open communication. Resignations are becoming an increasing problem, especially with the shortage of skilled workers. Middle managers were of the perception that people need to go through elaborate justification and approval procedures when making decisions about their work, and that the degree of hierarchical control is relatively high in the organisation.

5.2.4 Conclusions on the perceived success of the organisation

One variable was discarded from the study due to a low Cronbach Alpha. This left only four variables used to measure the employees' perception on the success of the organisation.

The mean average of all constructs as evaluated in the previous chapter was 3.688, indicating that employees agree with the variables measuring perception on the success of the organisation within Afrox. Given that the average of all the constructs had a mean score nearer to four than three, this is an indication of a slight concurrence with the appropriate substance, but there is still a lot of room for improvement.

A more detailed look at each of the four constructs reveals the following about the entrepreneurial climate and behaviour within Afrox:

5.2.4.1 Financial measure

Financial measure obtained an above average rating of 3.821 and was ranked first. Respondents strongly feel that a growth was experienced in the last couple of years within Afrox.

5.2.4.2 Customer or market measures

This construct, **customer or market measures**, was rated second as it obtained an average rating of 3.793 which is above the average rating of 3.688.

Respondents strongly feel that the organisation look well after their customers and it is managing to retain them. The organisation normally develops product with customers' requirements in mind which results in the customers being satisfied with the organisation's product.

5.2.4.3 Process measures

With an average rating of 3.642, the construct had a mean ranked lower than the average mean. **Process measure** was ranked third on the perceived success of the organisation constructs. Respondents agreed that the competitive position, the effectiveness and the efficiency of the organisation has been enhanced with time.

5.2.4.4 People development

People development had an average rating of 3.533, a mean ranked lower than the average mean. Taking into consideration that people are one of the best resources of the organisation it is disturbing to see this construct feeling the last position in this category. Although this is low in comparison to the other variables, it is still above the midpoint of three on the Likert scale rating.

Managers agreed that employees are viewed as a relative important asset of the organisation and they perceived employees as having a moderate to highly commitment towards the organisation.

5.2.5 Relationships between demographic variables and constructs

Conclusions on the analysis of the significance of relationships between demographic variables such as gender and management levels, and corporate entrepreneurial constructs as well as perceived success of the organisation are summarised as follows.

No practical significant differences could be found in the relationship between constructs and the demographic variables of gender. However, major significant differences were found on the relationship between the management level variable and constructs. The results of the study indicate that the different views of respondents regarding the intrapreneurial climate within Afrox are on all the constructs.

According to Thomson's (2001), Cohen's guidelines to interpret the differences in arithmetic means between variables should not be used in an overly rigid manner. It can thus be concluded that the study provides evidence of practical significant differences in views on entrepreneurial climate constructs among managers from middle and lower management levels. Further empirical research is recommended to confirm these differences and to establish norms for future interpretation.

This study has managerial implications to senior managers within Afrox, in that it reflects that lower management is of the opinion that the climate is not completely conducive to foster entrepreneurial behaviour relative to middle and top managers. The empirical evidence concludes that lower management staff is endowed with lower support needs from their superiors.

This study further reveals that lower level managers are of the opinion that organisational structure, rewards systems, resources availability, lack of sponsors, effective teamwork, and discretionary time impede their ability to be entrepreneurial. For entrepreneurial behaviour to thrive there needs to be a paradigm shift from prescription and a top down approach, to an innovative and experimental approach among competent workforce.

5.3 RECOMMENDATIONS

Bearing the above-mentioned conclusions in mind, it is suggested that processes be put in place to create a climate that will encourage entrepreneurial activities within Afrox. Entrepreneurial characteristics can be improved by strong leadership, which encourages entrepreneurial behaviour such as risk-taking and experimentation in search of inventive behaviour or constant enhancement. It is furthermore essential for senior managers to present emblematic behaviour that strengthens the approach towards innovative thinking.

Top management must revisit corporate values, align them to entrepreneurial constructs and get buy-in from employees and identify a few dominant values based on inputs received. They must also develop a strategic plan to ensure incorporation

of corporate entrepreneurial constructs and obtain inputs from employees at all levels.

Managers should act as role models for transformation towards employees to enhance entrepreneurial behaviour. It is also recommended that senior management creates an environment that will foster an intrapreneurial climate at all levels of organisation. This can be outlined as follows:

5.3.1 Entrepreneurial leadership

Entrepreneurial leadership should be improved by means of qualities of leaders who at all times have a vision. They must also rise above all barriers in attaining their virgins by promoting their dream to others. In this way, an entrepreneurial spirit will flourish. Leaders should build a climate of urgency amongst employees, in order for them to work on a new vision (McGrath & Macmillan, 2000). Employees need to be motivated with a sense of ownership to take pride in their work, irrespective of challenges and obstacles.

Middle managers at Afrox must be involved with innovative initiatives. They must be accountable for programmes and initiatives such as the business enhancement process, including idea generation. **Entrepreneurial leadership** can be improved by developing the entrepreneurial competencies of middle managers and by establishing entrepreneurship as the principal logic to develop the business.

5.3.2 Management support

Management support at Afrox should be enhanced to maintain entrepreneurial behaviour for the employees. In order to be successful in ventures, employees should be given support by management in the form of encouragement, guidance, the provision of resources and background influencing (Wickham, 2004: 560). In this illustration, innovators will surface and grow, provided that the precise support and resources are made accessible to develop new ideas and work methods.

Management support can take many forms, including championing innovative ideas, providing essential resources or proficiency, and institutionalising the entrepreneurial activity within the system and processes of the firm.

5.3.3 Sponsors and champions

More sponsors (champions) must be identified within Afrox. Successful entrepreneurial teams entail champions and sponsors for an innovative spirit to succeed. Champions will support a project throughout the critical stages and keep the decision makers up to date. They will also lead the team and passionately promote the project throughout the organisation. Periodical feedback is given to employees who have generated the ideas to keep them informed about the progress.

Afrox management must implement the mentoring process in all departments, focussing on departments with entrepreneurial potential, they must:

- Select employees with entrepreneurial potential.
- Allocate mentors to employees.
- Encourage the mentor-mentee relationships.

Employees with sponsors to champion protect and marshal resources for corporate entrepreneurial endeavours. This must be done by allocating budget to mentee development programme.

5.3.4 Tolerance of risks, mistakes and failure

Afrox should embrace a culture of tolerance toward risks, mistakes and failure by permitting employees the chance to take risks that will enable them to be creative. Management should allow employees to experiment with new ideas gallantly and assertively, at the same time employees should take calculated risks. Additionally, leaders should encourage innovation by creating a collective belief that it is secure for team members to take interpersonal risks. An innovative culture seeks unusual or novel solutions to problems.

Afrox managers must develop procedures and processes regarding **tolerance for risks, mistakes and failures** in order to:

- Identify areas where risks and mistakes will be tolerated.
- Identify the level of tolerance.
- Improve safety aspects.
- Decrease risk to production aspects.

Menzel, Aaltio and Ulijn (2007: 733) stress that organisational climate and management that fosters intense working relations between the people, elicits people's innovation capacity, tolerates risk, and supports personal growth and development, are all important. Urban and Oosthuizen (2009: 186) recommend that the organisations must become more tolerant toward risks, mistakes and failure by allowing employees to take calculated risks and practical experimentation. Middle managers must therefore accept mistakes and failure as a learning process and learning necessitates mistakes.

5.3.5 Innovation and creativity/new ideas encouraged

Creativity and innovation should be improved by making and communicating meaningful new connections. This would help Afrox employees to think of many possibilities, and help them experience varied ways and use different points of view. Ultimately, creativity and innovation will assist employees to think of new and unusual possibilities. In this process, they will be guided to generate and select alternatives.

The Human Resources department, in conjunction with the line manager must develop a procedure and process outlines for allocation of resources in terms of:

- Bootstrapping.
- Production requirements.
- Employee development.
- Company projects.
- Mini employee initiated projects.

- Entrepreneurial activities.
- Development of multi discipline teams.

A climate for creativity and innovation within Afrox will promote the generation, consideration and use of new products, services and ways of working. Afrox management should ensure that the consequences of pursuing a new idea will be that a person is given a sense of satisfaction just for being "one who tried".

5.3.6 Appropriate rewards and reinforcement

The reward and recognition policy should be reviewed and identified to enhance motivation of individuals to engage in innovative behaviour. Top management must revisit rewarding system to recognise and reward entrepreneurial behaviour:

- Look at rewarding employees in terms of profit-sharing.
- Look at rewarding employees in terms of job performance.
- Also look at mixed remuneration system (salary and incentives).

It has been documented that people work harder when they perceive clear links between their efforts, performance, and the reward they receive, than when the links are weak or absent. In order to enhance effectiveness, a reward and feedback system must be prompt to ensure equity and reinforcement.

5.3.7 Vision and strategic intent

The vision and strategic intent of Afrox ensures that all employees are aware of the vision of the organisation. Organisational vision is successful as it reaches a wide audience and tells an engaging story that people want to be part of. The Vision and strategic intent of Afrox also challenge people to be innovative and create a sense of urgency among the workforce.

It is thus asserted that a vision is flourishing if it gets to a broad audience and tells an appealing story that people would like to be part of, a story that challenges them to

be innovative, and creates a sense of urgency among the workforce. A vision is not merely an extended strategic plan or mission; it becomes achievable when it forms part of every day decisions and actions taken to those that are led (Lipton, 2007: 140). It is thus of paramount significance that all organisational members embrace the organisation's vision as their own through efficient change management.

5.3.8 Discretionary time and work

Afrox management should give ample discretionary time and work to employees in order to encourage innovative ideas. Employees should have discretion to the extent that they are able to make decisions and perform their work in a manner that they believe is most effective. Some autonomy and freedom must be allowed for people to do their own work and safely divert from assigned tasks to explore new ideas, without having to ask permission. At the same time spending excessive time on developing ideas however can be regarded as only marginally acceptable.

5.3.9 Empowered teams

An empowered team will function efficiently if a multi-disciplinary team-approach is encouraged. Such an approach requires the involvement of organisational members to persuade an entrepreneurial climate. Middle level managers play a crucial role through their support for autonomous strategic initiatives early on, by combining ideas with various capabilities dispersed in Afrox's operating system, and by conceptualising strategies for new areas of business. Bhardwaj *et al.* (2007b: 131), states that bringing bright people from different functional backgrounds has the effect of sparking enough intellectual friction to launch a wave of innovation. Each person is both enriched and stimulated by the experience. Therefore, organisations should make it easier for people across functional boundaries to work closely together.

Line managers must ensure that cross functional teams are in place in the organisation, information is easily shared between the departments, assistance is rendered and networks are in place and functions effectively.

5.3.10 Resource availability and accessibility

Resources need to be easily accessible in order to promote a climate of entrepreneurship within Afrox. Resources are not supposed to be held back by corporate administration. In pursuit of their goal, corporate entrepreneurs make use of scarce resources by converting efforts into productivity. They use innovation funds that add value to their customers in attaining organisational effectiveness or competitive advantages. Afrox managements must ensure rapid implementation of new innovative ideas and that budget is allocated to the beneficial of entrepreneurial climate in the organisation.

5.3.11 Continuous and cross-functional learning

The Afrox's working environment should encourage continuous learning and cross-functional learning in order to foster innovation. Organisational learning can be attained if employees continually expand their capacity to create the results they truly desire, where new and expansive patterns of thinking are nurtured, where collective aspiration is set free, and where people are continually learning how to learn together.

Before commencing training and retraining of staff, Human Resources department, in conjunction with the line manager must do a skills audit on the employees in order to identify the skills gaps. Then the individual development plan should be drawn up with proper developmental interventions. Based on the findings Afrox should be able to determine if the employees need formal or informal training and this should be addressed effectively.

Learning organisations have a strong background that encourages honesty, creativeness, and experimentation amongst members (Van Aardt, 2008: 13). The learning principles and norms present the fundamental collective support for flourishing learning. They support team members to attain practices and share information. They also cultivate innovation and supply the liberty to endeavour new things, to risk disappointments, and to learn from mistakes.

5.3.12 Customer orientation

The understanding of customer requirements plays an influential part in invention and innovation (Roberts, 2007: 35). Customer-oriented behaviour develops long-term associations between the organisation and its customers and these relationships are advantageous to both parties. An understanding of what customers really value is a far more fruitful exercise than merely asking them to submit their own solutions. The process of innovation begins with identifying the outcomes that customers want to achieve, and ends in the creation of items or services they will use.

It will be informative for management to train employees on customer requirements and to arrange plant visits for the employees to the customer sites and plants. Knowing the customer processes will help employees to properly align Afrox processes to those of customers.

5.3.13 Flat organisational structure

Flat organisational structure, with open communication and strong sense of belonging is highly recommended. Having to make a decision without having to go through some justification and approval is still a challenge. Ireland *et al.* (2006: 14) relate flourishing corporate entrepreneurship with an organisation that has a relatively small number of layers. The key reason for this is that a restricted number of layers results in a broader span of control which in turn creates opportunities for employees to act entrepreneurially.

Top management should practice decentralisation of powers, which help in the reduction of decision making levels. They must revisit the organisational structure of the organisation in order to:

- Confirm a flat organisational structure.
- Define decision making authority levels.
- Minimise hierarchical levels.
- Decentralisation of powers.

5.4 ACTION PLANS TO ESTABLISH CORPORATE ENTREPRENEURSHIP

To formalise the implementation of the recommendations the following action plans are suggested:

- Going forward, it would be important for the researcher to formally present the results to management in order to provide feedback.
- Top management to ensure that the strategic plan is aligned to entrepreneurial constructs and to get aligned-commitment from all employees. There should then be a "project owner" or "project team" to ensure that this gets followed through. Management might incorporate some of the changes immediately as suggested, and it is then recommended that they review the situation every six months in order to identify the time when the corporate entrepreneurship strategy can be formally introduced to the business. The task team identified should also set targets and measure progress, and the implementation plan as suggested in this sub-section could be used as general guidance.
- It would be vital for Afrox's management team to commit to the strategy in particular top management. Seminars or workshops can be used very effectively to introduce the concept, as it already forms a part of the Afrox culture. Workshops have already been successfully utilised so that Afrox would be building on an existing strength. During these workshops, general guidelines and strategies can be established going forward.
- Training of middle managers on various aspects of entrepreneurship should be attended to. The training of employees is also very important, and it is suggested that one day per month could be set aside for this. An important aspect of this training would also be for employees to share their experiences.
- A support structure is very important, especially since corporate entrepreneurship is unlikely to be the primary activity and focus area. If proper support is not in

place, the entrepreneurial effort is more likely than not to die off. Such a support structure should be fairly easy to establish in a corporation the size of the Afrox. Also, a mentorship program is in the process of being finalised at the Afrox, which should be a good overlap in building the proper support structure.

- Top management must revisit the rewarding system to recognise and reward entrepreneurial behaviour. Rewarding system must be put in place to encourage entrepreneurial behaviour. Recognition for corporate entrepreneurs and behaviour that added value to the organisation. These must be visibly displayed in the organisational news-flash, intranet and even discussed during staff meetings.
- Line managers must develop procedures and processes regarding tolerance for risks, mistakes and failures. They must identify areas where risks and mistakes will be tolerated and identify the level of tolerance. Managers must make sure that the process is clear on risk tolerance without jeopardising safety or production in the organisation. This can be taken care of in the departmental meetings where brainstorming process is recommended.
- Line managers must ensure that they build strong multidiscipline teams, by recruiting flexible team members, and encouraging formation of interdepartmental networks. This will assist in cross functional teams in place, information sharing, assistance in rendering and effective functioning of different departments.

5.5 STUDY OBJECTIVES ACHIEVED

The primary objective of this study, as outlined in chapter 1, which forms the foundation of this research, was to assess the level of entrepreneurial climate in Afrox South African operations. This was achieved through completion of the secondary objectives.

The secondary objectives were aimed at supporting and addressing the primary objective, these particular objectives were achieved by:

- Acquiring a general understanding of the Afrox business background.
- Defining corporate entrepreneurship and entrepreneurial climate.
- Acquiring insight into the dynamics of corporate entrepreneurship through a literature review.
- Assessing the reliability of the measuring questionnaire.
- Assessing the entrepreneurial climate within Afrox by means of statistical analysis.
- Determining the relationship between selected demographic variables and the constructs that measure entrepreneurial climate.
- Determining the relationship between selected demographic variables and the constructs that measure perceived organisational success.
- Proposing practical recommendations to foster and improve entrepreneurship in the organisation.

The first secondary objective, to obtain insight into the business environment of Afrox South Africa, by means of a literature review, was achieved by means of the literature study as presented in chapter 2.

The second and the third objectives were successfully achieved through a literature study as presented in chapter three. The definition of corporate entrepreneurship was covered in section 3.2.2. Section 3.2.3 covered the entrepreneurial climate including the constructs of the corporate entrepreneurial climate in an organisation. Sections 3.3 and 3.4 complete the study by reviewing the roles of middle managers and establishment of entrepreneurial organisation

The reliability of the measuring instrument was confirmed by using the Cronbach Alpha coefficient as presented in section 4.4. The fifth secondary objective was to measure Afrox current entrepreneurial climate by means of a questionnaire. The corporate entrepreneurial climate was evaluated by means of the questionnaire as discussed in chapter four. The objective was successfully achieved.

The sixth and the seventh objectives, to examine the relationship between the demographic variables and the constructs, were successfully achieved by presenting

empirical results of the relationship in section in Section 4.6 and 4.7 of this research. The last objective was accomplished in chapter 5 with reference to section 5.3.

5.6 OPPORTUNITIES FOR FURTHER RESEARCH

The focus of this study was on the entrepreneurial climate within Afrox, South Africa, one company within the gas industry within a global organisation, The Linde Group. The Linde Group goes to great lengths to ensure that corporate strategy and the values of the organisation are implemented and internalised by all companies within the organisation, down to the lowest level. Innovation, giving employees the opportunity to offer ideas for improvement, is one of the focus points within The Linde Group strategy.

The first recommendation for future research is the assessment corporate entrepreneurship level in other companies within The Linde Group. Then compare the level of corporate entrepreneurship of the different companies.

In order to eliminate limitations to this study, it is suggested that:

- In future the research should also include top management and low level employees within the organisation.
- The results of the questionnaires not to be restricted to managers who agreed to complete the survey. The voluntary manner in which the survey was conducted may also lead to the sample not comprehensively representing the managers or even all the employees at Afrox. The managers included only represent the sample of the population of the employees within an organisation. it is thus suggested that all the employees be included in the follow-up studies.

5.7 SUMMARY

Conclusions followed the basic structure set out in chapter five, and started off by addressing the demographic information in the form of comparing the results of the

sample to the original population. Various innovation initiatives and programmes have been implemented, with middle managers the key role players in the roll out and implementation of these initiatives. Recommendations were then prepared on ways in which the entrepreneurial climate can be encouraged and promoted in order for the organisation to achieve the positive outcomes related to corporate entrepreneurship.

The study was to determine whether or not middle managers at Afrox do perceive the company to have a true entrepreneurial climate. This objective was achieved. An empirical study was conducted at Afrox, with middle managers as the study population. Completed questionnaires from the managers were analysed and it was concluded that elements of an entrepreneurial climate do exist at Afrox, but that lower-level managers do not perceive the company to have a true entrepreneurial climate.

A suggested action plan is presented to assist Afrox to move from merely having programmes that support innovation to a company that foster an entrepreneurial climate. The chapter concluded by addressing the achievement of all the objectives, and by recommending possible future research that could be undertaken based on this study.

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ANNEXURE A: QUESTIONNAIRE

Code number:

CORPORATE ENTREPRENEURIAL CLIMATE QUESTIONNAIRE

CONFIDENTIAL

Note: All responses are confidential and neither the individual nor the organisation would be identified in any report or release.

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CORPORATE ENTREPRENEURIAL CLIMATE QUESTIONNAIRE

Dear Respondent

Corporate entrepreneurship is becoming increasingly important for the competitiveness of organisations as we face dynamic competition unleashed by globalisation as well as by local competitors. Internal environmental factors play a crucial role in translating entrepreneurship into performance. Corporate entrepreneurship (intreprenurship) with concomitant creativity and high rates of responsiveness should be the preferred mode of operations in the organisation as a whole.

The role of middle management therefore becomes crucial as the responsibility lies with them to move the bottom line.

With the 2007 Global Entrepreneurship Monitor (GEM) Report again indicating that South Africa performs poorly in comparison to other emerging economies in terms of entrepreneurial activity and development, attention should be focused on interventions which support and encourage business initiatives and development.

Very little to no research has been conducted on corporate entrepreneurship in the retail sector in South Africa. Corporate entrepreneurship in organisations should therefore emphasise the establishment of business models, processes and structures in the corporate retail sector so as to increase the level of corporate entrepreneurship in the various departments within the organisations.

The focus of this research study is on middle management in the organisation within South Africa.

This questionnaire attempts to measure the intrapreneurial climate in your department in order to determine whether it is conducive to foster an intrapreneurial spirit, as well as to indicate possible barriers or trigger factors. Your contribution is highly valued and appreciated.

Please complete every question / statement to ensure the validity and reliability of the study.

GENERAL INSTRUCTIONS

Virtually all questions may be answered by ticking (X) or highlighting the relevant block.
Use the following key to indicate your preference:

SCALE	TERM USED
5	Strongly agree
4	Slightly agree
3	Neither agree nor disagree
2	Slightly disagree
1	Strongly disagree

Please select the number which best describes your opinion about a specific question or statement.
In the example beneath, the respondent slightly agreed to the statement listed.

		Strongly Disagree	Slightly Disagree	Neither agree nor disagree	Slightly agree	Strongly Agree
A03	My manager helps me to get my work done by removing obstacles in my way.	1	2	3	4	5

SECTION A: CORPORATE ENTREPRENEURIAL CLIMATE

This section consists of 65 statements. Please indicate to what extent you agree or disagree with each statement. Please mark the applicable block with a cross (X).

		Strongly Disagree	Slightly Disagree	Neither agree nor disagree	Slightly Agree	Strongly Agree
A01	Our leaders take a long-term view of our organisation.	1	2	3	4	5
A02	Management encourages us to develop ideas that would improve the organisation.	1	2	3	4	5
A03	My manager helps me to get my work done by removing obstacles in my way.	1	2	3	4	5
A04	Development at our organisation is based on taking calculated risks at the right time.	1	2	3	4	5
A05	Our organisation quickly implements improved work methods that are developed by employees.	1	2	3	4	5
A06	Individuals implementing successful innovative projects receive additional rewards and compensation.	1	2	3	4	5
A07	I am well informed about our organisational vision and strategies.	1	2	3	4	5
A08	An employee with a good idea is often given time to develop that idea within working hours.	1	2	3	4	5
A09	Working together in project teams is encouraged at the organisation.	1	2	3	4	5
A10	There are several options within the organisation for individuals to get financial support for their innovative projects and ideas.	1	2	3	4	5
A11	People are keen to share knowledge within the organisation, even over departmental or functional boundaries.	1	2	3	4	5
A12	A great deal of resources is spent in determining customer needs and satisfaction.	1	2	3	4	5
A13	People are allowed to make decisions about their work processes without going through elaborate justification and approval procedures.	1	2	3	4	5
A14	Our leaders challenge the status quo and they inspire us to think and act in innovative ways.	1	2	3	4	5
A15	Top management is receptive to my ideas and suggestions.	1	2	3	4	5
A16	Originators of new ideas find it easy to implement because of the support rendered by influential people at the organisation.	1	2	3	4	5
A17	Projects involving calculated risk are highly valued, even when things do not always turn out according to plan.	1	2	3	4	5
A18	There is considerable number of employees at the organisation that are involved in generating and implementing innovative ideas.	1	2	3	4	5
A19	In this organisation recognition rather than criticism is emphasised.	1	2	3	4	5
A20	I have regular meetings with my manager where information is shared between us.	1	2	3	4	5
A21	A staff member who has initiated a new project/process is allowed to carry it through to completion/implementation.	1	2	3	4	5
A22	We use cross-functional teams effectively at the organisation to develop and implement new ideas.	1	2	3	4	5
A23	Money is often available to get new project ideas off the ground.	1	2	3	4	5
A24	Employees are encouraged to talk to their colleagues in other departments of the organisation about ideas for new projects.	1	2	3	4	5
A25	Product and service innovation are driven by a strong customer orientation.	1	2	3	4	5

		Strongly Disagree	Slightly Disagree	Neither agree nor disagree	Slightly Agree	Strongly Agree
A26	Employees are given ample opportunity for independence and freedom in how they do their work.	1	2	3	4	5
A27	This organisation has a specific value system which we all know and live up to.	1	2	3	4	5
A28	Those employees who come up with innovative ideas on their own receive management's encouragement for their activities.	1	2	3	4	5
A29	Our organisation has people with influence that support, coach, protect, and find resources for an intrapreneurial project and its team.	1	2	3	4	5
A30	We occasionally take big risks to keep ahead of our competitors.	1	2	3	4	5
A31	This organisation provides me with the chance to be creative and try out new methods of doing my job.	1	2	3	4	5
A32	My supervisor will give me special recognition if my work performance is outstanding.	1	2	3	4	5
A33	Great effort has been made to clarify what the vision and strategy of the organisation mean to us in our own department.	1	2	3	4	5
A34	Nobody at the organisation is forced to develop new ideas.	1	2	3	4	5
A35	Top management encourages the establishment of teams from various departments whenever needed for a project.	1	2	3	4	5
A36	Resources are readily accessible in pursuance of new ideas and opportunities.	1	2	3	4	5
A37	Our organisation has open communication channels in which all employees participate.	1	2	3	4	5
A38	Our organisation involves customers in service and product development.	1	2	3	4	5
A39	I have autonomy to decide how to do my work.	1	2	3	4	5
A40	Our leaders lead by example and people are eager to voluntarily follow them.	1	2	3	4	5
A41	The creation of innovative ideas is a regular occurrence in our organisation.	1	2	3	4	5
A42	Our organisation's managers have the skills, commitment and courage to be effective champions of intrapreneurial initiatives.	1	2	3	4	5
A43	This organisation supports many small and experimental projects realising that some will undoubtedly fail.	1	2	3	4	5
A44	Training is provided to ensure that innovative new processes are implemented effectively.	1	2	3	4	5
A45	In this organisation effective intrapreneurs are generally rewarded.	1	2	3	4	5
A46	The vision and strategies of the organisation often help me in setting priorities in my work.	1	2	3	4	5
A47	I am allowed time at work to explore new ideas I believe have potential.	1	2	3	4	5
A48	Project teams have choices in recruiting and selecting new team members.	1	2	3	4	5
A49	The process for accessing and acquiring resources to pursue new opportunities is streamlined so that approval is quickly granted.	1	2	3	4	5
A50	Employees are encouraged to stay abreast of developments in their functional fields and to share their knowledge with others.	1	2	3	4	5
A51	We regularly ask our customers to give their opinions of our service and product offerings.	1	2	3	4	5
A52	The degree of hierarchical control is relatively low in our organisation.	1	2	3	4	5
A53	Our leaders seek to maximise value from opportunities.	1	2	3	4	5
A54	Senior managers allow innovators to bend rules and rigid procedures in order to keep promising ideas on track.	1	2	3	4	5
A55	In this organisation it is easy to build coalitions of sponsors to help projects succeed.	1	2	3	4	5

		Strongly Disagree	Slightly Disagree	Neither agree nor disagree	Slightly Agree	Strongly Agree
A56	If you make a mistake in this organisation you will be forgiven.	1	2	3	4	5
A57	Employees are inspired to push their boundaries and to think "out-of-the-box."	1	2	3	4	5
A58	Employees are rewarded in relation to their job performance.	1	2	3	4	5
A59	There is considerable buy-in from employees into the value system of the Organisation.	1	2	3	4	5
A60	Our organisation provides ample opportunities for learning and growth.	1	2	3	4	5
A61	Cross-functional teams are characterised by diversity based on the skills required by the project.	1	2	3	4	5
A62	Attracting resource commitment for entrepreneurial ventures in this organisation is relatively easy.	1	2	3	4	5
A63	Employees are willing to assist others and share knowledge and skills even if it is not required from them.	1	2	3	4	5
A64	Customers are treated as very important stakeholders.	1	2	3	4	5
A65	Employees determine their key performance areas in co-operation with their supervisors.	1	2	3	4	5

SECTION B: SUCCESS OF THE ORGANISATION

This section consists of 17 statements. Please indicate to what extent you agree or disagree with each statement. Please mark the applicable block with a cross (X).

		Strongly Disagree	Slightly Disagree	Neither agree nor disagree	Slightly Agree	Strongly Agree
B01	Our organisation develops product/services with customers' needs in mind.	1	2	3	4	5
B02	The competitive position of our organisation has improved over the past few years.	1	2	3	4	5
B03	Our organisation has experienced growth in market share over the past few years.	1	2	3	4	5
B04	Our employees are highly committed to our organisation.	1	2	3	4	5
B05	During difficult economic periods, investments in research and development/ innovative projects continue and no significant financial cuts are made.	1	2	3	4	5
B06	Our organisation has a high customer retention rate.	1	2	3	4	5
B07	Our customers are loyal to our organisation.	1	2	3	4	5
B08	In our organisation, employees are viewed as the most valuable asset of the organisation.	1	2	3	4	5
B09	Taking care of customers is our organisation' top priority.	1	2	3	4	5
B10	The morale (job satisfaction) of our employees has improved over the past few years.	1	2	3	4	5
B11	Our customers are satisfied with our organisation's product/service offerings.	1	2	3	4	5
B12	The image (stature) of our organisation, relative to our competitors, has grown over the past few years.	1	2	3	4	5
B13	Our organisation has experienced growth in turnover over the past few years.	1	2	3	4	5
B14	The effectiveness (doing the right things) of our organisation has improved over the past few years.	1	2	3	4	5
B15	Employees in our organisation understand the needs of our customers.	1	2	3	4	5
B16	Our organisation has experienced growth in profits over the past few years.	1	2	3	4	5
B17	The efficiency (doing things right) of our organisation has improved over the past few years.	1	2	3	4	5

SECTION C: BACKGROUND INFORMATION

The following information is needed to help with the statistical analysis of data for comparisons among different interest groups. All your responses will be treated confidentially. Your assistance in providing this important information is appreciated.

Please mark the applicable block with a cross (X).

C01	1.7.1.1.1.1	Indicate your age group	≤ 29	30 - 39	40 - 49	50 - 59	60+
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C02	2	Indicate your gender	Male	Female
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C03	3	Indicate your race	Black	White	Coloured	Indian
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C04	Indicate your highest academic qualification				
	Lower than Grade 12				
	Grade 12				
	National certificate				
	National diploma				
	3-year degree				
	Post graduate qualification				

C05	4	Indicate your management level	Top management (PL 6 – 7/ Band 12 – 14)	Middle management (PL 4 – 5 / Band 10 -11)	Lower management (PL 2 – 3/ Band 8 -9)
	Other: (Specify):				

C06	4.1.1.1.1.1 Indicate your functional department				
	Operations	Sales and Marketing	Finance	Human Resources	Engineering
	Procurement	Logistics Management	Other		

THANK YOU VERY MUCH FOR YOUR VALUED INPUT.