

# **An assessment of corporate entrepreneurship in the personal protective equipment industry**

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# ABSTRACT

The objective of this study has been to investigate the influence of an entrepreneurial orientation on the perceived success of personal protective equipment organisations in South Africa. For the purpose of this study, business success has been measured by means of two dependent variables, namely ***Business development and improvement*** and ***Business growth***.

Structured questionnaires have been administered to managers in one company that is perceived to be the current market leader in the personal protective equipment industry in South Africa. Construct validity of the measuring instrument has been assessed by means of a principal component exploratory factor analysis and by calculating Cronbach alpha coefficients.

A literature study on the field of Entrepreneurship has been conducted. The term entrepreneurial orientation consisting of five constructs, namely autonomy, innovation, pro-activeness, risk-taking and competitive aggressiveness, is defined. Perceived success of the industry is defined in terms of growth and development. Both ratings of the constructs and their evaluation of the perceived success of the industry, have been measured, analysed and reported. The results obtained from the questionnaire in conjunction with the literature review, are used to draw conclusions and make recommendations.

The study is based on perceived corporate entrepreneurship within the line, middle and senior management levels of SPPE, a division of SAMSAC Africa (Pty) Ltd. The year 2009, has marked a series of economic events that placed the personal protective equipment market under immense pressure to maintain its bottom line growth. The environment within the organisation is constantly changing. SPPE customers, which are mainly the mining industry, have pressurised SPPE to filter cost savings through to them to ensure that they, in turn, alleviate the pressure to cut costs.

Costs have been identified as one of the key challenges facing the entire mining sector. In turn, the suppliers of SPPE have also been applying pressure to the company to increase their purchase price, due to increased labour, production and overhead costs.

The strengthening of entrepreneurship is an important objective for any organisation that is building its responsiveness to a globalised and changing environment. For SPPE to face the pressures brought to bear upon them by their customers and suppliers respectively, and, coupled with fierce competition in the personal protective equipment industry, it is necessary to review its processes and actively search for new ways to increase its capacity for innovation and competitiveness.

The results show that the managers in the participating personal protective equipment business have perceived that the entrepreneurial orientation factors of *Pro-activeness*, *Risk-taking* and *Autonomy* have a positive influence on their *business's development and improvement*. A significant relationship within the dependent variable **Business development and improvement** has also been found to exist within the independent variable **Competitive aggressiveness**.

Corporate entrepreneurship is seen as a critical component to organisational success, especially in organisations that operate in rapidly changing industries. Corporate entrepreneurship can be a solution to large organisations' lack of innovation, stagnated top-line growth and the inaction that often overtakes the large, mature organisations of the world. Organisations need to consistently search for new opportunities and therefore may benefit from adopting an entrepreneurial orientation.

Established organisations may in essence be forced to behave entrepreneurially within the organisation, in order to defend their positions in the market. Competitive successes for organisations require managers to make strategic choices. Strategy is about relating the organisation with its environment and entrepreneurship is about exploiting opportunities in the same environment.

To enhance the entrepreneurial orientation in personal protective equipment businesses, it is recommended that the word "entrepreneurship" should specifically

be included in the vision statement of the businesses, setting goals and developing strategies for entrepreneurship. The focus of the business then becomes opportunity identification, discovery of new sources of value, and product and process innovation that could lead to greater success.

**KEYWORDS:** Personal protective equipment; entrepreneurship; entrepreneurial orientation; perceived success.



# DEDICATION

I dedicate this to my beloved husband, Manual Stols, who showed me through his love, patience and support to live life always with God as your anchor.

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## **Thank you to my family**

To my dear husband, Manual who loved, supported and encouraged me through very tough times;

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# CHAPTER 1

## NATURE AND SCOPE OF STUDY

### 1.1 INTRODUCTION

A new leadership style is required to ensure flexibility, change, innovation and responsiveness (Oosthuizen, 2006:1). One of the primary tasks in today's modern organisations is for leaders to foster an environment in which entrepreneurial thinking is encouraged and willingly takes place. Managers are nowadays faced with highly competitive environments which are continuously changing. Managers also need to manage an interdependent economy, heightened volatility, along with hyper competition. This is accompanied by enormous growth in some, and demographic changes, such as the decrease of some sectors, in others (Dess, Lumpkin & Covin, 1997:677).

Corporate entrepreneurship is the development of new ideas and opportunities within established and large organisations. It is also believed to directly improve organisational profitability and enhance the competitive position of the company. Innovation and change is the core of corporate entrepreneurship, and thus should form part of the continuous strategic renewal of the existing business. Entrepreneurship is very seldom a get-rich-quick proposition; it is rather one of building long-term value and durable cash-flow streams (Nieuwenhuizen, Le Roux & Jacobs, 2005:3).

Large organisations traditionally are averse to risk-taking and to innovating and cultivating change and as such coerce teams and leaders towards an increased level of corporate enterprising, setting the stage for leadership continuity. Corporate entrepreneurship can be a solution to large organisations' staleness, lack of innovation, stagnated top-line growth and the inaction that often overtakes the large, mature organisations of the world (Thornberry, 2001:526).

Critical for competitive advantage in the twenty first century, are organisations with well-developed entrepreneurial capabilities that are able to sustain growth and

innovation. The management of innovation and corporate entrepreneurship is complex, challenging and subject to risk (Scheepers, Hough & Boon, 2008:50).

As stated by Eeswaran and Kannan (2012), it is said that entrepreneurship to a company is like speed to an athlete. In today's competitive markets, lower cost, better customer service and higher quality is just not enough. Organisations, along with their employees, are today required to be more "entrepreneuristic", thus they have to be more flexible, faster, more aggressive, more innovative and more flexible to change, to maintain their competitive advantage.

It is observed that, in the past two decades, there is a growing interest within large organisations in corporate entrepreneurship, as a means to enhance and develop the abilities of their employees and simultaneously increase corporate sustainability (Antoncic & Hisrich, 2003:7). Thornberry (2003:329–344) further notes that corporate entrepreneurship is quickly becoming a weapon of choice for larger organisations and that it can be a powerful antidote to staleness - organisations' stagnated top line growth and innovation. According to Burns (2005:9), entrepreneurship is something that businesses of all forms and sizes wish to encourage and promote.

As stated by Leibenstein (1968:73), entrepreneurship can be defined as follows: The activities essential to create or sustain an enterprise where not all the markets are well established or clearly defined, and/or in which the relevant parts of the production function are not completely known.

Leibenstein (1968) further comments that an entrepreneur undertakes one or more activities, namely to co-ordinate contractual agreements between different parties; to arrange appropriate organisational structures and a culture to develop new products and services; to establish appropriate resources required to produce and market new products and services; to respond to market deficiencies, by supplying resources for which there is no market; and also by connecting buyer and seller in different geographical markets together. A number of authors have emphasised that entrepreneurship is the primary catalyst of innovation (Drucker, 1985b; McGrath, 1996).

Researching innovation and the examination of the literature, confirms enormous diversity in the views and approaches by authors. Process models developed suggest that innovation consists of a variety of different phases, such as idea generation, research and development, manufacturing, marketing and sales (Cannon, 1993; Rogers, 1995; Zahra, 1995; Dooley & O'Sullivan, 2001; Rothwell, 1994).

Regardless of the diversified views of the authors, innovation is prerequisite for organisations seeking to remain competitive and maintain their competitive advantage. Viewed in the current South African context, in these uncertain and turbulent times organisations have to foster entrepreneurship and innovation to create new businesses and enhance the transformation of established organisations, through the renewal of key ideas and business concepts.

It has been proven that entrepreneurship unified with innovation (Schumpeter, 1934; Drucker, 1985a; Drucker, 1985b) leads to wealth creation and sustainable growth of organisations, thus improving productivity and economic growth (Slevin & Covin, 1990; Zahra, 1991, 1995 & 1996; Miller, 1983; Drucker, 1985a).

For the purpose of this study, "innovation" is broadly defined to include new processes, products and services; new forms of organisations; uses for established products, processes and services; the development of new markets and skills; as well as the development of human capital.

## **1.2 PROBLEM STATEMENT**

In a complex set of processes line managers, middle managers and corporate managers play an important role that allows the entrepreneurial initiatives to develop; an entrepreneurial climate is seen as a key driver for future success of an organisation (Thornberry, 2003:340). Thornberry (2003) further states that entrepreneurial behaviour has a strong influence on the attitudinal and financial measures of an organisation. According to Timmons and Spinelli (2007:47), entrepreneurship is a way of thinking, reasoning and acting, that is opportunity obsessed. They state that entrepreneurship results in the creation, enhancement,

realisation and renewal of value, not just for owners, but also for all participants and stakeholders.

Select Personal Protective Equipment (SPPE), a division of SAMSAC Africa (Pty) Ltd, are the leader in personal protective equipment and safety solutions, according to Van Tonder (2013). Van Tonder further comments by saying that the year 2009 has marked a series of economic events that placed the personal protective equipment market under immense pressure to maintain its bottom line growth.

Pieterse (2013), states that the environment within the organisation is changing constantly. SPPE customers, which are mainly the mining industry, have pressurised SPPE to filter cost savings through to them, to ensure that they in turn, alleviate the pressure to cut costs. Costs have been identified as one of the key challenges facing the entire mining sector. He continues by stating that the suppliers of SPPE have also been applying pressure to the company to increase their purchase price, due to increased labour, production and overhead costs.

Van Vuuren, Groenewald and Gautsho (2009:325) argue that the strengthening of entrepreneurship is an important objective for any enterprise that is building its responsiveness to a globalised and changing environment. For SPPE to face the pressures applied to them by their customers and suppliers respectively, coupled with fierce competition in the personal protective equipment industry, it is necessary to review its processes and actively search for new ways to increase its capacity of innovation and competitiveness.

The purpose of this study is to understand the influence of entrepreneurial orientation on the perceived success of the personal protective equipment business, as well as to which extent South African personal protective equipment organisations foster corporate entrepreneurship and drive innovation within the company.

### **1.3 OBJECTIVES OF THE STUDY**

The objectives of this study is to understand the influence of entrepreneurial orientation on the perceived success of the personal protective equipment business, as well as to which extent South African Personal Protective Equipment organisations foster corporate entrepreneurship and drive innovation within the company.

#### **1.3.1 Primary objective**

To primary objective of this study is to investigate the influence of the dimensions of entrepreneurial orientation on the perceived success of the organisation under investigation. Based on that, recommendations will be made to management to foster an entrepreneurial orientation in the organisation.

#### **1.3.2 Secondary objectives**

In support of the primary objective, the following secondary objectives have been formulated:

- To define corporate entrepreneurship and entrepreneurial orientation.
- To obtain insight into corporate entrepreneurship and entrepreneurial orientation by means of a literature study.
- To gain insight into the business of SPPE as an organisation, as part of SAMSAC Africa, and in turn part of MSA (USA).
- To assess the entrepreneurial orientation within SPPE by means of a questionnaire.
- To validate the reliability of the questionnaire by means of a statistical analysis.
- To determine if any relationship exists between entrepreneurial orientation and the perceived success of the business.
- To give suggestions and recommendations to SPPE to foster entrepreneurial orientation and innovation within the organisation.

## **1.4 SCOPE OF STUDY**

### **1.4.1 Field of study**

The field of this study falls within the subject discipline of entrepreneurship, with specific reference to assessing the entrepreneurial orientation of employees in the personal protective equipment industry.

### **1.4.2 Organisation overview**

The Personal Protective Equipment (PPE) industry is a very aggressive and competitive environment that requires organisations to introduce superior and quality products at competitive prices, in order to capture and retain market share.

SPPE and MSA (Mining Safety Appliances Company) are global companies. The business has become more incorporated with supply chains crossing multiple nations, any inefficiency and inadequacies in this chain and internal resources, due to out-dated and old fashioned processes, that affect the ability of SPPE and MSA to be profitable.

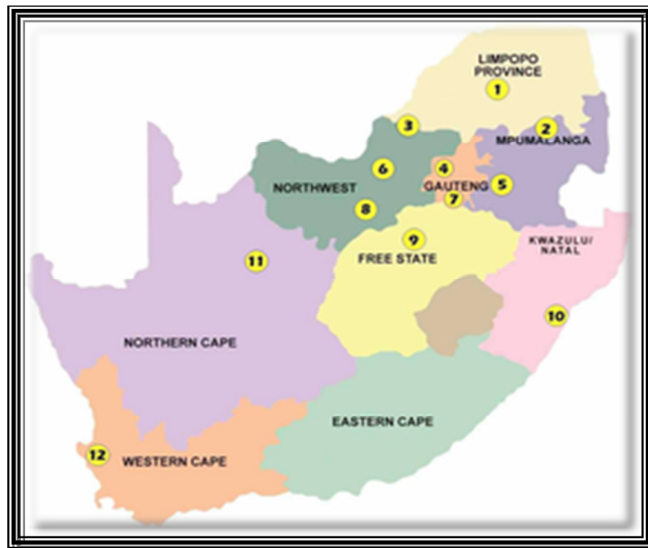
Operational efficiency and effectiveness are the understanding and consideration of the organisations' value chain, and is therefore a critical and decisive factor that can either translate to the company being in continuous business, or simply going out of business (Pieterse, 2013).

SPPE South Africa, a division of SAMSAC Africa, is fully owned by a US based company that has been investigated for the purpose of this research.

SPPE is a business partner to many organisations in industries including mining, petroleum and gas, construction, etc., which provides fast response, flexible, hassle free, cost effective outsourced management processes, that leverage application specific expertise. SPPE procures, disburses, controls and tracks on-site usage of customer specified personal safety products that protect workers, by ensuring that products comply with regulations and supporting documentation by individual users.

SPPE consists of standard personal protective equipment stores and distribution centres, which service and support these stores. Inventory holding values are largely dependent on the size of the store. Normal inventory is calculated to adequately service the client's needs at a three weeks' consumption rate while distribution centres inventory holding is calculated at a six weeks' consumption rate. Distribution centre locations are determined by where the most standard personal protective equipment stores are located. SPPE currently have seven distribution centres in the South African operations, with one main warehouse located at City Deep, Johannesburg (refer to Figure 1.1).

**Figure 1.1: SPPE Distribution centres of SA Operations.**



SPPE currently have one hundred and eighty three standard personal protective equipment stores across the country. These standard personal protective equipment stores are set up according to the customer specifications, and Health and Safety Standards. They also operate in accordance with the client's needs, depending on the operational requirement of the specific area or site.

Some of SPPE's business partners are listed in Table 1.1 below, but it excludes the e-commerce and special order clients.

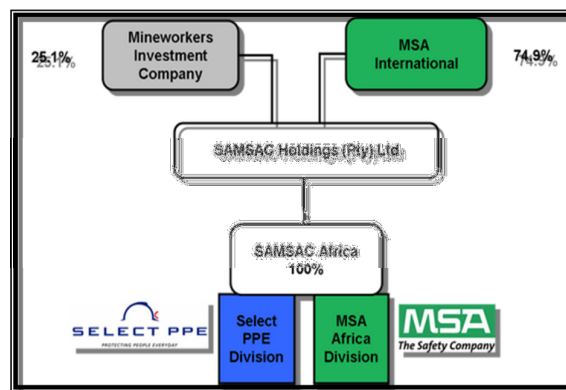
**Table 1.1: SPPE Business partners**

Anglo Platinum Mines	Impala Platinum Mines
Xstrata Coal South Africa	BHP Bulliton: Samancor Sites
Hernic Ferrochrome Mines	Goldfields Gold Mines
Sibanye Gold	Omnia Group of Companies
Marula Platinum Mines	Aquarius South Africa
SA Petroleum refineries	Bafokeng Platinum Mines
Anglogold Ashanti Mines	Harmony Gold Mines

SPPE is part of SAMSAC Holding (Pty) Ltd., which is a holding company for MSA Africa and SPPE. MSA is one of the biggest safety manufacturing organisations in the world; they are represented in one hundred and thirty six countries with their head office in Pittsburgh, USA. Refer to Figure 1.2 for a presentation of how the businesses link to the mother company.

SPPE’s business model is a multi-sourced supplier to many industries in Sub Saharan Africa, whereby the MSA Africa’s business model only distributes and sells their own manufactured core products.

**Figure 1.2: Holding Analysis of SPPE, a division of SAMSAC Africa (Pty) Ltd.**



SPPE’s cost saving, as ‘value adds’ to the customers and business partners, can be summarised between direct and indirect cost savings (see Table 1.2).

**Table 1.2: SPPE’s direct and indirect cost saving value adds**

<b>Direct Value adds</b>	<b>Indirect Value adds</b>
No inventory holding	Correct issuing of PPE to the end users
No redundant Inventory expense	Correct products issued as per end user’s job description
No inventory write-offs	Issuing of PPE is pre-determined and according to the correct frequency
No theft or shrinkage expense	Efficient and effective management controls
No Insurance expense	Service support by HR, IT and Logistics
No transport cost expense	Adequate inventory levels
No staff recruitment, remuneration and retention costs	Adequate man power
No staff management	Operations 24/7 = 365 days a year
No procurement and logistics	

Pieterse (2013) states that to SPPE, improving operational efficiency involves, adopting flexible organisation structures that allow for a network flow of information, while the focal point is on horizontal organisations and network structures. SPPE involves other stakeholders, such as the manufacturers, suppliers, distributors and customers, to be involved in the improvement of the supply chain, which also translates to superior operational efficiency.

## **1.5 RESEARCH METHODOLOGY**

According to Welman, Kruger and Mitchell (2010:6), research is the process in which scientific methods are used to expand knowledge in a particular field of study. According to Neuwman (1997:1), research is a way of going about to find answers to questions; or according to Welman and Kruger (1999:2), the process in which scientific methods are used to expand knowledge in a particular field of study.

Questionnaires have been constructed by making use of an in-depth literature study on the topic of corporate entrepreneurship, entrepreneurial orientation and

innovation within corporations, and are followed by an empirical study on SPPE, a division of SAMSAC Africa.

### **1.5.1 Literature review**

The following topics were researched:

- The definition of entrepreneurship and entrepreneurial orientation.
- Entrepreneurship and entrepreneurial orientation in general.
- The dimensions measuring entrepreneurial orientation, such as autonomy, innovativeness, risk-taking, pro-activeness and competitive aggressiveness.
- The role played by managers in the creating and fostering of the entrepreneurial orientation.
- The perceived success of the organisation.

To conduct the literature review, various publications have been sourced, including textbooks, previous research studies, and journals.

### **1.5.2 Empirical research**

The empirical study has been done by means of a questionnaire and focussed specifically on line managers, middle managers and senior managers. The questionnaire on the dimensions of entrepreneurial orientation within the organisation has been circulated via the organisations' company email. The empirical study has been done by using and adapting a questionnaire developed by Lotz and Van der Merwe (2013:15-31), to measure the entrepreneurial orientation and perceived success of the organisation within SPPE.

Lotz and Van der Merwe (2013) designed the questionnaire founded on the entrepreneurial orientation items as identified by Lumpkin and Dess (2001:442). The questionnaire measures five constructs regarding entrepreneurial orientation, including autonomy; innovation; risk-taking; pro-activeness and competitive

aggressiveness, which also include the dimensions of entrepreneurial orientation investigated in this study.

A section of the measuring instrument has been included to gather biographical information for possible future correlations, with the opinions expressed in the survey.

The questionnaire uses a five-point Likert scale, varying between 1 (“strongly disagree”) to 5 (“strongly agree”) and the respondents must indicate their agreement or disagreement to a specific question or statement. According to Huysamen (1994:125), a Likert scale comprises of a collection of statements, and respondents are required to indicate a degree of agreement/disagreement with the statements on a scale.

The target population for this study is the Management of SPPE.

### **1.5.2.1 The questionnaire**

The questionnaire consists of three sections which are:

#### **Sections A and B**

Line-, middle- and senior managers had been required to complete the questionnaire measuring autonomy, innovativeness, risk-taking, pro-activeness and competitive aggressiveness of the entrepreneurial orientation within SPPE. Section A gathered **attitudes towards the entrepreneurial orientation of the business**, using 27 statements. Section B used 11 statements to assess the **attitudes towards the success of the business** in the organisation.

#### **Section C**

Respondents’ demographical information was the focus of Section C. Section C collected the **biographical information of the participating managers**.

### 1.5.2.2 Data gathering

Emails with the questionnaire attached, and a message explaining the purpose of the study, were sent to all SPPE's line-, middle- and senior managers.

A total of 40 emails were sent to a group representing all the managers in the South African operation, of whom 37 respondents completed the questionnaire and returned it for statistical analysis. These managers are responsible for the management of 338 employees in SPPE. The response rate of 93% of the population is an excellent representation of the managers in the South African operation.

### 1.5.2.3 Target population

Line-, middle- and senior managers of SPPE were targeted as they relayed and translated received information from the executive team. A total of 40 managers were identified. The current SPPE South Africa's management team that were targeted consisted of the following totals per department:

<b>Head Office Management</b> 5	<b>Operations Management</b> 13	<b>Field Admin and Finance</b> 12	<b>Warehousing and Logistics</b> 10
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## 1.6 LIMITATIONS OF THE STUDY

This study is not necessarily representative of all organisations in other regions or countries, as organisations are bound culturally, thus theories and concepts of organisations are similarly culturally conditioned (Hofstede, 1991).

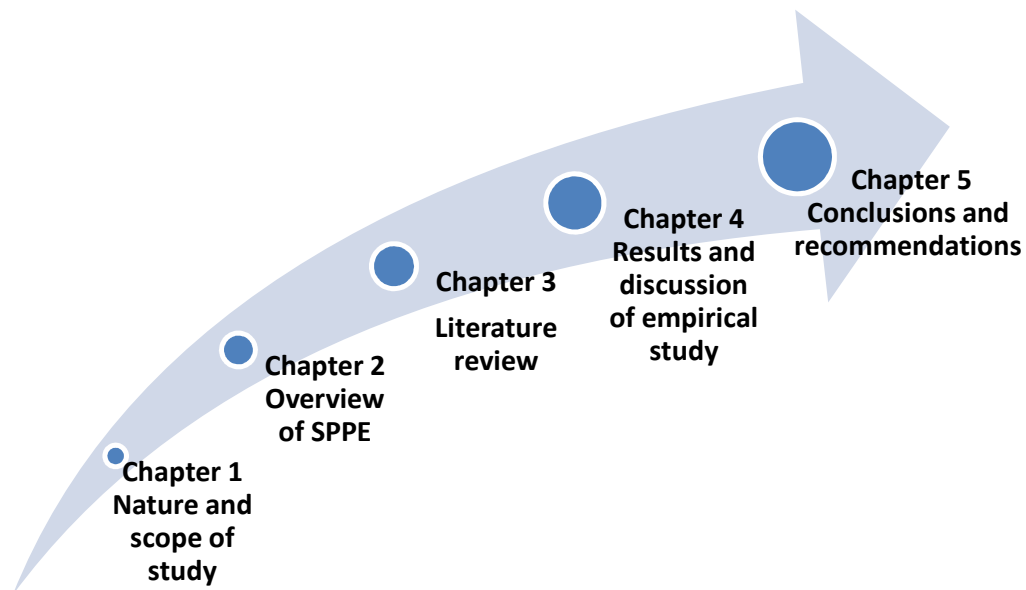
Due to the limitation of financial resources, only SPPE was selected for this study in the personal protective business environment, being limitation of this study.

By taking the aforementioned limitation into account, it could be suggested that further research would be useful.

## 1.7 LAYOUT OF STUDY

The layout of the study is presented in Figure 1.3.

**Figure 1.3: Layout of the study**



### **Chapter 1: Nature and scope of study**

Chapter one provided the background of the study, an introduction of the concepts of entrepreneurship as well as the effect that it could have on an organisation, are discussed. Creating an innovative and entrepreneurial culture in an organisation was suggested as a possible solution for a sustainable business. In this chapter the problem statement, objectives, scope, research methodology and the limitations of the study were discussed.

### **Chapter 2: Overview of SPPE**

This chapter provided a brief overview of SPPE. SPPE is a fairly young company in South Africa that was founded in 1989. As a multi-brand service provider of customised, on-site personal protective equipment (PPE) managed solutions in sub-

Saharan Africa, the company provides customers with partnership-based management solutions for the procurement, and individually recorded issues of PPE.

SPPE has been established to serve a niche market, and has since inception grown in experience and thus dominated the market share. SPPE currently employs in excess of 338 people to run its South African operation, and serves an impressive complement of over 183 on-site stores, supported by strategically placed distribution centres. The company is a division of the global leader in safety, Mining Safety Appliances company (MSA), a New York Stock Exchange listed company, providing it with financial stability and access to international product expertise.

### **Chapter 3: Literature review on corporate entrepreneurship and entrepreneurial orientation**

The term entrepreneurship was defined by highlighting aspects of entrepreneurship, and by defining the term entrepreneurship and entrepreneurial orientation. The variables thereof was investigated and for the purpose of this study, the five variables of entrepreneurial orientation, namely **Innovativeness**, **Pro-activeness**, **Risk-taking**, **Autonomy** and **Competitive aggressiveness**, were described. The effect of the entrepreneurial orientation was measured against the perceived success of the organisation, namely **Business growth** and **Business development and improvement**.

### **Chapter 4: Empirical research and results**

The data distribution, gathering and analysing process was explained, and the data statistically analysed. The processed data, responses, analyses and findings were presented in this chapter. A questionnaire was used to conduct an empirical study to investigate the five variables of entrepreneurial orientation, as well as the two variables of the perceived success in the organisation. The questionnaire that was used to conduct the study consisted of three sections.

### **Chapter 5: Conclusion and recommendations**

The last chapter of the study drew conclusions from all the literature, analyses and findings of the study. Recommendations were based on the findings, and the chapter

were concluded by assessing the achievement of the objectives of the study and suggestions for further research.

# CHAPTER 2

## OVERVIEW OF THE PERSONAL PROTECTIVE EQUIPMENT INDUSTRY IN SOUTH AFRICA

### 2.1 INTRODUCTION

The Personal Protective Equipment (PPE) industry is a very aggressive and competitive environment and requires organisations to introduce innovative, superior and quality products at competitive prices in order to capture and retain market share (Pieterse, 2013).

Pieterse (2013) further states that SPPE and MSA (Mining Safety Appliances Company) are a global company. Business has become more incorporated with supply chains crossing multiple nations, and any inefficiencies and inadequacies in this chain and internal resources due to out-dated and old fashioned processes, affect the ability of SPPE and MSA to be profitable.

According to Pieterse (2013), operational efficiency and effectiveness is the understanding and consideration of the company's value chain, and is therefore a critical and decisive factor that can either translate to the company being in continuous business, or simply going out of business.

Marshall (2012), a supplier of leisure wear and PPE, state that work-related injuries cost the South African economy a staggering R121billion every year, based on the reports from the trade union, Solidarity. PPE must therefore, be high on the agenda of any industrial employer.

Marshall (2012) also proposes that one of the challenges is to get organisations that have employees working in dangerous environments, to recognise the benefits of certified PPE, as well as to be aware that the risk of an employee being injured is probably the single largest potential cost to the company in terms of injury compensation.

According to Marshall (2012), PPE is the last line of defence in any dangerous working environment. He says: “A safety officer will first determine the risk involved in a situation, install mechanical structures to reduce risk and, finally, consider the type of PPE needed for the particular individuals who will be working on site.” He continues by adding that organisations have to realise that PPE is not an unnecessary evil, but it rather lessens the risk of injury or death. Reducing injury-related compensation, by far outweighs any savings attained by buying inferior PPE.

Marshall (2012) also believes that the PPE industry should start offering solutions to challenges experienced by their clients, rather than expecting their clients to understand the functions of particular PPE products. He concludes: “There has to be an on-going recognition that PPE forms part of the average unit cost of labour, which is constantly increasing. Organisations will become aware of the importance of high-quality PPE as the cost implications of work injuries become clear. One can always replace a machine, not an individual.”

PPE is defined as “all equipment including clothing which is intended to be worn or held by persons at work and which protect them against one or more risks to their health and safety”. The South African Mine Health and Safety Act 29 of 1996, stipulates that it is the duty of every employer to provide appropriate PPE to workers and ensure its use. The act also stipulates that employees should use PPE in the required manner and ensure adequate maintenance of the equipment (Figure 2.1).

**Figure 2.1: MSA and SPPE basic PPE for most industries**



Frost and Sullivan have conducted research on the South African Personal Protective Equipment Market, Chemicals, Materials and Food (CMF). The report has been published on 25 May 2009. Frost and Sullivan have found in their research that managing product cost fluctuations, competition from low-cost imports and increased labour costs, are common challenges for all suppliers of consumable products in South Africa. For many protective equipment suppliers, however, these challenges are outweighed by strong driving factors.

Sustained activity in the construction and mining end-user industries in South Africa, has been promoting demand in the \$521.3 million protective equipment market over the past five years and during the 2009 economic crisis. They furthermore note that current and planned infrastructural development activity in emerging markets, including most of Africa and the Middle East, has set the course for sustained supply. While some protective equipment suppliers have already made their footprint, others look forward to a positive future.

## **2.2 CHALLENGES FACED BY THE PERSONAL PROTECTIVE EQUIPMENT INDUSTRY**

The research by Frost and Sullivan (2009) provides an analysis of the above-the-neck personal protective equipment, protective clothing, respiratory protective equipment, protective gloves and protective footwear markets. The research also provides opportunity analyses across various end-user industries. The findings of the report will be discussed further in this section.

### **2.2.1 Market overview of infrastructural development activity in emerging markets to support sustained demand**

Sustained employment activity in mining and construction industries benefits protective equipment suppliers, notes the analyst of this research (Frost & Sullivan, 2009). The analyst further argues that the positive outlook of suppliers shows how well the market is performing despite the economic crisis. While some suppliers have witnessed tremendous declines in sales, many look forward to upcoming opportunities in emerging markets.

The current infrastructural development in South Africa and Sub-Saharan Africa is continuing despite the global economic crisis. Investments are being focused on economic and infrastructural development of key countries in Africa. With these projects in mind, demand for protective equipment is ensured. Some organisations have already secured supply contracts to certain areas in Africa and the Middle East.

The current infrastructural development in Africa is being funded continuously, which includes energy-related projects, transport, and general infrastructural development. In South Africa, the development for the 2010 FIFA World Cup has also been a major contributor to general infrastructure. While many of these projects are currently on going, there is a tremendous amount of interest for infrastructural growth up to 2030. The growth in protective equipment demand is expected to increase with these developments.

### **2.2.2 Emerging markets present growth opportunity**

According to Frost and Sullivan (2009), the slowing economy has had a significant impact on protective equipment supply; the market demand has slowed down, but is sustainable. Lack of enforcement of safety regulations by Government is also a major concern to suppliers. While it is restraining demand to a small extent, the increasing general awareness of safety by both employers and employees is, in turn, driving demand. Refer to Figure 2.2 to 2.6 in this regard.

Frost and Sullivan (2009) explain furthermore, that the slowing economy has without doubt had an impact on the protective equipment market, since it is directly linked to employment in the mining, manufacturing and construction industries. The general response from suppliers however, is that the market is sustained by the continuing construction and mining activity.

Most suppliers have secured contracts and have long-established partnerships. Currently, the challenge for these suppliers is to gain access to opportunities in other emerging markets in Africa, with some suppliers already making their mark. Securing

growth for protective equipment suppliers is challenging, because the market is well established and many suppliers hold strong relationships with end users.

New opportunities, in South Africa and abroad, should be the focus of organisations looking to expand. Securing supply to development projects in Sub-Saharan Africa, offers a strong area for growth. Suppliers need to focus on emerging Sub-Saharan African countries, and investigate expansion into these markets. Energy-related infrastructural developments for example, are plenty, and will open the pathway for growth and present potentially lucrative opportunities. In the short-term, the focus should be on simple supply to these countries, while in the long-term, organisations can start looking at establishing bases (Frost and Sullivan, 2009).

**Figure 2.2: Frost & Sullivan’s PPE Market Composition by Product types**

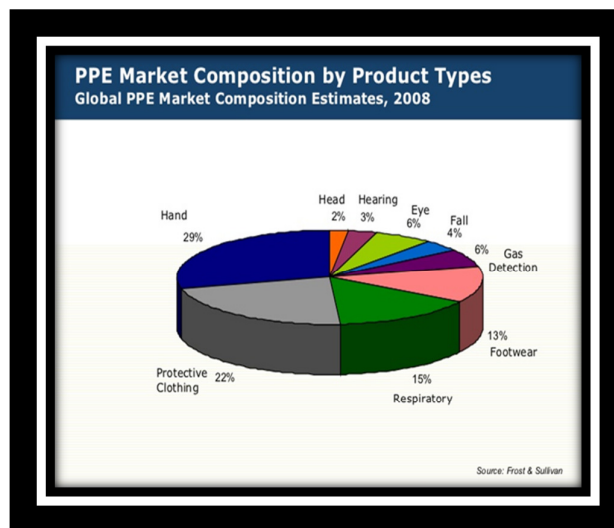


Figure 2.3: Frost & Sullivan's restrain Growth indicators in PPE Industry in 2009 and beyond

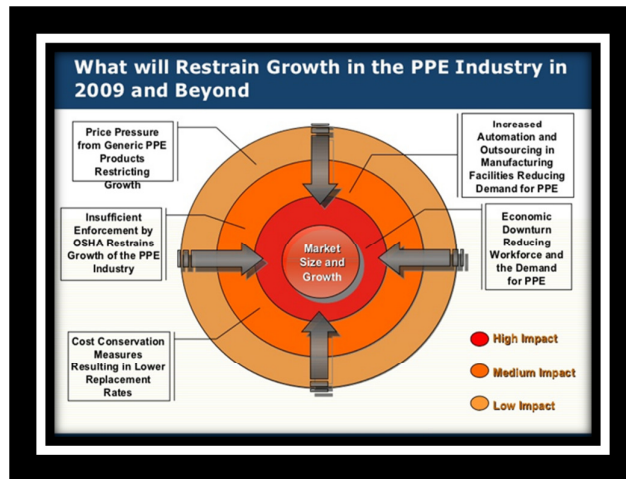
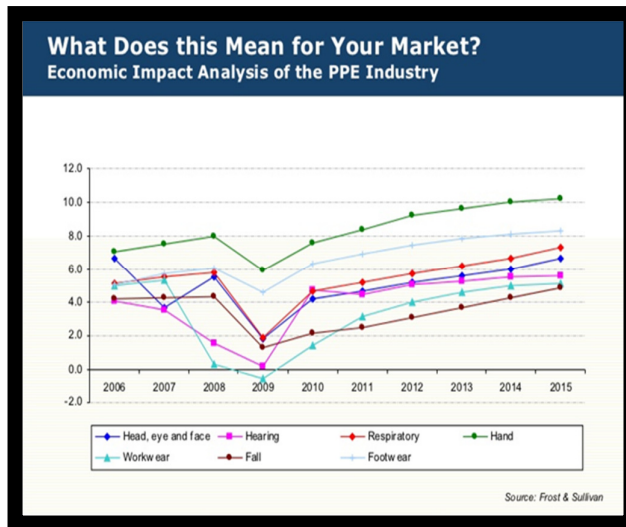
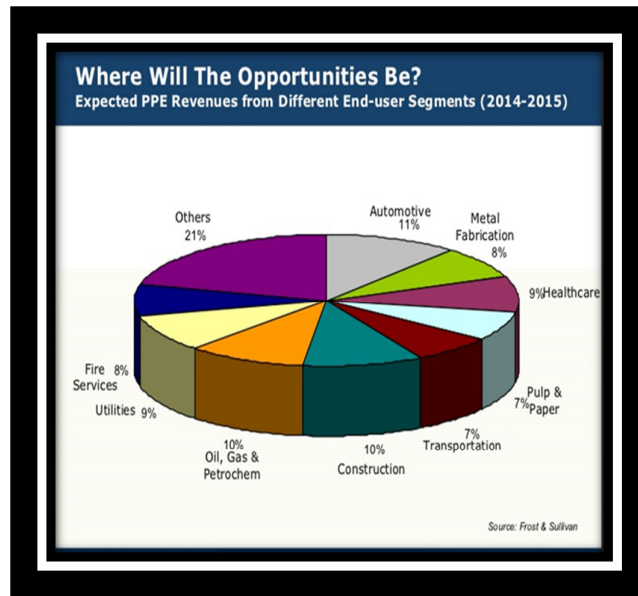


Figure 2.4: Frost & Sullivan's Economic Impact Analysis of the PPE Industry



**Figure 2.5: Frost & Sullivan’s Expected Revenues from different end-user segments**



**Figure 2.6: Frost & Sullivan’s PPE used in different industries**

	Hand Protection	Eye Protection	Head Protection	Foot Protection	Respiratory Protection	Fall Protection	High Voltage Protection	Thermal Protection	Other
<b>Automotive &amp; Transportation</b>	X	X		X	X	X			
<b>Construction</b>	X	X	X	X	X	X	X		
<b>Fire Fighters</b>	X		X	X		X		X	X
<b>Food Processing</b>	X							X	
<b>Glass Manufacturing</b>	X		X		X			X	
<b>Healthcare</b>	X		X		X			X	
<b>Mining</b>	X	X	X	X		X		X	X
<b>Oil &amp; Gas</b>	X	X	X	X	X	X		X	X
<b>Pulp &amp; Paper</b>	X					X			
<b>Utilities</b>	X			X		X	X	X	

### **2.3 HISTORY OF SPPE, A DIVISION OF SAMSAC AFRICA (PTY) LTD**

According to Pieterse (2013), SPPE is the leading, multi-brand service provider of customised, on-site personal protective equipment (PPE) managed solutions in Sub-Saharan Africa. It has been founded in 1998. The company provides customers with partnership-based management solutions for the procurement and individually recorded issue of PPE.

He continues by stating that SPPE has been established to serve a niche market, and has since inception grown in experience and thus dominated market share. SPPE currently employs in excess of 338 people to run its South African operation, and serves an impressive complement of more than 183 on-site stores, supported by strategically placed distribution centres. The company is a division of the global leader in safety, namely Mining Safety Appliances company (MSA), a New York Stock Exchange listed company, providing it with financial stability and access to international product expertise. SPPE is also proud of its B-BBEE partnership with the Mineworkers Investment Company (MIC), and its status as a level four contributor.

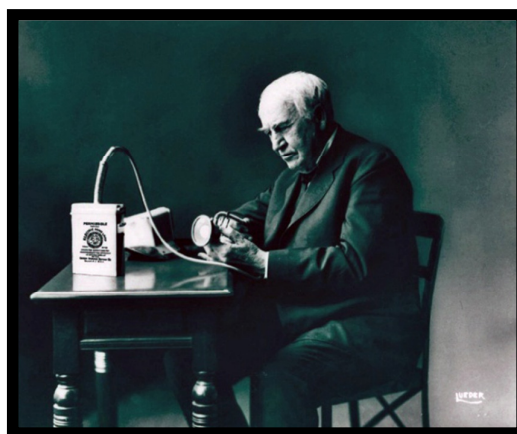
The early years of the 20th Century were some of the deadliest years in the recorded history of mining in the United States, as the demands of an industrialising society created increased demands for coal. In 1909, twenty coal-mine disasters were recorded, the most on record. In 1910, twenty five mine disasters (metal/non-metal and coal) were recorded. The Monongah Coal mine in West Virginia was the site of the largest coal mine disaster in the US history in 1907, with 362 deaths recorded. This disaster prompted Congress to create the US Bureau of Mines as an attempt to improve working conditions across the country (see Figure 2.7).

**Figure 2.7: A postcard documents the rescuers at the Darr Mine Disaster (Photo: Donald Lancaster & Ann Toth)**



It was these mounting disasters that prompted mine engineer John T. Ryan Sr and George H. Deike, to found the Mine Safety Appliances Company (MSA) in 1914. They enlisted Thomas Edison to help them create a dependable and safe electric cap lamp (see Figure 2.8). Electricity had been available in homes for years, but the application of electric lighting in mines was a harder proposition, due to the extensive wiring costs.

**Figure 2.8: Edison with his Lamp (Photo: Thomas Edison museum)**



According to MSA, the history wall was the solution to this problem - a rechargeable battery pack designed by Edison. The Edison Cap Lamp consisted of a battery encased in a self-locking steel case, worn on the miner's belt (Figure 2.9 & Figure 2.10). A flexible cord travelled to the cap lamp, and its entrance into the battery was protected by a flexible steel cover. This battery could power a six-candlepower lamp for 12 hours and could be recharged at the end of the miner's shift. Safety measures in the bulb included an immediate disconnect of the electrical contacts, if the bulb was broken, that cooled the tungsten filament to such a degree that it would not ignite any flammable gasses in the air.

**Figure 2.9: MSA Bullard Hard Boiled Cap Lamp (Photo: MSA gallery)**



**Figure 2.10: Edison safety lamp 1920 (Photo: MSA gallery)**



MSA later manufactured helmets optimized for the Edison Cap Lamp, featuring a mount on the front for the lamp and a guide in the back for the cable, allowing the miner to move around freely without any encumbrance from the wire running from the battery to the bulb. Bullard “Hard Boiled” mining helmets, also included a leather mount that could accommodate, either a carbide lamp or an electric lamp, with a cord guide on the hat’s reverse. An example of this cap lamp can be seen in Figure 2.10. Before safety regulations required miners to wear helmets, they wore electric lamps on both their canvas caps, and hard helmets.

Within a span of 25 years, explosions in mines had decreased by 75 per cent, with the adoption of the Mine Safety Company’s flameless safety lamp. MSA also created the McCaa breathing apparatus, a self-contained breathing device for rescue workers, patented in 1928. MSA designed, patented and produced many products since its founding, making MSA the most important safety business in the world.

## **2.4 SPPE STRATEGY AND APPROACH TO CORPORATE ENTREPRENEURSHIP**

SPPE and ultimately MSA International, promotes corporate entrepreneurship, innovation and ultimately changes within. Innovation has been part of MSA’s heritage, since its founding almost ninety-nine years ago. From the collaboration with Thomas Edison to create the first electric cap lamp, to the latest product offerings, innovation is the fuel that drives MSA’s success (Lambert, 2013).

According to Lambert (2013), it is patents and new business processes, key measurements of sustainable innovation, and an important way MSA differentiates itself in the market. This activity is to be encouraged, recognized and rewarded (see Figure 2.11). Inventors of the year are recognized annually for their valuable and noteworthy achievements, as well as their continued commitment to MSA’s heritage of innovation and excellence.

According to Pieterse (2013), organisations should stop focusing on line- or item cost, and rather take a more strategic and broader view of personal protective equipment development and procurement. Out-dated procurement practices and a

lack of innovative products and processes, can be costly for SPPE, therefore they should improve technology to optimise new innovative developments and the vendor management process. He further explained that by using a technology-driven and integrated system, a company can detect and eliminate additional costs, often prevalent in traditional procurement methods.

**Figure 2.11: MSA Inventors of the year award**



Health and safety legislation in South Africa is becoming increasingly important for all PPE organisations. It is imperative to keep abreast of the latest developments in the industry, and the impact of industry regulations on businesses.

## **2.5 SUMMARY**

Kuratko and Hodgetts (2007:63) state that for corporate entrepreneurship to operate as a strategy, it must run deep within the business. Those at the middle and lower ranks in the business have tremendous effects on, and important roles within, the entrepreneurial and strategic processes. Top managers must drive the process, but while top management can instigate the strategy, top management cannot dictate it.

Top-level managers take the responsibility for promoting entrepreneurial behaviour when corporate entrepreneurial strategy is used. They will communicate and develop an entrepreneurial strategic vision. It is important to note that entrepreneurship is not just the responsibility of senior management, but it is a shared responsibility these

top-level managers must work on with the organisational architectures to create an environment where entrepreneurial initiatives flourish without direct involvement.

According to Lambert (2013), it is patents and new business processes, key measurements of sustainable innovation and an important way MSA differentiates itself in the market. Continued commitment of innovation and excellence is encouraged at all levels in the organisation.

# CHAPTER 3

## LITERATURE REVIEW OF CORPORATE ENTREPRENEURSHIP

### 3.1 INTRODUCTION

Entrepreneurship is one of the essential determining factors in the creation of economic wealth in a society. Entrepreneurship involves the definition, creation and distribution of value and benefits to individuals, groups, organisations and societies. Entrepreneurship is very seldom a get-rich-quick proposition, but is rather one of building long-term value and durable cash-flow streams (Nieuwenhuizen, 2003:9).

According to Thornberry (2003:329), innovation is a requisite for an organisation to remain competitive, especially in uncertain and turbulent times. Thornberry further states that corporate entrepreneurship is swiftly becoming a weapon of choice for many large organisations. It is an attempt to take both mind-set and skill set demonstrated by successful start-up entrepreneurs and instil these characteristics into the culture and activities of large organisations (Thornberry, 2003:330).

In our current business environment, entrepreneurship has evolved beyond the classic start-up notion, to include organisations of all types and in all stages of development. Thus entrepreneurship can occur, or fail to occur, in firms that are either old or new, fast- or slow growing.

Thornberry furthermore states that not all organisations need to embrace a concept of corporate entrepreneurship. Some organisations are doing quite well by running their business in a planned, effective and efficient manner. Thornberry also highlights that because rapidly changing environments are by definition unpredictable, planning becomes a fairly inaccurate and blunt weapon. If you cannot plan for an unpredictable future, you have to prepare for it, by building an organisation that is opportunity focused (Thornberry, 2003:331).

Entrepreneurship is a way of thinking, reasoning, and acting and is also opportunity obsessed, holistic in approach and leadership balanced. Entrepreneurship results in creation, enhancement, realization and renewal of value, not just for owners, but for all participants and stakeholders as well (Timmons & Spinelli, 2009:47).

## **3.2 DEFINITIONS**

### **3.2.1 Entrepreneurship**

According to Hisrich, Peters and Shepherd (2008:16), corporate entrepreneurship involves entrepreneurship within an existing business. As stated by Le Roux, De Beer, Ferreira, Hubner, Jacobs, Kritzinger, Labuschagne, Stapelberg and Venter (2004:295), there are three main components of the definition of entrepreneurship:

- Entrepreneurship is formed by individuals on their own, or within organisations, and not by enterprises.
- The behaviour that individuals portray is the pursuit of opportunities.
- The opportunities are those pursued regardless of the resources the entrepreneurs currently control.

In the Oxford English Dictionary (2009:477), the term “entrepreneurship” is defined as a person who sets up a business or businesses, taking on financial risks, in the hope of profit. An operational definition of entrepreneurship is proposed by Sharma and Chrisman (1999:17), in that entrepreneurship entails acts of organisational creation, and renewal or innovation that occur within or outside an existing organisation.

According to Burns (2005:9), entrepreneurship is something that organisations of all sizes and forms wish to encourage and promote - it is all about managing change. Cornwall and Perlman (1990:189) state that during economic downturn periods, it is important to identify opportunities and minimize failures and mistakes. Dess *et al.* (1997:677) emphasised this by stating that managers should manage demographic changes, such as the decrease in some, and enormous growth in others.

Entrepreneurship is needed when external turbulences forces organisations into fundamental internal transformation. Organisations need to ensure sustainable competitive advantage through adaptability, flexibility, speed, aggressiveness and innovativeness. All these are distinctive of entrepreneurial orientation in a company (Morris & Kuratko, 2002:15).

According to Gurol and Atsan (2006:25), entrepreneurship is regarded as the engine of economic progress, job creation and social adjustments. Antoncic and Hisrich (2003:7) state that corporate organisations are largely dependent on the entrepreneurs within the organisation to keep the competitive edge.

### **3.2.2 Entrepreneur**

According to Nieuwenhuizen (2004:33), entrepreneurs recognize and discover opportunities for new products and services and obtain the resources and finance to produce and deliver them.

The word entrepreneur is derived from the French words meaning “between” and “to take”; thus the person who takes a position between a supplier and customer; the one who takes the risk and succeed. The act of action is the element which distinguishes the entrepreneur from other individuals (O’Neill, Terblanche & Keyter, 1997:2). Sexton and Bowman-Upton (1991:12) further define entrepreneurship as an approach to general management that begins with the recognition of the opportunity, and culminates with the exploitation of the opportunity. An entrepreneur is defined by the Oxford Dictionary (1994) as one who organises, manages and assumes the risks, and reaps the benefits of a new business enterprise or commercial venture.

According to Shelton and Darling (2001:45), an entrepreneur is the person who is the innovator and developer who recognizes and seizes these opportunities, converts them into workable and marketable ideas, and adds value through time, effort, skills and money; and assumes the risk of the competitive marketplace to implement these ideas and realize the rewards for those efforts.

### **3.2.3 Corporate entrepreneurship**

According to Echols and Neck (1998:38), corporate entrepreneurship means organisations can foster profit making innovation by encouraging employees to think like entrepreneurs, and giving them the freedom and flexibility to pursue their projects without bogging down in bureaucratic sluggishness.

Corporate entrepreneurship is seen as a critical component to organisational success, especially in organisations that operate in rapidly changing industries (Eesley & Longenecker, 2006:19). Corporate entrepreneurship can be a solution to large organisations' lack of innovation, stagnated top-line growth, and the inaction that often overtakes the large, mature organisations of the world (Thornberry, 2001:526).

Established organisations may essentially be forced to behave entrepreneurially within the organisation, in order to defend their position in the market (Hass, 2011:64). Competitive successes for organisations require of managers to make strategic choices (Thompson, Peteraf, Gamble & Strickland, 2012:53). Coulter (2003:15) states that just identifying an opportunity is not enough; the entrepreneurial process also involves pinpointing a possible competitive advantage. Competitive advantage is what sets an organisation apart – the competitive edge.

Strategy is about relating the organisation with its environment, while entrepreneurship is about exploiting opportunities in the same environment. According to Thompson, Strickland and Gamble (2007:1), a company's strategy is the management's action plan for running the business and conducting operations. The strategy represents the managerial commitment to pursue a set of actions to develop the business, attract and please customers, compete successfully, conduct efficient operations and improve the organisation's market and financial performance.

Morris and Kuratko (2002:31) state that corporate entrepreneurship is defined as the entrepreneurial behaviour inside established organisations, which include organisational entrepreneurship, intrapreneurship and corporate venturing.

Adonisi (2003:12) identified the following common concepts regarding corporate entrepreneurship:

- The development of a new business within the existing business.
- Transformation or rebirth of organisations through renewal of key areas of the business.
- Creation, innovation and renewal within the existing organisation.

### **3.3 OVERVIEW OF ENTREPRENEURIAL ORIENTATION**

Strategy making processes and styles of organisations that engage in entrepreneurial activities, are terms referred to in the entrepreneurial orientation process. Five dimensions – autonomy, innovativeness, risk-taking, pro-activeness and competitive aggressiveness - have been used for characterising and distinguishing key entrepreneurial processes, which is a firm's entrepreneurial orientation (Lumpkin & Dess, 1996:136). They furthermore note a distinction between entrepreneurial orientation and entrepreneurship, by stating that entrepreneurial orientation represents key entrepreneurial processes which answer the question of how new ventures are undertaken; whereas the term entrepreneurship refers to the content of entrepreneurial decisions, by addressing what is undertaken.

An entrepreneurial orientation refers to the processes, practices and decision making activities that lead to the new doorways and markets. It involves the intentions and actions of key players functioning in a dynamic generative process aimed at new-venture creation. The key dimensions that characterise entrepreneurial orientation include a propensity to act autonomously, a willingness to innovate and take risks, the tendency to be aggressive toward competitors, and pro-active relating to the marketplace opportunities (Lumpkin & Dess, 1996:136).

Ramachandran, Devaranjan and Ray (2006:86) state that organisations that are not continually innovative, may be making the unintentional strategic decision to be out of business within a few years. Chang, Lin, Chang and Chen (2007:999) state that

entrepreneurial orientation represents the processes, practices and decision-making activities that lead to the development and delivery of new innovative products, services and processes. Entrepreneurial orientation is suggested as a key for success to higher performance (Yamada & Eshima, 2009:1).

Kuratko and Audretsch (2009:3) comment that entrepreneurial orientation implies a commitment to innovation at the heart of the strategic management process. Collis and Montgomery (2005:33) argue that organisations must have a consistent flow of expenditure to be directed to innovation, in order to ensure acceptable long-term levels of strategic intellectual stock that can ensure a sustainable competitive advantage to a successful organisation.

For the purpose of this study, these five dimensions will be considered as independent variables influencing the dependable variable, perceived to be success.

### **3.3.1 Entrepreneurial autonomy**

Entrepreneurial autonomy, according to Lumpkin and Dess (1996:140), refers to the independent actions of an individual or a team, in bringing forth a business vision or concept, and moving it all the way through to completion.

Very few studies have investigated autonomy as an element of entrepreneurial orientation, even though Lumpkin and Dess (1996) have proposed the inclusion of autonomy as a dimension of entrepreneurial orientation. According to Gurbuz and Aykol (2009:324), businesses rely on entrepreneurial orientation to create new value, while according to Casillas and Morena (2010:270), autonomy constitutes one of the bases for innovative and entrepreneurial behaviour.

Considering the above arguments, the following hypothesis has been formulated:

H<sup>1</sup>: There is a positive relationship between autonomy in the workplace and perceived success of the participating personal protective equipment business.

### **3.3.2 Innovativeness**

According to McFadzean, O'Loughlin and Shaw (2005:353), innovativeness is the willingness to introduce and support novelty through experimentation, and creative processes aimed at developing new products and services, as well as new processes.

The positive relationship between innovativeness and a business's performance, has been well researched in the past, and presents the greatest degree of consensus, especially with reference to research done by Morena and Casillas (2008:507–528), and Wiklund and Shepherd (2003:1307-1314, 2005:7-91).

Innovative businesses could generate extraordinary performance and thus have been described as the engines of economic growth (Wiklund & Shepherd 2003:1309).

For the above reasons and the confidence through research that a positive relationship exists between innovativeness and perceived business success, the following hypothesis has been derived:

H<sup>2</sup>: There is a positive relationship between innovativeness in the workplace and perceived success of the participating personal protective equipment business.

### **3.3.3 Pro-activeness**

Casillas and Moreno (2010:265-291) have found that proactive businesses expose greater performance and growth, and according to Madsen (2007:187), pro-activeness refers to the position of anticipating and acting on future wants and needs in the market place.

Activities associated with pro-activeness include new opportunity identification, recognition and evaluation, monitoring of market trends and new venture team formation (Kropp, Lindsay & Shoham, 2008:104). According to David (2007:200), pro-activeness create first movers who secure access to rare resources, gain

knowledge of key factors and issues, carve out market share and are in a position that is easy to defend and costly for rivals to overtake.

The author is of the opinion that literature has proved that a positive relationship exists between pro-activeness and the perceived success of a business. The following hypothesis has been mentioned to support the opinion:

H<sup>3</sup>: There is a positive relationship between pro-activeness in the workplace and the perceived success of the participating personal protective equipment business.

### **3.3.4 Risk-taking**

According to McBeth and Rimac (2004:18), corporate entrepreneurial businesses are risk-aware and opportunity focused. Risk is defined by Dewett, (2004:258) as the extent to which there is uncertainty about potentially significant and/or disappointing outcomes of a decision. Von Stamm (2008:387) further states that risk is inherent in the operations of any business and almost every decision taken by managers involves risk, such as making decisions and taking action without certain knowledge of the probable outcomes. Some undertakings may also involve making substantial resource commitments in the process of venturing forward. Timmons and Spinelli (2009:52) support this by mentioning that corporate entrepreneurs try to define risk, minimize it as much as possible, and manage it.

Burns (2008:291) notes that not innovating can lead to high risk in the long-term, especially when businesses ignores new products and service opportunities and engages in little or no innovation. The relationship between risk-taking and the success of a firm is not clear. Wiklund and Shepherd (2005:75) argue that strategies may lead to performance variations in view of the fact that some projects fail, while others succeed, at the same stage.

In the view of the above uncertainty, the author is of the opinion that a positive relationship exists between risk-taking and the perceived success of a business. The following hypothesis is mentioned in support:

H<sup>4</sup>: There is a positive relationship between risk-taking in the workplace and perceived success of the participating personal protective equipment business.

### **3.3.5 Competitive aggressiveness**

According to Lumpkin and Dess (1996:148), competitive aggressiveness refers to a business's susceptibility to directly and intensely challenge its competitors. An intense attempt to do better and outperform its industry rivals is characterised by an aggressive posture, or a forceful response, intended to improve position or overcome a threat in a competitive marketplace. The importance of the above statement regarding competitive aggressiveness, within an entrepreneurial orientation is a reaction to competitive trends and demands that already exist in the market place.

Competitive aggressiveness has been investigated less frequently, as researchers have often treated pro-activeness and competitive aggressiveness as if they were similar (Lumpkin & Dess, 2001:431). Although closely connected Lumpkin and Dess (1996:147) feel that there is a significant and important distinction between the two. For this reason the researcher feels that further research to support the above statement is needed.

H<sup>5</sup>: There is a positive relationship between competitive aggressiveness in the workplace and perceived success of the participating personal protective equipment business.

## **3.4 OVERVIEW OF THE PERCEIVED SUCCESS OF A BUSINESS**

Dess, Lumpkin and Covin (1997:678) ask the following question: "What are performance indicators for firms operating in an entrepreneurial strategy making mode?" They continue by providing the following answer: "On the one hand there seems to be a strong normative bias toward the inherent value in entrepreneurial behaviour and an assumption or explicit depiction of a positive relationship between behaviour and desired organisational outcomes such as sales growth and profit."

According to Rauch, Wiklund, Lumpkin and Frese (2009: 761-787), the conceptual arguments suggest that entrepreneurial orientation results in stronger performance, performance is a multi-dimensional concept, and the relationship between entrepreneurial orientation and performance may depend on the indicators used to measure performance (Lumpkin & Dess, 1996). Findings by Frese, Brantjes and Hoorn (2002:276) indicate that entrepreneurial orientation, referring to the dimensions of innovativeness, autonomy, competitiveness and risk-taking has been positively related to success - "Business owners who develop new ideas on products, services and technologies, who are more self-directed, who risk more and who challenge their competitors more are more successful than people with a low degree of entrepreneurial orientation" (Frese *et al.*, 2002:276).

Zahra and Covin (1995:43-58) argue that there are at least two reasons for expecting a relationship between entrepreneurial activities and subsequent organisational performance: Firstly, innovation can be a source of strong positive market reputation and indicating competitive advantage for an organisation; Secondly, entrepreneurial organisations are agile, flexible and quick to respond to attractive opportunities. Kuratko (2006:3) notes that the United States of America has achieved the highest economic performance by fostering and promoting entrepreneurial activities within large organisations.

For the purpose of this study, perceived business success has been measured through two dependent variables, namely business growth and business development.

### **3.4.1 Business growth**

The measurement of business success is often related to the effectiveness and efficiency that a business's employees are able to employ in producing the business outputs (Dess, Ireland, Zahra, Floyd, Janney & Lane, 2003:370).

According to Lumpkin and Dess (1996:151), "prior theory and research have suggested that an entrepreneurial orientation is a key ingredient for organisational success." Business growth includes growth in turnover and profit, growth in market

share, a better competitive position, image and morale of the business and job satisfaction of employees.

The importance of entrepreneurship to the strategic management of firms has been widely accepted. Lotz (2009:19) validates in his study the construct of business growth with referral to growth in profits, turnover, market share and the competitive position of the business over the past few years.

Financial measures, according to Van der Post (1997:75), provide a solid foundation from which to draw inferences regarding the success and effectiveness of financial returns. The most popular financial measures include sales growth and return on assets, and growth in market share (Covin & Slevin, 1991:7-25). "Revenue is a primary consideration for any business. If there is no revenue, there is no business. Providing a valuable product or service to customers is the primary means by which business produce revenue" (Deuning & Sherril, 2007:79).

### **3.4.2 Business development and improvement**

Successful businesses create people centred businesses in which human capital is viewed as the most important asset (Kreitner & Kinicki, 2008:4).

The performance of an organisation's members is determined by the inner organisational environment. Member's performance will be enhanced when they display a positive emotion, passion for work and favourable perceptions of their team members or organisation. Organisations operating in an atmosphere of higher entrepreneurial orientation, and social capital, might also enhance their intellectual capital. These organisations that operate in highly interactive and coordinative environments will enable employees to create a climate of innovation and information sharing (Wu, Chang & Chen, 2008:272).

Lotz (2009:19) highlights that business development refers to highly committed employees, viewed as the most valuable asset of the business and the improvement of job satisfaction, image of the business, efficiency and effectiveness over the past

few years, with continued investment in research and development or investment into innovative projects.

### 3.5 THE HYPOTHESIS MODEL

In Figure 3.1 the dimensions of entrepreneurial orientation hypothesised as influencing the dependent variable, perceived success of the organisation as depicted, namely Autonomy, Innovativeness, Pro-activeness, Risk-taking and Competitive aggressiveness (Lotz 2009). As noted by Lotz, the dimensions of an entrepreneurial orientation investigated in this study are justified by a sufficiency of theory in corporate entrepreneurship literature. No claims are made that the model has an exhaustive coverage of every possible factor influencing the perceived success of the organisation.

**Figure 3.1: Hypothesis model**



The dependent variable, **Perceived business success**, for the purpose of this study, has been measured by two variables, Business growth and Business development. It is, therefore, necessary to reformulate the hypotheses to incorporate both dependent variables measuring business success.

The amended hypotheses are:

H<sup>1a</sup>: There is a positive relationship between **Autonomy** in the workplace and **Business growth** of the participating personal protective equipment business.

H<sup>1b</sup>: There is a positive relationship between **Autonomy** in the workplace and **Business development and improvement** of the participating personal protective equipment business.

H<sup>2a</sup>: There is a positive relationship between **Innovativeness** in the workplace and **Business growth** of the participating personal protective equipment business.

H<sup>2b</sup>: There is a positive relationship between **Innovativeness** in the workplace and **Business development and improvement** of the participating personal protective equipment business.

H<sup>3a</sup>: There is a positive relationship between **Risk-taking** in the workplace and **Business growth** of the participating personal protective equipment business.

H<sup>3b</sup>: There is a positive relationship between **Risk-taking** in the workplace and **Business development and improvement** of the participating personal protective equipment business.

H<sup>4a</sup>: There is a positive relationship between **Pro-activeness** in the workplace and **Business growth** of the participating personal protective equipment business.

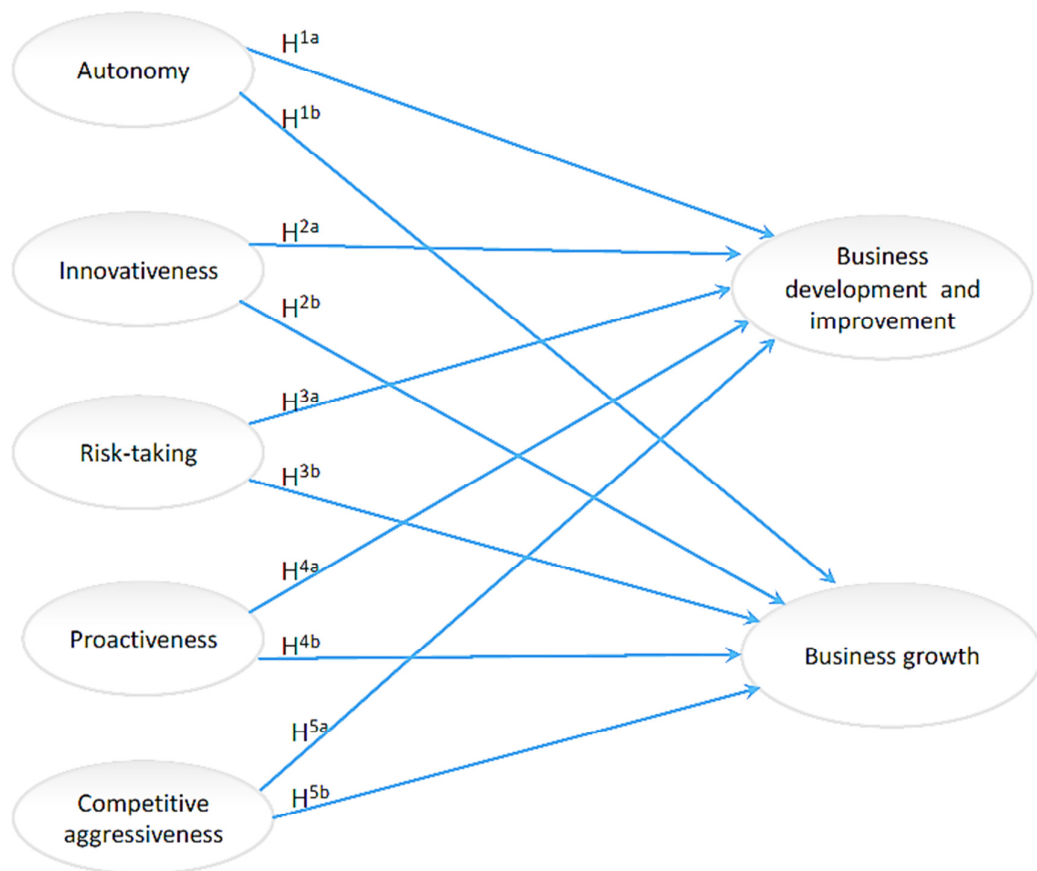
H<sup>4b</sup>: There is a positive relationship between **Pro-activeness** in the workplace and **Business development and improvement** of the participating personal protective equipment business.

H<sup>5a</sup>: There is a positive relationship between **Competitive aggressiveness** in the workplace and **Business growth** of the participating personal protective equipment business.

H<sup>5b</sup>: There is a positive relationship between **Competitive aggressiveness** in the workplace and **Business development and improvement** of the participating personal protective equipment business.

In Figure 3.2 the amended hypothesis model is presented as the dependent variable. **Perceived business success**, for the purpose of this study, has been measured by two variables, namely Business growth and Business development. It is therefore necessary to reformulate the hypotheses to incorporate both dependent variables measuring business success.

**Figure 3.2: Amended Hypothesis model**



### 3.6 SUMMARY

Jordaan, Van der Merwe and Oosthuizen (2009:24) recommended that organisations should integrate innovative programmes into formal corporate strategy, and training for managers and employees on various aspects of entrepreneurial

orientation should be attended. Jordaan *et al.* (2009:24) also suggested that a multidisciplinary approach across departmental boundaries should be encouraged and fostered by all levels of management.

Jordaan *et al.* (2009:24) recommended the following:

- Strong entrepreneurial leadership and commitment from all levels of management, which is critical in fostering an entrepreneurial climate in the organisation.
- Top Management should take the lead and align the vision of the organisation to human-related factors affecting intrapreneurship in the organisation.
- Management should actively support corporate entrepreneurship in the organisation.
- Management should reinforce entrepreneurial behaviour on a continuous basis by means of the availability of resources and appropriate awards.
- Management should create an environment in which workplace autonomy and freedom can be fostered.
- Management should empower and give freedom to make mistakes and to take risks, although calculated, in their entrepreneurial endeavours.

Hisrich, *et al.* (2008:75-76) recommended the steps below for establishing corporate entrepreneurship in the organisation:

- Secure commitment to corporate entrepreneurship in the organisation by top, upper and middle management.
- Ideas and general areas that top management is interested in supporting, should be identified; along with the amount of risk money that is available to further develop the concept.
- Technology should be used by the organisation to make it more flexible.
- Training of employees by interested managers.
- Organisations need to develop ways to get closer to its customers.
- Organisations that want to become more entrepreneurial should learn to be more productive with fewer resources.
- The concept of “lean and mean” needs to exist if corporate entrepreneurship is to prevail.

- Organisations need to establish a strong support structure for corporate entrepreneurship, which is important since the latter is usually a secondary activity in the organisation and entrepreneurial activities do not immediately affect the bottom line.
- Organisations should reward the performance of the entrepreneurial units.
- Organisations should implement an evaluation system that allows successful entrepreneurial units to expand and unsuccessful ones to be eliminated.

Morris and Kuratko (2002:23) have identified the below main perspectives out of hundreds of perspectives which have been presented in the literature:

- *Creation of wealth:*  
Entrepreneurship involves assuming the risk associated with the facilitation of production in exchange for profit.
- *Creation of organisation:*  
Entrepreneurship entails the founding of new business ventures where none existed.
- *Creation of innovation:*  
Entrepreneurship is concerned with unique combinations of resources, which makes existing methods or products obsolete.
- *Creation of change:*  
Entrepreneurship involves creating change by adjusting, adapting and modifying approaches and skills to meet different opportunities available in the environment.
- *Creation of employment:*  
Entrepreneurship is concerned with employment, management and development factors of production, including the labour force.
- *Creating value:*  
Entrepreneurship is a process of creating value for customers by exploiting untapped opportunities.
- *Creation of growth:*  
Entrepreneurship is defined as a strong and positive orientation towards growth in sales, income, assets and employment.

Hornsby, Kuratko and Zahra (2002:254) view that organisations would venture into corporate entrepreneurship mainly to increase profitability, and add that secondary advantages to this main advantage are strategic renewal, increased innovation, gained knowledge of potential revenue streams and international success. Factors such as the global economic downswing result in a rapid changing world and the adaptability and survival is currently a very important benefit of entrepreneurial organisations.

According to Cornwall and Perlman (1990:29), entrepreneurial organisations are equipped much better to be competitive than any other traditional organisation. Entrepreneurial organisations are able to quickly and effectively respond to changes in the external environment.

# **CHAPTER 4**

## **RESULTS AND DISCUSSION OF EMPIRICAL STUDY**

### **4.1 INTRODUCTION**

In this study the relationship between the entrepreneurial orientation dimensions or constructs, namely autonomy, innovativeness, pro-activeness, competitive aggressiveness and risk-taking (independent variables) on the perceived success (dependent variable) in the organisation under investigation, are explored.

The empirical research has been performed through the administration of a questionnaire to line, middle and senior managers in the personal protective equipment industry. The research has consisted of a formal questionnaire. Prior to discussing the findings of the entrepreneurial orientation questionnaire a biographic profile in terms of age, gender, race is presented.

The standard deviation and mean assist in shaping the extent of differences in how personal protective equipment managers have rated themselves on the five entrepreneurial orientation constructs. The five entrepreneurial orientation constructs have been discussed individually and collectively, with referral to the various means and standard deviations. The reliability of the measuring instrument used is important and has thus been determined by Cronbach alpha coefficients. The two dependent variables of perceived success, namely growth and development, has been discussed independently, and have also assisted in presenting the data as a whole, in order to provide a clear picture of the results obtained, and the significance thereof.

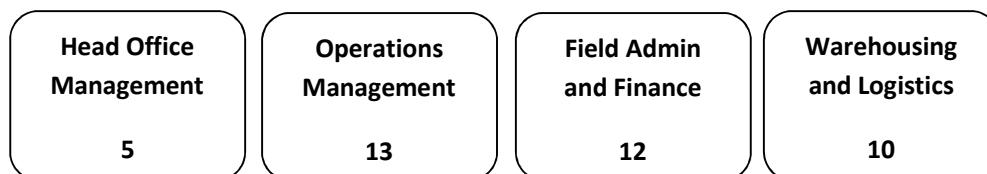
## 4.2 RESEARCH METHODOLOGY, DATA COLLECTION AND STATISTICAL ANALYSIS

### 4.2.1 Gathering of data

According to Strydom, Fouché and Delport (2002:165), a clear distinction must exist between research design and data collection methods. He notes that research design is the plan or design for the investigation. It provides a guideline according to which a selection can be made from the data collection methods, which will be most appropriate to the researcher's goal, and to the selected design. Emails have been sent to all SPPE line-, middle- and senior managers, with the questionnaire attached, and a message explaining the purpose of the study. A total of 40 emails have been sent and 37 respondents have completed and returned the questionnaire for statistical analysis. These managers are responsible for the management of 338 employees in SPPE. The questionnaires received back represents 93% of this population.

### 4.2.2 Study population

Line-, middle- and senior managers of SPPE were targeted as they relayed and translated received information from the executive team.



The current SPPE South Africa's management team which that were targeted consisted of the abovementioned totals per department.

This study is not necessarily representative of all organisations in other regions or countries, as organisations are culturally bound and thus theories and concepts of organisations are similarly culturally conditioned (Hofstede, 1991).

Due to the limitation of financial resources, only SPPE in the personal protective business environment was selected for this investigation, causing a limitation to this study.

Taking the aforementioned limitation into account it is suggested that further research could be useful.

### 4.2.3 Questionnaire used

The questionnaire used in the study, is a standard questionnaire on entrepreneurial orientation, compiled by (Lotz, 2009:324). The questionnaire was customized for the personal protective equipment industry.

## 4.3 RESULTS AND DISCUSSION

### 4.3.1 Respondents by age group

- Purpose of the question

The purpose of Question C1 in Section C (Biographical information) of the questionnaire (refer to Appendix A), was to determine the age group category of respondents.

- Results obtained

The age group classification of the respondents is presented in Table 4.1.

**Table 4.1: Age Group classification of respondents**

Age	Frequency	Percentage
<29	14	37.84
30-39	10	27.03
40-49	11	29.73
50-59	2	5.41
Total	37	100%

- Analysis of results

The largest number of respondents that participated in the research was younger than 29 years old (37.84%). The category 40-49 years represented 29.73% of the respondents and 27.03% were in the age category 30-39. Only 5.41% were older than 50. The age group classification indicates that the SPPE management team are fairly young.

#### 4.3.2 Respondents by gender

- Purpose of the question

The purpose of question C2 in Section C of the questionnaire (refer to Appendix A), was to determine the gender of respondents.

- Results obtained

The gender classification of the SPPE management team that responded is presented in Table 4.2 below.

**Table 4.2: Gender classification of respondents**

Gender	Frequency	Percentage
Female	18	48.65
Male	19	51.35
Total	37	100%

- Analysis of results

The majority of the respondents are males (51.35%), followed by 48.65% females.

### 4.3.3 Race classification of respondents

- Purpose of the question

The purpose of Question C3 in Section C of the questionnaire (refer to Appendix A), was to determine the race of the respondents, according to the South African racial group classification, namely Black, White, Coloured or Indian.

- Results obtained

The race of SPPE management that responded is presented in Table 4.3 below.

**Table 4.3: Race of respondents**

Race	Frequency	Percentage
Black	7	18.92
White	29	78.38
Coloured	0	0
Indian	1	2.72
Total	37	100.00%

- Analysis of results

The majority of the respondents were from the white race group, followed by the black race group (18.92%). Only one Indian (2.72%), but no coloureds, participated in the study.

### 4.3.4 Highest academic qualifications

- Purpose of the question

The purpose of the question C4 in Section C of the questionnaire (refer to Appendix A), was to determine the highest qualification of the participants.

- Results obtained

The highest academic qualification of respondents is presented in Table 4.4.

**Table 4.4: Highest academic qualification of respondents**

Qualification	Frequency	Percentage
Matric	5	13.51
Certificate	9	24.32
Diploma	17	45.95
Degree	4	10.81
Total	37	100%

- Analysis of results

The results indicated that a total of 17 of the respondents have a diploma. This amounted to 45.95% of the total respondents. Four of the respondents have obtained a degree qualification (10.81%). A total of 13.51% of SPPE management respondents only have a matric qualification.

#### **4.4 ASSESSMENT OF THE ENTREPRENEURIAL ORIENTATION**

- Purpose of the question

The purpose of questions A1-27 in Section A of the questionnaire was to determine the entrepreneurial orientation of the respondents who are working as managers in the personal protective equipment industry. The questionnaire was divided into five different constructs which include **Autonomy**, **Innovativeness**, **Risk-taking** and **Pro-activeness** and **Competitive aggressiveness**. These results can be used to determine the influence of these factors on the perceived success of the personal protective industry.

- Results obtained

The average or mean and the standard deviation of each of the 27 items measuring the entrepreneurial orientation of SPPE managers, are indicated in Tables 4.5 to 4.10.

**Table 4.5: Assessment of the dimensions measuring entrepreneurial orientation**

Factor	<i>n</i>	$\bar{x}$	<i>s</i>
Autonomy	37	3.454	0.547
Innovativeness	37	3.900	0.381
Risk-taking	37	3.276	0.562
Pro-activeness	37	3.757	0.548
Competitive aggressiveness	37	3.520	0.602

- Analysis of results

It is important to note that all five of the constructs' means or averages falls within the same category – uncertain to agree – thus between a 3 and 4 rating. The highest agreement was found with **Innovativeness** ( $\bar{x} = 3.900$ ), followed by **Pro-activeness** ( $\bar{x} = 3.757$ ) and **Competitive aggressiveness** ( $\bar{x} = 3.520$ ), all with results higher than the average. The agreement with the constructs below the average mean are **Autonomy** ( $\bar{x} = 3.454$ ), and **Risk-taking** with the lowest mean ( $\bar{x} = 3.276$ ).

The results of Table 4.5 indicate that there is a general agreement regarding the entrepreneurial orientation variables. The five constructs with the items contained within each construct and its results, will be discussed.

#### 4.4.1 Autonomy

- Purpose of the question

The purpose of statements A1-A5 in Section A of the questionnaire (refer to Appendix A), was to determine the level of **Autonomy** that managers in the personal

protective industry experienced. Each respondent had to rate each statement 1 to 5, with 1 for 'strongly disagree' and 5 for 'strongly agree'.

- Results obtained

Table 4.6 indicates the results showing the mean and standard deviation for each variable.

**Table 4.6: Autonomy of respondents**

Item	<i>n</i>	$\bar{x}$	<i>s</i>
I have enough autonomy in my job without continual supervision to do my work.	37	4.081	0.722
Our business allows me to be creative and try different methods to do my job.	37	3.784	0.854
Employees in our business are allowed to make decisions without going through elaborate justification and approval procedures.	37	2.649	1.006
Employees in our business are encouraged to manage their own work and have flexibility to resolve problems.	37	3.838	0.688
I seldom have to follow the same work methods or steps while performing my major tasks from day to day.	37	2.919	1.038

- Analysis of results

Within the construct of **Autonomy** five statements were rated on a scale from 1 to 5, and the mean and standard deviation is indicated in Table 4.2 above. Three of the five constructs evaluated had a mean score above the average mean ( $\bar{x}$  =3.454). The highest rating was obtained for the statement relating to **I have enough autonomy in my job without continual supervision to do my work**. The average or mean is calculated at ( $\bar{x}$ =4.081), followed by the item, **Employees in our business are encouraged to manage their own work and have flexibility to resolve problems**, with an average of ( $\bar{x}$ =3.838), and the item, **Our business allows me to be creative and try different methods to do my job**, with an average of ( $\bar{x}$ =3.784).

The rest of the items, namely **Employees in our business are allowed to make decisions without going through elaborate justification and approval procedures** ( $\bar{x}=2.919$ ), followed by **Employees in our business are allowed to make decisions without going through elaborate justification and approval procedures** ( $\bar{x}=2.649$ ), were below the construct mean ( $\bar{x}=3.454$ ). The standard deviation ranged between 0.688 and 1.038.

#### 4.4.2 Innovativeness

- Purpose of the question

The purpose of statement A6-A14 in Section A of the questionnaire (refer to Appendix A), was to determine the level of **Innovativeness** that managers in the personal protective equipment industry experienced.

- Results obtained

Table 4.7 indicates the results showing the mean and standard deviation for each variable.

**Table 4.7: Innovativeness of respondents**

Item	<i>n</i>	( $\bar{x}$ )	<i>s</i>
Our business regularly introduces new services/products/processes.	37	3.757	0.495
Our business places a strong emphasis on new and innovative products/ services/processes.	37	3.892	0.516
Our business has increased the number of services/products offered during the past two years.	37	4.081	0.640
Our business is continually pursuing new opportunities.	37	4.216	0.584
Over the past few years, changes in our processes, services and product lines have been quite dramatic.	37	3.622	0.794
In our business there is a strong relationship between the number of new ideas generated and the number of new ideas successfully implemented.	37	3.676	0.884
Our business places a strong emphasis on continuous improvement in products/service delivery/processes.	37	4.027	0.600
Our business has a widely held belief that innovation is an absolute necessity for the business' future.	36	4.111	0.708
Our leaders seek to maximise value from opportunities without constraint to existing models, structures or resources.	37	3.730	0.804

- Analysis of results

Four of the items evaluated, namely **Our business is continually pursuing new opportunities** ( $\bar{x}=4.216$ ), **Our business has a widely held belief that innovation is an absolute necessity for the business' future** ( $\bar{x}=4.111$ ), **Our business has increased the number of services/products offered during the past two years** ( $\bar{x}=4.081$ ), **Our business places a strong emphasis on continuous improvement in products/service delivery/processes** ( $\bar{x}=4.027$ ), had a mean above the average mean ( $\bar{x}=3.900$ ).

The other five items had a ranking below the mean ( $\bar{x}=3.900$ ), with **Over the past few years, changes in our processes, services and product lines have been quite dramatic**, obtaining the lowest result - below the mean ( $\bar{x}=3.622$ ). The standard deviation ranged between a high of 0.884 and a low of 0.495.

### 4.4.3 Risk-taking

- Purpose of the question

The purpose of statement A15-A19 in Section A of the questionnaire (refer to Appendix A), was to determine the level of risk-taking among respondents.

- Results obtained

Five statements were rated on a scale from 1 to 5 and the mean and standard deviation is indicated in Table 4.8.

**Table 4.8: Risk-taking of respondents**

Item	<i>n</i>	$\bar{x}$	<i>s</i>
When confronted with uncertain decisions, our business typically adopts a bold posture in order to maximise the probability of exploiting opportunities.	37	3.541	0.767
In general, our business has a strong inclination towards high-risk projects.	37	3.054	0.705
Owing to the environment, our business believes that bold, wide-ranging acts are necessary to achieve the business' objectives.	37	3.730	0.693
Employees are often encouraged to take calculated risks concerning new ideas.	37	3.162	0.928
The term 'risk-taker' is considered a positive attribute for employees in our business.	37	2.892	1.022

- Analysis of results

Two of the five items evaluated, namely **Owing to the environment, our business believes that bold, wide-ranging acts are necessary to achieve the business' objectives** ( $\bar{x}=3.730$ ) and **When confronted with uncertain decisions, our business typically adopts a bold posture in order to maximise the probability of exploiting opportunities** ( $\bar{x}=3.541$ ), had a mean above the average mean ( $\bar{x}=3.276$ ). The other three items evaluated, namely **Employees are often encouraged to take calculated risks concerning new ideas** ( $\bar{x}=3.162$ ), **In general, our business has a strong inclination towards high-risk projects**

( $\bar{x}$ =3.054), and **The term ‘risk-taker’ is considered a positive attribute for employees in our business** ( $\bar{x}$ =2.892), had a mean below the average mean. The standard deviation ranged between 0.693 as the lowest and 1.022 as highest.

#### 4.4.4 Pro-activeness

- Purpose of the question

The purpose of statement A20-A23 in Section A of the questionnaire (refer to Appendix A), was to determine the level of **Pro-activeness** of managers in the personal protective equipment industry. Each respondent had to rate each statement as 1 to 5, with 1 for ‘strongly disagree’ and 5 for ‘strongly agree’.

- Results obtained

Table 4.9 indicates the results showing the mean and standard deviation for each variable, ranking the means from highest to lowest.

**Table 4.9: Pro-activeness of respondents**

Item	<i>n</i>	$\bar{x}$	<i>s</i>
Our business is very often the first to introduce new products/ services/ processes.	37	3.405	0.762
Our business typically initiates actions that competitors respond to.	37	3.568	0.801
Our business continuously seeks out new products/processes/ services.	37	4.054	0.664
Our business continuously monitors market trends and identifies future needs of customers.	37	4.000	0.667

- Analysis of results

Two of the items measuring the construct **Pro-activeness**, namely **Our business continuously seeks out new products/processes/ services** ( $\bar{x}$ =4.054), and **our business continuously monitors market trends and identifies future needs of customers** ( $\bar{x}$ =4.000), had a ranking above the average mean ( $\bar{x}$ =3.757). Two items,

namely **Our business typically initiates actions that competitors respond to** ( $\bar{x}$ =3.568), and **Our business is very often the first to introduce new products/ services/ processes** ( $\bar{x}$  =3.405), were ranked below the average mean. The standard deviation ranged between 0.664 and 0.801.

#### 4.4.5 Competitive aggressiveness

- Purpose of the question

The purpose of statement A24-A27 in Section A of the questionnaire (refer to Appendix A), was to determine the level of competitive aggressiveness of managers in the personal protective equipment industry. Each respondent had to rate each statement from 1 to 5, with 1 for ‘strongly disagree’ and 5 for ‘strongly agree’.

- Results obtained

Table 4.10 indicates the results, showing the mean and standard deviation for each variable, ranking the means from highest to lowest.

**Table 4.10: Competitive aggressiveness of respondents**

Item	<i>n</i>	$\bar{x}$	<i>s</i>
In dealing with competitors our business typically adopts a very competitive undo-the-competitor "posture.	37	3.297	0.812
Our business is very aggressive and intensely competitive.	37	3.730	0.693
Our business effectively assumes an aggressive posture to combat trends that may threaten our survival or competitive position.	36	3.472	0.736
Our business knows when it is in danger of acting overly aggressive (this could lead to erosion of our business's reputation or to retaliation by our competitors).	36	3.556	0.735

- Analysis of results

Two of the items ranked above the average mean ( $\bar{x}$ =3.520). The highest ranked item for **Competitive aggressiveness**, was the item, **Our business is very aggressive and intensely competitive** ( $\bar{x}$ =3.730), and the second highest item

was, **Our business knows when it is in danger of acting overly aggressive (this could lead to erosion of our business's reputation or to retaliation by our competitors)** ( $\bar{x}$ =3.556). The lowest ranked item was, **In dealing with competitors our business typically adopts a very competitive undo-the-competitor posture** ( $\bar{x}$ =3.297). The standard deviation ranged from the lowest of 0.693 to the highest of 0.812.

#### 4.4.6 Summary

The majority of the statements fall within the 3 to 4 range indicating that these statements are varying between uncertain to agree. A total of 48% of the items were ranked above the average means which indicate a higher tendency towards agreeing with the statements.

### 4.5 THE PERCEIVED SUCCESS OF THE BUSINESS

- Purpose of the question

The results of Section B of the questionnaire (refer to Appendix A), evaluated the perception of managers in the personal protective equipment industry with regard to the two variables measuring perceived success. Managers were asked to answer the eleven items related to perceived success of the industry covering business growth and business development and improvement.

- Results obtained

Table 4.11 indicates the results, showing the mean and standard deviation.

**Table 4.11: The perceived success of business survey results**

Item	<i>n</i>	$\bar{x}$	<i>s</i>
Business growth	37	4.061	0.443
Business development and improvement	37	3.695	0.514

- Analysis of results

The highest agreement was found with the construct **Business growth** ( $\bar{x}$ =4.061), followed by **Business development and improvement** ( $\bar{x}$ =3.695). The standard deviation ranged from 0.514 to 0.443, indicating a general agreement amongst the respondents regarding the two variables.

#### 4.5.1 The growth of the business

- Purpose of the question

The purpose of statement B1-B4 in Section B of the questionnaire (refer to Appendix A), was to determine the perceived success of the industry, with specifically referring to **Business growth** as a measure of success.

- Results obtained

Table 4.12 indicates the results, showing the mean and standard deviation for each variable.

**Table 4.12: Business growth**

Item	<i>n</i>	$\bar{x}$	<i>s</i>
Our business has experienced growth in turnover over the past few years.	37	4.243	0.548
Our business has experienced growth in profit over the past few years.	37	4.108	0.567
Our business has experienced growth in market share over the past few years.	37	4.000	0.577
The competitive position of our business has improved over the past few years.	37	3.892	0.737

- Analysis of results

The average mean for the construct of **Business growth** was calculated at  $\bar{x}=4.061$ . The two items, **our business has experienced growth in market share over the past few years** ( $\bar{x}=4.000$ ) and **the competitive position of our business has improved over the past few years** ( $\bar{x}=3.892$ ), were ranked the lowest with ratings below the average mean.

Two of the items ranked above the average mean, namely **Our business has experienced growth in turnover over the past few years** ( $\bar{x}=4.243$ ), and **Our business has experienced growth in profit over the past few years** ( $\bar{x}=4.108$ ). The standard deviation ranged from 0.548 to 0.737.

#### 4.5.2 Business development and improvement

- Purpose of the question

The purpose of statement B5-B11 in Section B of the questionnaire (refer to Appendix A), was to determine the perceived success of the industry, with specifically referring to development as a measure of success. Each respondent had to rate each statement from 1 to 5, with 1 for 'strongly disagree' and 5 for 'strongly agree'.

- Results obtained

Table 4.13 indicates the results, showing the mean and standard deviation for each variable.

**Table 4.13: Business development and improvement**

Item	<i>n</i>	$\bar{x}$	<i>s</i>
The effectiveness (doing the right things) of our business has improved over the past few years.	37	3.973	0.645
The efficiency (doing things right) of our business has improved over the past few years.	37	4.000	0.782
In our business, employees are viewed as the most valuable asset of the business.	37	3.595	1.013
Our employees are highly committed to our business.	37	3.784	0.821
The moral (job satisfaction) of our employees has improved over the past few years.	37	3.432	0.835
The image (stature) of our business, relative to our competitors, has grown over the past few years.	37	3.946	0.621
During difficult economic periods, investments in research and development/innovative projects continue and no significant financial cuts are made.	37	3.135	0.918

- Analysis of results

Four of the seven items evaluated, namely **The efficiency (doing things right) of our business has improved over the past few years** ( $\bar{x}=4.000$ ), **The effectiveness (doing the right things) of our business has improved over the past few years** ( $\bar{x}=3.973$ ), **The image (stature) of our business, relative to our competitors, has grown over the past few years** ( $\bar{x}=3.946$ ), and **Our employees are highly committed to our business** ( $\bar{x}=3.784$ ), are above the average mean ( $\bar{x}=3.695$ ).

The other three items evaluated, namely **In our business, employees are viewed as the most valuable asset of the business** ( $\bar{x}=3.595$ ), **The moral (job satisfaction) of our employees has improved over the past few years** ( $\bar{x}=3.432$ ), and **During difficult economic periods, investments in research and development/innovative projects continue and no significant financial cuts are made** ( $\bar{x}=3.135$ ), had a mean below the average ( $\bar{x}=3.695$ ). The standard deviation ranged from 0.621 to 1.013.

### 4.5.3 Summary

Respondents generally ranked uncertain to agree with referral to the perceived success items of the business in which they are managers in the personal protective equipment industry. 55% of the items ranked above 3.5 averages, which indicates a higher tendency towards agreeing with the statements.

Regarding business growth, the two items that ranked above the average mean of ( $\bar{x}=4.061$ ), were **our business has experienced growth in turnover over the past few years** ( $\bar{x}=4.243$ ) and, **our business has experienced growth in profit over the past few years** ( $\bar{x}=4.108$ ). Regarding business development and improvement, four of the seven items evaluated, namely **The efficiency (doing things right) of our business has improved over the past few years** ( $\bar{x}=4.000$ ), **The effectiveness (doing the right things) of our business has improved over the past few years** ( $\bar{x}=3.973$ ), **The image (stature) of our business, relative to our competitors, has grown over the past few years** ( $\bar{x}=3.946$ ), and **Our employees are highly committed to our business** ( $\bar{x}=3.784$ ), are above the average mean ( $\bar{x}=3.695$ ).

## 4.6 THE RELIABILITY OF THE MEASURING INSTRUMENT

Reliability is concerned with the findings of the research and relates to the credibility of the findings. The Cronbach coefficient alpha is the measurement of the internal consistency of a measure or test. To assess the internal consistency between the items of the measuring instrument, the Cronbach alpha coefficients were calculated. This index shows the degree to which all the items a measure or test measures the same attribute. To compute coefficient alpha, both the variance on the total measurement test or scores and the variances of the individual items, are required.

Theoretically alpha varies from zero to one, since it is the ratio of two variances. Higher values of alpha are more desirable and as a rule of thumb, a reliability of 0.70 or higher is required. If the items are poorly formulated and do not correlate strongly, the alpha coefficient will be close to zero (Pietersen & Maree, 2008:216).

Table 4.14 summarises the Cronbach alpha's value interpretations, which will be used as a guideline for the results of the study.

**Table 4.14: Cronbach coefficient alpha and internal consistency**

Cronbach alpha	Internal consistency
$\alpha \geq 0.9$	Excellent
$0.8 \leq \alpha < 0.9$	Good
$0.7 \leq \alpha < 0.8$	Acceptable
$0.6 \leq \alpha < 0.7$	Questionable
$0.5 \leq \alpha < 0.6$	Poor
$\alpha < 0.5$	Unacceptable

**Source: Cortina (1993:98)**

The results indicate that the instrument used in this study to measure entrepreneurial orientation and perceived success, have an acceptable to good reliability, with only two of the variables slightly below the normal cut-off value of 0.7 (refer to Table 4.15). A value of below 0.7 (as low as 0.50) could be justified when assessing human behaviour (Field, 2009: 674-676).

**Table 4.15: Summary of Cronbach alphas of the questionnaire**

Variable	Cronbach alpha
Autonomy	0.613
Innovativeness	0.727
Risk-taking	0.701
Pro-activeness	0.748
Competitive aggressiveness	0.824
Business growth	0.696
Business development and improvement	0.748

## 4.7 MULTIPLE REGRESSION ANALYSIS RESULTS

The multiple regression analysis is the study of how a dependable variable ( $y$ ) is related to two or more independent variables ( $x$ ) (Anderson & Tushman, 2004:646). In the regression terminology, the variable being predicted is called the dependable variable. The variables used to predict the value of the dependable variable, is called the independent variables. In this study, it has been attempted to determine the effect the entrepreneurial orientation constructs namely, **Autonomy**, **Innovativeness**, **Risk-taking**, **Pro-Activeness** and **Competitive aggressiveness**, have on the perceived success of a business.

The dependable variables are **Business growth** and **Business development**. The independent variables include the constructs of entrepreneurial orientation. Multiple linear regressions were used to determine if the independent variables had a significant impact on the dependable variables. Regression models were used and the results are discussed in Table 4.16 and 4.17 below.

**Table 4.16: The impact of entrepreneurial orientation constructs on the dependent variable growth of the personal protective industry business**

Model	Non-standardised coefficients		Standardised coefficients	t-value	$p$ -level
	B	Std. Error	Beta		
(Constant)	3.258	.797		4.086	.000
Autonomy	.075	.153	.093	.491	.627
Innovativeness	-.022	.274	-.019	-.079	.938
Risk-taking	.325	.204	.413	1.593	.121
Pro-activeness	-.280	.174	-.347	-1.610	.118
Competitive aggressiveness	.175	.169	.238	1.038	.307

$R^2 = 0.215$  (\* $p < 0.05$ )

Table 4.16 indicates  $R^2 = 0.215$ , therefore 21.54% of the variability in the **Perceived success variable, Business growth**, can be explained by the estimated multiple

regression equation with **Autonomy, Innovativeness, Risk-taking, Pro-activeness** and **Competitive aggressiveness**, as the independent variables. None of the hypotheses ( $H^{1a}$ ,  $H^{2a}$ ,  $H^{3a}$ ,  $H^{4a}$  and  $H^{5a}$ ) were therefore accepted.

Furthermore, the  $p$ -values indicated in Table 4.16 are used to test for individual significance of the independent variables. The multiple regression analysis indicates no significant relationship between the independent variables **Autonomy, Innovativeness, Pro-activeness, Risk-taking** and **Competitive aggressiveness**, and **Business growth**.

**Table 4.17: The impact of entrepreneurial orientation constructs on the dependent variable development of the personal protective equipment business**

Model	Non-standardised coefficients		Standardised coefficients	t-value	$p$ -level
	B	Std. Error	Beta		
(Constant)	1.875	.772		2.427	.021
Autonomy	-.012	.148	-.012	-.079	.938
Innovativeness	-.136	.266	-.101	-.512	.612
Risk-taking	.328	.197	.359	1.662	.107
Pro-activeness	-.072	.168	-.077	-.429	.671
Competitive aggressiveness	.451	.163	.528	2.761	.010**

$R^2 = 0.454$  (\*\*  $p < 0.05$ )

Table 4.17 indicates  $R^2 = 0.454$ , therefore 45.4% of the variability in the **Perceived success variable, Business development**, can be explained by the estimated multiple regression equation with **Autonomy, Innovativeness, Risk-taking, Pro-activeness** and **Competitive aggressiveness** as the independent variables.

Using the  $p < 0.05$  level of significance and the  $p$ -value of **Competitive aggressiveness** ( $p = 0.010$ ) is less than 0.05, there is significant relationship between the dependent variable, **Business development**, and the independent variable,

**Competitive aggressiveness.** The multiple regression analysis indicates no significant relationship between the independent variables **Autonomy, Innovativeness, Risk-taking** and **Pro-activeness**, and the dependent variable, **Business development.**

Hypothesis H<sup>5b</sup> was therefore accepted, while the rest of the hypotheses (H<sup>1b</sup>, H<sup>2b</sup>, H<sup>3b</sup> and H<sup>4b</sup>) were not accepted.

#### **4.8 SUMMARY**

A questionnaire was used to conduct an empirical study to investigate the five variables of entrepreneurial orientation, as well as the two variables of perceived success in the organisation.

The target population of this study was the line-, middle- and senior managers in the personal protective equipment industry and in particular SPPE. The questionnaires were distributed to the population group in electronic format via e-mail, as well as hardcopies delivered by hand. The total head count of line-, middle- and senior managers in the South African division, are forty and a total of thirty seven respondents completed the questionnaire.

The internal consistency and reliability of the responses were tested with Cronbach alpha coefficients. Only two variables had Cronbach alpha coefficients lower than 0.7 but higher than 0.6, therefore all the variables were included in the study.

The mean values and standard deviations of all individual statements were presented, prior to the discussion of combined results of the different variables of entrepreneurial orientation and perceived success.

The multiple regression analysis indicated that 21.54% of the variability in the **Perceived success variable, Business growth**, can be explained by the estimated multiple regression equation with **Autonomy, Innovativeness, Risk-taking, Pro-activeness** and **Competitive aggressiveness**, as the independent variables. None of the hypotheses (H<sup>1a</sup>, H<sup>2a</sup>, H<sup>3a</sup>, H<sup>4a</sup> and H<sup>5a</sup>) were therefore accepted.

45.4% of the variability in the **Perceived success variable, Business development** can be explained by the estimated multiple regression equation with **Autonomy, Innovativeness, Risk-taking, Pro-activeness** and **Competitive aggressiveness**, as the independent variables. The multiple regression analysis indicates no significant relationship between the independent variables **Autonomy, Innovativeness, Risk-taking** and **Pro-activeness**, and the dependent variable **Business development**. Using the  $p < 0.05$  level of significance and the  $p$ -value of **Competitive aggressiveness** ( $p = 0.010$ ) is less than 0.05, there is significant relationship between the dependent variable, **Business development**, and the independent variable, **Competitive aggressiveness**. Hypothesis H<sup>5b</sup> was therefore accepted, while the rest of the hypotheses were not accepted.

In the next chapter conclusions will be drawn from the findings in this chapter and recommendations will be made on how to improve entrepreneurial orientation and to obtain higher perceived success in the organisation.

# **CHAPTER 5**

## **CONCLUSION AND RECOMMENDATIONS**

### **5.1 INTRODUCTION**

The true value of the research was to give insight into the concept of creating sustainable competitive advantage through corporate entrepreneurship. A sustainable entrepreneurial orientation will drive organisations, and in particular SPPE, to new heights in the 21 Century. Corporate entrepreneurship in organisations is the responsibility of every individual within the organisation, from entry level employees to top-level executives.

The purpose of this chapter is to discuss the implications of entrepreneurial orientation in the personal protective equipment industry. Conclusions are drawn based on the findings of the empirical study presented in Chapter four, and practical recommendations to improve entrepreneurial orientation will be discussed. The major aim of the recommendations will be to assist a business in achieving the goal to increase perceived success in the organisation and in the overall personal protective equipment industry.

### **5.2 CONCLUSIONS**

Conclusions are drawn based on data presented in Chapter four, conclusions related to demographic information of the respondents will be discussed, followed by assessment of the Cronbach alpha coefficients, evaluating the reliability of the questionnaire. Different variables of entrepreneurial orientation and perceived success will be assessed and conclusions regarding the combined results will be discussed.

### **5.2.1 Demographic information**

From the demographic information, the following conclusions were drawn:

A total of 93% responses were received, this includes line, middle management and senior manager's levels – South Africa. These managers are responsible for the management of 338 employees in SPPE.

The respondents were represented by:

The largest number of respondents was below the age of 29 at 37.84%, the category 40-49 years represented 29.73% of the respondents and 27.03% were between the age categories 30-39. Only 5.41% were older than 50. The age group classification indicates that the SPPE management team are fairly young.

The majority of the respondents are males (51.35%), followed by 48.65% females. The most of the respondents were from the white race group and the black race group are represented by only 18.92% of all SPPE management respondents.

The results indicated that a total of 17 of the respondents have a diploma. This amounted to 45.95% of the total respondents. Four of the respondents indicated a degree qualification. This amounted to 10.81% of the respondents. 13.51% of SPPE management respondents only have a matric qualification.

There are no extraordinary effects recognised from the demographic data except the age distribution of respondents. SPPE have a fairly young management team and this have an experience coupled with age effect in the organisation. Most of the respondents were moderately educated.

### **5.2.2 Reliability of the questionnaire**

All 37 participants' responses were used to determine the reliability of the items. The results indicate that the instrument used to measure entrepreneurial orientation and perceived success in this study, have an acceptable to good reliability, with only two variables slightly below the normal cut-off value of 0.7 (refer to Table 4.15). A value

of below 0.7 (as low as 0.50) could be justified when assessing human behaviour (Field, 2009: 674-676).

### 5.2.3 Assessment of entrepreneurial orientation

Section B of the questionnaire measured entrepreneurial orientation in the personal protective equipment business. Twenty seven statements were presented to respondents, measuring the different variables of entrepreneurial orientation. Replies from the respondents were measured on a five point Likert scale, with 1 indicating that the respondent strongly disagrees with the statement, 3 indicating uncertainty, and 5 indicating that the respondent strongly agrees with a statement. The closer the values to the extremes (1 or 5), the stronger the disagreement or agreement is respectively.

Conclusions will be drawn from the different individual variables of entrepreneurial orientation and perceived success. Combined variables will then be discussed.

It is important to note that all five of the constructs means or averages falls within the same category – uncertain to agree – thus between a 3 and 4 rating. The highest agreement has been found with **Innovativeness** ( $\bar{x} = 3.900$ ), followed by **Pro-activeness** ( $\bar{x} = 3.757$ ) and **Competitive aggressiveness** ( $\bar{x} = 3.520$ ) both with results higher than the average. The agreement with the constructs below the average mean are **Autonomy** ( $\bar{x} = 3.454$ ), and **Risk-taking** with the lowest mean ( $\bar{x} = 3.276$ ).

The results indicate that there is a general agreement regarding the entrepreneurial orientation variables. The five constructs with the items contained within each construct, together with its results, will be discussed.

#### 5.2.3.1 Autonomy

Within the construct of **Autonomy**, five statements were rated on a scale from 1 to 5. Three of the five constructs evaluated had a mean above the average mean ( $\bar{x}$

=3.454). The highest rating was obtained for the statement relating to, **I have enough autonomy in my job without continual supervision to do my work**. The average or mean is calculated at ( $\bar{x}$ =4.081), followed by the item, **Employees in our business are encouraged to manage their own work and have flexibility to resolve problems**, with an average of ( $\bar{x}$ =3.838), and the item, **Our business allows me to be creative and try different methods to do my job**, with an average of ( $\bar{x}$ =3.784).

The rest of the items, namely **Employees in our business are allowed to make decisions without going through elaborate justification and approval procedures** ( $\bar{x}$ =2.919), followed by **Employees in our business are allowed to make decisions without going through elaborate justification and approval procedures** ( $\bar{x}$ =2.649), was below the construct mean ( $\bar{x}$ =3.454). The standard deviation ranged between 0.688 and 1.038.

Entrepreneurial autonomy according to Lumpkin and Dess (1996: 140), refers to the independent actions of an individual or a team in bringing forth a business vision or concept, and moving it all the way through to completion. According to Gurbuz and Aykol (2009:324), businesses rely on entrepreneurial orientation to create new values, and according to Casillas and Moreno (2010:270), autonomy constitutes one of the bases for innovative and entrepreneurial behaviour.

### **5.2.3.2 Innovativeness**

Four of the items evaluated, that is **Our business is continually pursuing new opportunities** ( $\bar{x}$ =4.216), **Our business has a widely held belief that innovation is an absolute necessity for the business' future** ( $\bar{x}$ =4.111), **Our business has increased the number of services/products offered during the past two years** ( $\bar{x}$  =4.081), and **Our business places a strong emphasis on continuous improvement in products/service delivery/processes** ( $\bar{x}$ =4.027), had a mean above the average mean ( $\bar{x}$ =3.900).

This indicated that there is a strong emphasis on continuous improvement of products, processes and service, and that innovation is crucial for the future of SPPE. According to Lotz (2009:284), results of a successful **Innovative** management programme are that innovative projects will develop from ideas and needs into concepts and launches.

The other five items had a ranking below the mean ( $\bar{x}$ =3.900), with **Over the past few years, changes in our processes, services and product lines have been quite dramatic**, obtaining the lowest result below the mean ( $\bar{x}$ =3.622). The standard deviation ranged between a high of 0.884 and a low of 0.495.

### 5.2.3.3 Risk-taking

Two of the five items evaluated, namely **Owing to the environment, our business believes that bold, wide-ranging acts are necessary to achieve the business' objectives** ( $\bar{x}$ =3.730), and **When confronted with uncertain decisions, our business typically adopts a bold posture in order to maximise the probability of exploiting opportunities** ( $\bar{x}$ =3.541), had a mean above the average mean ( $\bar{x}$ =3.276).

The other three items evaluated, that is **Employees are often encouraged to take calculated risks concerning new ideas** ( $\bar{x}$ =3.162), **In general, our business has a strong inclination towards high-risk projects** ( $\bar{x}$ =3.054) and, **The term 'risk-taker' is considered a positive attribute for employees in our business** ( $\bar{x}$ =2.892), had a mean below the average mean. The standard deviation ranged between 0.693 as the lowest and 1.022 as highest.

According to Dewett (2004:258), there are risks involved in any new venture initiated. Morris, Kuratko and Covin (2008:62) further states that organisations need to take some level of risk to pursue new opportunities. Improvements can be made by encouraging employees to take on more calculated risks. Lotz and Van de Merwe (2013) argue that the rules and procedures related to risk-taking should be clear and supportive.

#### 5.2.3.4 Pro-activeness

Two of the items for the construct of **Pro-activeness**, namely **continuously seeks out new products, processes and services** ( $\bar{x}=4.054$ ), and **monitors market trends and identify future needs of customers** ( $\bar{x}=4.000$ ), had a ranking above the average mean ( $\bar{x}=3.757$ ).

Two items, that is **initiate actions** ( $\bar{x}=3.568$ ) and **often the first to introduce new products, services and processes** ( $\bar{x}=3.405$ ), was ranked below the average mean. The standard deviation ranged between 0.664 and 0.801, which indicates that the respondents are of the opinion that the organisation is seldom first to introduce new products, services and processes.

According to David (2007:200), **Pro-activeness** can create a first mover advantage, whereby the organisation can obtain a favourable market standing, which will be hard to duplicate for competitors.

#### 5.2.3.5 Competitive aggressiveness

Two of the items ranked above the average mean ( $\bar{x}=3.520$ ). The highest ranked item for **Competitive aggressiveness** was the item, **Our business is very aggressive and intensely competitive** ( $\bar{x}=3.730$ ), while the second highest item was, **Our business knows when it is in danger of acting overly aggressive (this could lead to erosion of our business's reputation or to retaliation by our competitors)** ( $\bar{x}=3.556$ ).

The lowest ranking item was for, **In dealing with competitors our business typically adopts a very competitive undo-the-competitor posture** ( $\bar{x}=3.297$ ). The standard deviation ranged from the lowest of 0.693 to the highest of 0.812.

Lumpkin and Dess (1996:148) stated that competitive aggressiveness refers to a business's susceptibility to directly and intensely challenge its competitors. An

intense attempt to do better, and outperform its industry rivals, is characterised by an aggressive posture or a forceful response, intending to improve position, or overcome a threat in a competitive marketplace.

The importance of the above statement within entrepreneurial orientation, regarding competitive aggressiveness, is a reaction to competitive trends and demands that already exist in the market place.

### 5.2.3.6 Overall entrepreneurial orientation

It is important to note that all five of the constructs means or averages falls within the same category – uncertain to agree – thus between a 3 and 4 rating. The highest agreement was found with **Innovativeness** ( $\bar{x} = 3.900$ ), followed by **Pro-activeness** ( $\bar{x} = 3.757$ ), and **Competitive aggressiveness** ( $\bar{x} = 3.520$ ), all with results higher than the average. The agreement with the constructs below the average mean are the **Autonomy** ( $\bar{x} = 3.454$ ) and **Risk-taking**, with the lowest mean ( $\bar{x} = 3.276$ ). A study done by Lotz and Van der Merwe (2013) indicate that the variables **Pro-activeness**, **Autonomy** and **Innovativeness** have a positive relationship to **Business growth**, but a negative relationship has been found between **Risk-taking** and **Business growth**.

Based on the results of this study and the findings of the study done by Lotz and Van der Merwe (2013), it can also be accepted that **Autonomy**, **Innovativeness** and **Pro-activeness** will have a great influence on the perceived success of the personal protective equipment business.

**Innovativeness**, **Pro-activeness** followed by **Competitive aggressiveness**, are the strongest variables and can be used as a foundation to improve overall entrepreneurial orientation in SPPE.

## 5.2.4 Assessment of perceived success

Section C of the questionnaire measured perceived success in the personal protective equipment business. 11 statements were presented to the respondents in order to measure the different variables of entrepreneurial orientation. These statements were also measured on a 5 point Likert scale. The highest agreement was found with the construct **Business growth** ( $\bar{x}=4.061$ ), followed by **Business development and improvement** ( $\bar{x}=3.695$ ). The standard deviation ranged from 0.514 to 0.443, indicating a general agreement amongst the respondents regarding the two variables.

### 5.2.4.1 Business growth

The average mean for the construct of **Business growth** was calculated at  $\bar{x}=4.061$ . The two items, **Our business has experienced growth in market share over the past few years** ( $\bar{x}=4.000$ ), and **The competitive position of our business has improved over the past few years** ( $\bar{x}=3.892$ ), was ranked lowest with ratings below the average mean. Two of the items ranked above the average mean, that is **Our business has experienced growth in turnover over the past few years** ( $\bar{x}=4.243$ ), and **Our business has experienced growth in profit over the past few years** ( $\bar{x}=4.108$ ). The standard deviation ranged from 0.548 to 0.737.

Business growth is well established, indicating that SPPE is pursuing most of its objectives and goals. The importance of entrepreneurship to the strategic management of firms has been widely accepted. Lotz (2009:19) validates in his study the construct of business growth with referral to growth in profits, turnover, market share and competitive position of the business over the past few years.

### 5.2.4.2 Business development and improvement

Four of the seven items evaluated, namely **The efficiency (doing things right) of our business has improved over the past few years** ( $\bar{x}=4.000$ ), **The effectiveness (doing the right things) of our business has improved over the**

**past few years** ( $\bar{x}=3.973$ ), **The image (stature) of our business, relative to our competitors, has grown over the past few years** ( $\bar{x}=3.946$ ), and **Our employees are highly committed to our business** ( $\bar{x}=3.784$ ), are above the average mean ( $\bar{x}=3.695$ ).

The other three items evaluated, that is **In our business, employees are viewed as the most valuable asset of the business** ( $\bar{x}=3.595$ ), **The moral (job satisfaction) of our employees has improved over the past few years** ( $\bar{x}=3.432$ ), and **During difficult economic periods, investments in research and development/innovative projects continue and no significant financial cuts are made** ( $\bar{x}=3.135$ ), had a mean below the average ( $\bar{x}=3.695$ ). The standard deviation ranged from 0.621 to 1.013.

Lotz (2009:19) states that business development refers to highly committed employees, viewed as the most valuable asset of the business, along with the improvement of job satisfaction, image of the business, efficiency and effectiveness over the past few years, with continued investment in research and development, or investment into innovative projects.

#### **5.2.4.3 Overall perceived success**

Respondents generally ranked uncertain to agree with referral to the perceived success items of the business in which they are managers in the personal protective equipment industry. 55% of the items ranked above 3.5 averages, which indicates a higher tendency towards agreeing with the statements.

Regarding business growth, the two items ranked above the average mean of ( $\bar{x}=4.061$ ), were **our business has experienced growth in turnover over the past few years** ( $\bar{x}=4.243$ ), and **our business has experienced growth in profit over the past few years** ( $\bar{x}=4.108$ ). Regarding business development and improvement, four of the seven items evaluated, to be exact **The efficiency (doing things right) of our business has improved over the past few years** ( $\bar{x}=4.000$ ), **The effectiveness (doing the right things) of our business has improved over the**

**past few years** ( $\bar{x}=3.973$ ), **The image (stature) of our business, relative to our competitors, has grown over the past few years** ( $\bar{x}=3.946$ ), and **Our employees are highly committed to our business** ( $\bar{x}=3.784$ ), are above the average mean ( $\bar{x}=3.695$ ).

### 5.2.5 Multiple regressions analysis

Table 4.16 indicates  $R^2=0.215$ , therefore 21.54% of the variability in the **Perceived success variable, Business growth**, can be explained by the estimated multiple regression equation with **Autonomy, Innovativeness, Risk-taking, Pro-activeness** and **Competitive aggressiveness** as the independent variables. None on the hypotheses ( $H^{1a}$ ,  $H^{2a}$ ,  $H^{3a}$ ,  $H^{4a}$  and  $H^{5a}$ ) was therefore accepted.

Furthermore, the  $p$ -values indicated in Table 4.16 are used to test for individual significance of the independent variables. The multiple regression analysis indicates no significant relationship between the independent variables, namely **Autonomy, Innovativeness, Pro-activeness, Risk-taking** and **Competitive aggressiveness** and **Business growth**.

Table 4.17 indicates  $R^2=0.454$ , therefore 45.4% of the variability in the **Perceived success variable, Business development**, can be explained by the estimated multiple regression equation with **Autonomy, Innovativeness, Risk-taking, Pro-activeness** and **Competitive aggressiveness** as the independent variables.

Using the  $p<0.05$  level of significance and the  $p$ -value of Competitive aggressiveness ( $p=0.010$ ) is less than 0.05, therefore there is a significant relationship between the dependent variable, **Business development**, and the independent variable, **Competitive aggressiveness**. The multiple regression analysis indicates no significant relationship between the independent variables **Autonomy, Innovativeness, Risk-taking** and **Pro-activeness**, and the dependent variable, **Business development**.

Hypothesis H<sup>5b</sup> was therefore accepted, while the rest of the hypotheses (H<sup>1b</sup>, H<sup>2b</sup>, H<sup>3b</sup> and H<sup>4b</sup>) were not accepted.

### 5.3 RECOMMENDATIONS

The empirical study and conclusions in the previous sections indicate that some entrepreneurial orientation is present in the organisation, and that there is a sense of perceived success in the organisation. Businesses are functioning in a dynamic and competitive environment, where entrepreneurial behaviour will be crucial to explore opportunities and to secure a foundation for future success (Ireland & Webb, 2007:59).

Regarding business growth, the two items ranked above the average mean of ( $\bar{x}$ =4.061) were:

- Our business has experienced growth in turnover over the past few years ( $\bar{x}$ =4.243)
- Our business has experienced growth in profit over the past few years ( $\bar{x}$ =4.108).

Regarding business development and improvement, four of the seven items evaluated, are above the average mean ( $\bar{x}$ =3.695):

- The efficiency (**doing things right**) of our business has improved over the past few years ( $\bar{x}$ =4.000).
- The effectiveness (**doing the right things**) of our business has improved over the past few years ( $\bar{x}$ =3.973).
- The image (**stature**) of our business, relative to our competitors, has grown over the past few years ( $\bar{x}$ =3.946).
- Our employees are highly committed to our business ( $\bar{x}$ =3.784).

Regarding business development and improvement, three items evaluated had a mean **below** the average ( $\bar{x}$ =3.695):

- In our business, employees are viewed as the most valuable asset of the business ( $\bar{x}$ =3.595).

- The moral (**job satisfaction**) of our employees has improved over the past few years ( $\bar{x}=3.432$ ).
- During difficult economic periods, investments in research and development/innovative projects continue, and no significant financial cuts are made ( $\bar{x}=3.135$ ).

Regarding the variability in the Perceived success variable explained by the estimated multiple regression equation:

- Table 4.16 indicates  $R^2 = 0.215$ , therefore 21.54% of the variability in the Perceived success variable, Business growth, can be explained by the estimated multiple regression equation with Autonomy, Innovativeness, Risk-taking, Pro-activeness and Competitive aggressiveness as the independent variables.
- The  $p$ -values indicated in Table 4.16 are, used to test for individual significance of the independent variables. The multiple regression analysis indicates no significant relationship between the independent variables Autonomy, Innovativeness, Pro-activeness, Risk-taking and Competitive aggressiveness and Business growth.
- Table 4.17 indicates  $R^2 = 0.454$ , therefore 45.4% of the variability in the Perceived success variable, Business development, can be explained by the estimated multiple regression equation with Autonomy, Innovativeness, Risk-taking, Pro-activeness and Competitive aggressiveness as the independent variables.
- The  $p$ -value of Competitive aggressiveness ( $p=0.010$ ) is less than 0.05, Using the  $p < 0.05$  level of significance, there is significant relationship between the dependent variable, Business development, and the independent variable, Competitive aggressiveness.
- The multiple regression analysis indicates no significant relationship between the independent variables Autonomy, Innovativeness, Risk-taking and Pro-activeness, and the dependent variable, Business development.

From the study, the following aspects are regarded as important, and should be addressed by developing a strategy to increase entrepreneurial behaviour in SPPE.

There is an indication that some employees do not experience a feeling that they are a valuable asset to the organisation. This opinion should be corrected throughout the organisation:

- In our business, employees are viewed as the most valuable asset of the business - Below the mean.
- The moral (**job satisfaction**) of our employees has improved over the past few years – Below the mean.

There is an indication that the organisations stop all investments in research and development/innovative projects during difficult economic periods. The organisation should establish a strong support structure for corporate entrepreneurship, which is important since the latter is usually a secondary activity in the organisation and entrepreneurial activities do not immediately affect the bottom line:

- During difficult economic periods, investments in research and development/innovative projects continue and no significant financial cuts are made – Below the mean.

It is recommended that the word “entrepreneurship”, should specifically be included in the vision statement of the business, setting goals and developing strategies for entrepreneurship. The focus of the business will then become opportunity identification, discovery of new sources of value, and product and process innovation, which could lead to greater success.

### **5.3.1 Entrepreneurial strategy**

Morris (1998) has identified an entrepreneurial strategy as a crucial element of the entrepreneurial orientation in an organisation. SPPE should have an applicable strategy to encourage entrepreneurial behaviour in the organisation, and the commitment from top management should be clearly visible, SPPE should use the following strategy criteria to encourage corporate entrepreneurship, specifically to foster the development of entrepreneurial orientation, drive innovation, and improve the success of the personal protective equipment business.

- Strong entrepreneurial leadership should be shown and practised by all senior managers in order to influence employees to willingly address the specific opportunities.
- Management should be proactive and energetic with the implementation of the strategy (McGrath & McMillan, 2000), and it is therefore important that the entrepreneurial strategy is clear to all the levels of management.
- The entrepreneurial strategy should form part of the organisation's budget.
- Funds should be available to encourage entrepreneurial actions.
- Employees should be allowed to focus on innovative initiatives both individually and in groups, over and above a normal day's work.
- The risk appetite for the organisation should be determined and revised on a continuous basis.
- Identification and the correct use of talented employees is a key factor in the strategy.
- Continuous monitoring of the entrepreneurial process.
- Award criteria for successful entrepreneurial programmes - if entrepreneurial orientation is measured and rewarded, the chances are that the general entrepreneurial orientation within the organisation will amplified.

## **5.4 CRITICAL EVALUATION OF THE STUDY**

This section critically measures the success of this study against the research objectives formulated in section 1.5.

### **5.4.1 Primary objective**

To primary objective of this study is to investigate the influence of the dimensions of entrepreneurial orientation on the perceived success of the organisation under investigation. Based on that, recommendations will be made to management to foster an entrepreneurial orientation in the organisation.

#### 5.4.2 Secondary objectives

In support of the primary objective, the following secondary objectives were formulated:

- To define corporate entrepreneurship and entrepreneurial orientation.
- To obtain insight into corporate entrepreneurship and entrepreneurial orientation by means of a literature study.
- To gain insight into the business of SPPE as an organisation, as part of SAMSAC Africa, and in turn, part of MSA (USA).
- To assess the entrepreneurial orientation within SPPE by means of a questionnaire.
- To validate the reliability of the questionnaire by means of statistical analysis.
- To determine if any relationship exists between entrepreneurial orientation and the perceived success of the business.
- To give suggestions and recommendations to SPPE to foster entrepreneurial orientation and innovation within the organisation.

The first and second secondary objectives, namely **to define corporate entrepreneurship** and **entrepreneurial orientation**, and obtain insight into corporate entrepreneurship and entrepreneurial orientation, were realised through a literature study in Chapter 3.

The third secondary objective, namely **to gain insight into the business of SPPE as an organisation**, was achieved through the overview of the personal protective equipment industry and in particular SPPE, in Chapter 2.

The fourth secondary objective, that is **to assess the entrepreneurial orientation within SPPE by means of a questionnaire**, was realised through the empirical research discussed in Chapter 4 and concluded in Chapter 5.

The five and six secondary objectives, namely **to validate the reliability of the questionnaire by means of statistical analysis**, and to determine if any

**relationship exists between entrepreneurial orientation and the perceived success of the business**, was realised by the Cronbach's coefficient and multiple regression analysis in Chapter 4.

The final secondary objective, that is **to give suggestions and recommendations to SPPE to foster entrepreneurial orientation and innovation within the organisation**, was realised through the empirical research discussed in Chapter 4 and concluded in Chapter 5. The results of this empirical research led to the development of practical recommendations as presented in this chapter.

Through the achieving of all of the secondary objectives it can therefore be concluded that the primary objectives, namely to investigate the influence of the dimensions of entrepreneurial orientation on the perceived success of the organisation under investigation, and to make recommendations for improved entrepreneurial orientation, were achieved.

## **5.5 SUGGESTIONS FOR FURTHER RESEARCH**

The questionnaire used was partially designed by Lotz (2009). Lotz's questionnaire was adapted and used to assess entrepreneurial orientation and perceived success in a personal protective equipment industry. The questionnaire was only distributed to the management level employees of SPPE, and not to the entire organisation. The results obtained in this study represent only the perceptions of the respondents from supervisory to senior management level, and are not a true representation of the entire personal protective equipment business. Care should be taken not to generalise it to other personal equipment businesses when interpreting the results, especially considering the conclusions and recommendations.

## **5.6 SUMMARY**

The ancient Greeks are said to have coined the phrase: "**A fish rots from the head down**" (Carroll, 2011:12). Thus if an organisation fails the leadership is to be blamed, and entrepreneurial leaders may spawn entrepreneurial orientation within organisations.

The personal protective equipment industry in South Africa is in the centre of the mining industry, which is under huge pressure since the Marikana incident in 2012 where 34 Lonmin mine workers were killed during wild cat strikes. The mining industry lost millions of rand of revenue, thus negatively affecting the personal protective equipment industry. The personal protective equipment industry's pressures are increasing to compete for market share and growth, and in essence drive an entrepreneurial orientation. An entrepreneurial orientation within organisations is seen as a competitive advantage, SPPE should build processes and procedures to nurture these competencies within the organisation.

Corporate entrepreneurship is seen as a critical component to organisational success, especially in organisations that operate in rapidly changing industries (Eesley & Longenecker, 2006:19). Established organisations may essentially be forced to behave entrepreneurially within the organisation, in order to defend their position in the market (Hass, 2011:64). Competitive successes for organisations require of managers to make strategic choices (Thompson *et al.* 2012:53), strategy is about relating the organisation with its environment, while entrepreneurship is about exploiting opportunities in the same environment.

# BIBLIOGRAPHY

**ACTS** see SOUTH AFRICA

**ANDERSON, P. & TUSHMAN, M.L.** 2004. Managing through cycles of technological change. In Tushman, M.L. & Anderson, P. (eds.). *Managing strategic innovation and change*. 2<sup>nd</sup> ed. New York, NY: Oxford University Press.

**ADONISI, M.** 2003. The relationship between corporate entrepreneurship, market orientation, organisational flexibility and job satisfaction. Pretoria: University of Pretoria. (Doctoral thesis)

**ANTONCIC, B. & HISRICH, R.D.** 2001. Intrapreneurship: Construct refinement and cross-cultural validation. *Journal of Business Venturing*, 16(5): 495-527.

**ANTONCIC, B. & HISRICH, R.D.** 2003. Clarifying the intrapreneurship concept. *Journal of Small Business and Enterprise Development*, 10(1):2-24.

**BURNS, P.** 2005. Corporate Entrepreneurship. UK: Plagrave Macmillan.

**BURNS, P.** 2005. Corporate Entrepreneurship: Building an Entrepreneurial Organisation. New York, NY: MacMillan.

**BURNS, P.** 2008. Corporate entrepreneurship: Building the entrepreneurial organization. 2<sup>nd</sup> ed. Hampshire: Palgrave Macmillan.

**CANNON, T.** 1993. How to get ahead in business. London: Virgin Books.

**CARROLL, B.** 2011. What a mess. And puffed-up Papandreou is making it worse. *Daily Mail*, 11 Feb: 12.

**CASILLAS, J.C. & MORENO, A.M.** 2010. The relationship between entrepreneurial orientation and growth: The moderating role of family involvement. *Entrepreneurship & Regional Development*, 22(3-4): 265-291.

**CHANG, S.C., LIN, R.J., CHANG, F.J. & CHEN, R.H.** 2007. Achieving manufacturing flexibility through entrepreneurial orientation. *Industrial Management & Data Systems*, 107(7): 997-1017.

**COLLIS, D.J. & MONTGOMERY, C.A.** 2005. Corporate strategy: A resource-based approach. New York, NY: McGraw Hill/Irwin.

**CORNWALL, J.R. & PERLMAN, B.** 1990. Organizational entrepreneurship. Boston, MA: Irwin.

**CORTINA, J.M.** 1993. What is coefficient alpha: an examination of theory and applications. *Journal of Applied Psychology*, 78(1): 98 – 104.

**COULTER, M.** 2003. Entrepreneurship in Action. 2<sup>nd</sup> ed. Upper Saddle River, NJ: Prentice Hall.

**COVIN, J.G. & SLEVIN, D.P.** 1991. A conceptual model of entrepreneurship as firm behavior. *Entrepreneurship Theory and Practice*, Fall 1991: 7-25.

**DAVID, F.R.** 2007. Strategic management: Concepts & cases. 11<sup>th</sup> ed. Upper Saddle River, NJ: Prentice Hall.

**DESS, G.G., IRELAND, R.D., ZAHRA, S.A., FLOYD, S.W., JANNEY, J.J. & LANE, P.J.** 2003. Emerging issues in corporate entrepreneurship. *Journal of Management*, 29(3): 351-378.

**DESS, G.G., LUMPKIN, G.T. & COVIN, J.G.** 1997. Entrepreneurial strategy making and firm performance: Tests of contingency and configuration models. *Strategic Management Journal*, 18(9): 677-695.

**DEWETT, T.** 2004. Employee creativity and the role of risk. *European Journal of Innovation Management*, 7(4): 257-266.

**DOOLEY, L. & O'SULLIVAN, D.** 2001. Structuring innovation: a conceptual model and implementation methodology. *Enterprise and Innovation studies*, 2(3): 177-194.

**DRUCKER, P.F.** 1985a. Entrepreneurial strategies. *California Management review*, 27(2): 9-21.

**DRUCKER, P.F.** 1985b. 2 ed. Innovation and entrepreneurship: Practice and principles, Heinemann, London.

- DUENING, T.N. & SHERRIL, W.W.** 2007. Entrepreneurism: Exploring entrepreneurship from a business process perspective. Ohio: Atomic Dog Publishing.
- ECHOLS, A.E. & NECK, C.P.** 1998. The impact of behaviours and structure on corporate entrepreneurial success. *Journal of Managerial Psychology*, 13(1/2):38.
- EESLEY, D.T. & LONGENECKER, C.O.** 2006. Gateways to Intrapreneurship. *Industrial Management*, 48(1): 18-23.
- EESWARAN, E. & KANNAN, G.** 2012. 3<sup>rd</sup> International Conference on Business and Economic research. Corporate entrepreneurship. The path to sustainable development and leading innovation. Conference presented in Bandung, Indonesia, 12-13 March 2012.
- FIELD, A.** 2009. *Discovering statistics using SPSS*. 3rd ed. London: Sage Publications.
- FRESE, M., BRANTJES, A. & HOORN, R.** 2002. Psychological success factors of small scale businesses in Namibia: the roles of strategy process, entrepreneurial orientation and the environment. *Journal of Developmental Entrepreneurship*, 7(3): 259 – 282.
- FROST & SULLIVAN.** 2009. Market Engineering research: South African Personal Protective Equipment Market. Chemicals, Materials and Food (CMF), Research code: M431 – 39. Completion date: 25 May 2009
- GURBUZ, G. & AYKOL, S.** 2009. Entrepreneurial management, entrepreneurial orientation and Turkish small firm growth. *Management Research News*, 32(4):321-336.
- GUROL, Y. & ATSAN, N.** 2006. Entrepreneurial characteristics amongst university students: Some insights for entrepreneurship education and training in Turkey. *Education and Training*, 48(1):25-38.

- HASS, B.H.** 2011. Intrapreneurship and corporate venturing in the media business: A theoretical framework and examples from the German publishing industry. *Journal of Media Business Studies*, 8(1): 47-68.
- HISRICH, R.D., PETERS, M.P. & SHEPHERD, D.A.** 2008. Entrepreneurship. 7<sup>th</sup> ed. Boston, MA: Irwin-McGraw Hill.
- HOFSTEDE, G.** 1991. Cultures and organisations, London: McGraw Hill.
- HORNSBY, J.S., KURATKO, D.F. & ZAHRA, S.A.** 2002. Middle managers perception of the internal environment for corporate entrepreneurship: Assessing a measurement scale. *Journal of Business Venturing*, 17(3): 253 – 273.
- HUYSAMEN, G.K.** 1994. Methodology for the social and behavioural sciences. Halfway House: Southern Book.
- IRELAND, R.D. & WEBB, J.W.** Strategic entrepreneurship: Creating competitive advantage through streams of innovation. *Business Horizon*, 50(1): 49-59.
- JORDAAN, A.E., VAN DER MERWE, S. & OOSTHUIZEN, J.H.** 2009. An assessment of human-related factors affecting intrapreneurship in large organisation. Potchefstroom Business School: North-West University (unpublished).
- KREITNER, R. & KINICKI, A.** 2008. Organizational behavior. 8<sup>th</sup> ed. Boston, MA: McGraw Hill.
- KROPP, F., LINDSAY, N.J. & SHOHAM, A.** 2008. Entrepreneurial orientation and international entrepreneurial business venture start-up, *International Journal of Entrepreneurial Behaviour & Research*, 14(2):102-117.
- KURATKO, D.F.** 2006. Entrepreneurship education: Emerging trends and challenges for the 21<sup>st</sup> century. 2003 Coleman Foundation White Paper Series for the U.S. Association of Small Business & Entrepreneurship. Madison: USASBE.
- KURATKO, D.F. & AUDRETSCH, D.B.** 2009. Strategic entrepreneurship: Exploring different perspectives of an emerging concept. *Entrepreneurship Theory and Practice*, 33(1): 1-17.

**KURTATKO, D.F. & HODGETTS, R.M.** 2007. Entrepreneurship, theory, process & practice. 7<sup>th</sup> ed. Ohio: Thomson: South Western.

**LAMBERT, W.M.** 2013. MSA President and Chief Executive Office. Internal communication August 2013.

**LE ROUX, EE., DE BEER, A.A., FERREIRA, E.J., HUBNER, C.P., JACOBS, H., KRITZINGER, A.A.C., LABUSCHAGNE, M., STAPELBERG, J.E. & VENTER, V.H.** 2004. Business Management. A practical and interactive approach. 2<sup>nd</sup> ed. Cape Town: Clysons Printers.

**LEIBENSTEIN, H.** 1968. Entrepreneurship and development. *American Economic Review*, 38(2): 73.

**LOTZ, H.M.** 2009. An assessment of the determinants of corporate entrepreneurship in an agricultural businesses: an integrated framework. Potchefstroom: NWU. (Dissertation –PhD).

**LOTZ, H.M. & VAN DER MERWE, S.P.** 2013. An investigation of the influence of entrepreneurial orientation on the perceived success of agri-businesses in South Africa. *South African Journal of Business Management*, 44(1): 15-31.

**LUMPKIN, G. T. & DESS, G. G.** 1996. Clarifying the Entrepreneurial Orientation Construct and Linking It to Performance. *Academy of Management Review*, 21(1): 135- 172.

**LUMPKIN, G.T. & DESS, G.G.** 2001. Linking two dimensions of entrepreneurial orientation to firm performance: The moderating role of environment and industry life cycle. *Journal of Business Venturing*, 16(5): 429-451.

**MADSEN, E.L.** 2007. The significance of sustained entrepreneurial orientation on performance of firms: A longitudinal analysis, *Entrepreneurship & Regional Development*, 19(2):185-204.

**MARSHALL, J.** 2012. Leisure & Work Safety Managing Director. [http:// MSA.com](http://MSA.com) – MSA Website Date of access: 18 March 2013.

**McBETH, E.W. & RIMAC, T.** 2004. The age of entrepreneurial turbulence: Creating sustainable advantage for individuals, organizations, and societies in the new century. *Esade MBA Business Review*, 2:17-22.

**McFADZEAN, E., O'LOUGHLIN, A. & SHAW, E.** 2005. Corporate entrepreneurship and innovation Part1: The missing link. *European Journal of Innovation Management*, 8(3): 350-372.

**McGRATH, R.G.** 1996. *Options and the entrepreneur: towards a strategic theory of wealth creation*, Academy of management proceedings. Meeting abstract supplement: 101-105.

**McGRATH, R.G. & MacMILLAN, I.** 2000. The entrepreneurial mindset. Boston, MA: Harvard Business School Publishing.

**MILLER, D.** 1983. The correlates of entrepreneurship in three types of firms. *Management Science*, 29(7): 91-770.

#### **MINE HEALTH AND SAFETY ACT, 1996 [29 OF 1996] – G 17242**

**MORENA, A.M. & CASILLAS, J.C.** 2008. Entrepreneurial orientation and growth of SMEs: A causal model, *Entrepreneurship Theory and Practice*, 32(3): 507-528.

**MORRIS, M.H. & KURATKO, D.F.** 2002. Corporate entrepreneurship. Orlando, FL: Harcourt College Publishers.

**MORRIS, M.H., KURATKO, D.F. & COVIN, J.G.** 2008. Corporate entrepreneurship and innovation. Mason, OH: Thomson South-Western.

**MORRIS, M.H.** 1998. Entrepreneurial intensity. Westport: Quantum books.

**NEUWMAN, W.L.** 1997. Social research methods: Qualitative and quantitative approaches. 3<sup>rd</sup> ed. Needham: Congress cataloguing-in-publication data.

**NIEUWENHUIZEN, C.** 2003. The nature and development of entrepreneurship. In Niemand, G., Hough. J. & Niewenhuizen, C. (eds.). *Entrepreneurship: A South African perspective*. Pretoria: Van Schaik Publishers, pp. 3-26.

**NIEUWENHUIZEN, C.** 2004. Basics of Entrepreneurship. South Africa: Creda Communications.

**NIEUWENHUIZEN, C., LE ROUX, E.E. & JACOBS, H.** 2005. Entrepreneurship and how to establish your own business. Cape Town: Mills Litho.

**O'NEILL, R.C., TERBLANCHE, N.S. & KEYTER, L.** 1997. Creative entrepreneurship. Pietermaritzburg: Interpak Printers.

**OOSTHUIZEN, J.H.** 2006. An integrated framework to improve the entrepreneurial climate in the South African mining industry. Potchefstroom : North West University. (Doctoral Thesis).

**OXFORD ENGLISH DICTIONARY.** 1994. Oxford: Oxford University Press.

**OXFORD ENGLISH DICTIONARY.** 2009:477. Oxford: Oxford University Press.

**PIETERSEN, J. & MAREE, K.** 2008. Standardisation of a questionnaire. In K Maree (ed), First Steps in research. Pretoria: Van Schaik Publishers.

**PIETERSE, P.** 2013. SPPE Senior Operations Director. Unstructured interview, 19 April 2013, 09h00am.

**RAMACHANDRAN, K., DEVANRANJAN, T.T. & RAY, S.** 2006. Corporate entrepreneurship: How? *Vikalpa: The Journal for Decision-makers*, 31(1): 85-97.

**RAUCH, A., WIKLUND, J., LUMPKIN, G.T. & FRESE, M.** 2009. Entrepreneurial orientation and business performance: an assessment of the past research and suggestions for the future. *Entrepreneurship Theory and practice*, 33(3): 761-787.

**ROGERS, E.M.** 1995. Diffusion of Innovation, Free Press, New York, NY.

**ROTHWELL, R.** 1994. Towards the fifth-generation innovation process. *International Marketing Review*, 11(1): 7-31.

**SCHEEPERS, M.J., HOUGH, J. & BLOOM, J.Z.** 2008. Nurturing the corporate entrepreneurship capability. *Southern African Business Review*, 12(3): 50-75.

**SCHUMPETER, J.** 1934. The theory of economic development (reproduced, New York (1961)) Harvard university press, Cambridge, MA.

**SEXTON, D.L. & BOWMAN-UPTON, N.** 1991. Entrepreneurship: creativity and growth. New York: Macmillan.

**SHARMA, P. & CHRISMAN, J.J.** 1999. Toward a reconciliation of the definitional issues in the field of corporate entrepreneurship. *Entrepreneurship Theory and Practice*, 23(3): 11-27.

**SHELTON, K. & DARLING, J.R.** 2001. Entrepreneurship in the Quantum Age: A new set of skills to enhance organisational development. *Academy of Entrepreneurship Journal*, 7(1): 45-59.

**SLEVIN, D.P. & COVIN, J.G.** 1990. Juggling entrepreneurial style and organisational structure: how to get your act together. *Sloan Management review*, 31(2): 43-53.

**SOUTH AFRICA** 1996 Mine Health and Safety Act 29 of 1996

**STRYDOM, H., FOUCHE, C.B. & DELPORT, C.S.L.** 2002. Research at grassroots: For the social sciences and human service professions. 2<sup>nd</sup> ed. Pretoria: Van Schaik Publishers.

**THOMPSON, A., STICKLAND, A.J. & GAMBLE, J.** 2007. Crafting and executing strategy: The quest for Competitive advantage, Concepts and Cases. New York: McGraw Hill/Irwin.

**THOMPSON, A.A., PETERAF, M.A., GAMBLE, J.E. & STRICKLAND, A.J.** 2012. Crafting and executing strategy. Global Edition. New York, NY: McGraw Hill/Irwin.

**THORBERRY, N.E.** 2001. Corporate entrepreneurship: Antidote or oxymoron? *European Management Journal*, 19(5): 526-553.

**THORBERRY, N.E.** 2003. Corporate entrepreneurship: Teaching managers to be entrepreneurs. *Journal of Management Development*, 22(4): 329-344.

**TIMMONS, J.A. & SPINELLI, S.** 2007. New Venture Creation. Entrepreneurship for the 21<sup>st</sup> Century. 7<sup>th</sup> ed. Singapore: McGraw Hill.

**TIMMONS, J.A. & SPINELLI, S.** 2009. New venture creation: Entrepreneurship for the 21<sup>st</sup> century. International ed. New York: McGraw Hill.

**VAN DER POST, W.Z.** 1997. The relationship between organisational culture and financial performance among industrial organisations listed on the JSE. Unpublished DBA-dissertation, University of Stellenbosch, Graduate Business School Bellville South Africa.

**VAN TONDER, D.** 2013. SPPE Sales Director. Unstructured interview, 19 June 2013, 11h00am.

**VAN VUUREN, J.J., GROENEWALD, D. & GANTSHO, M.S.V.** 2009. Fostering innovation and corporate entrepreneurship in Development Finance Institutions. *Journal of Contemporary Management*, 6: 325-360.

**VON STAMM, B.** 2008. Managing innovation, design and creativity. 2<sup>nd</sup> ed. West Sussex: John Wiley & Sons.

**WELMAN, J.C. & KRUGER, S.J.** 1999. Research methodology for the business and administrative sciences. Goodwood: Thomson Publishing.

**WELMAN, C., KRUGER, F. & MITCHELL, B.** 2010. Research methodology. 3<sup>rd</sup> ed. Cape Town, CT: Oxford University Press.

**WESTERN PENNSYLVANIA HISTORY.** 2009. **Anonymous, 92(1). Pennstate University Libraries. Washington DC.**

**WIKLUND, J. & SHEPHERD, D.** 2003. Knowledge-based resources, entrepreneurial orientation, and the performance of small and medium-sized businesses. *Strategic Management Journal*, 24(13):1307-1314.

**WIKLUND, J. & SHEPHERD, D.** 2005. Entrepreneurial orientation and small business performance: A configurationally approach, *Journal of Business Venturing*, 20(1):7-91.

**WU, W., CHANG, M. & CHEN, C.** 2008. Promoting innovation through the accumulation of intellectual capital, social capital and entrepreneurial orientation. *Corporate entrepreneurship: R& D Management*, 38(3): 265 - 277.

**YAMADA, K. & ESHIMA, Y.** 2009. Impact of entrepreneurial orientation: Longitudinal analysis of small technology firms in Japan. *Academy of Management Proceedings*, 13(2): 1-22.

**ZAHRA, S.A.** 1991. Predictors and financial outcomes of corporate entrepreneurship: an exploratory study, *Journal of business venturing*, 6(4): 259-285.

**ZAHRA, S.A.** 1995. Corporate entrepreneurship and financial performance: the case of management leveraged buyouts, *Journal of business venturing*, 10(3): 225-247

**ZAHRA, S.A. & COVIN, G.** 1995. Contextual influences on the corporate entrepreneurship – performance relationship: A longitudinal analysis. *Journal of Business Venturing*, 10: 43-58.

**ZAHRA, S.A.** 1996. Governance, ownership, and corporate entrepreneurship: the moderating impact of industry technological opportunities. *Academy of Management Journal*, 39(6): 1713-1735.

<http://www.technoserve.org/blog/fostering-entrepreneurship-in-developing-countries>

Date of access: 19 January 2013.

The GEM Report: <http://www.gemconsortium.org/docs/download/2313> Date of access: 19 January 2013.

<http://quizlet.com/11739100/ch-12-managing-innovation-and-fostering-corporate-entrepreneurship-flash-cards> Date of access: 19 January 2013.

<http://theentrepreneurialist.net/2011/01/11/corporate-entrepreneurship-as-a-competitive-advantage> Date of access: 19 January 2013

[http:// MSA.com](http://MSA.com) – MSA Website Date of access: 18 March 2013

<http://SPPE.com> – SPPE Website Date of access: 18 March 2013

## Appendix A: Example of Questionnaire

Code number:

# ENTREPRENEURIAL ORIENTATION

**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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# **ENTREPRENEURIAL ORIENTATION**

## **An assessment of Corporate Entrepreneurship in the Personal Protective Equipment Industry**

**Erika Stols**

Dissertation in partial fulfilment of the requirements for the degree

### **MASTER OF BUSINESS ADMINISTRATION**

At the North-West University, Potchefstroom Campus

Dear Respondent

Entrepreneurial orientation contributes to performance with an outlook on a company's growth as well as financial performance. The field of study is entrepreneurship with reference to the impact of entrepreneurial orientation on managers and entrepreneurs, managing and creating South African businesses or businesses operating in South Africa.

To understand the supportive nature of entrepreneurship and innovation; and to which extent South African Personal Protective Equipment organisations foster corporate entrepreneurship and drive innovation within the company.

Your contribution is highly appreciated.

Erika Stols

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

GENERAL INSTRUCTIONS

Virtually all questions should be answered by ticking (X) or **highlighting** the relevant block.

Use the following key to indicate your preference:

<b>SCALE</b>	<b>TERM USED</b>
1	Strongly disagree
2	Disagree
3	Neither agree nor disagree (Neutral)
4	Agree
5	Strongly agree

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

I believe that Small, micro and medium sized enterprises in South Africa can be successful	1	2	3	<del>4</del>	5
--	---	---	---	--------------	---

## SECTION A

The following statements concern your attitude towards the entrepreneurial orientation of the business.

Please rate the extent to which you agree or disagree with the following statements by making an "X" over the appropriate number on the 1 to 5 point scale next to the statement.

<b>1 = Strongly disagree</b>	<b>2 = Disagree</b>	<b>3 = Neutral</b>	<b>4 = Agree</b>	<b>5 = Strongly agree</b>
----------------------------------	-------------------------	------------------------	----------------------	-------------------------------

	STATEMENT	SCALE				
		1	2	3	4	5
<b>A1</b>	I have enough autonomy in my job without continual supervision to do my work.	1	2	3	4	5
<b>A2</b>	Our business allows me to be creative and try different methods to do my job.	1	2	3	4	5
<b>A3</b>	Employees in our business are allowed to make decisions without going through elaborate justification and approval procedures.	1	2	3	4	5
<b>A4</b>	Employees in our business are encouraged to manage their own work and have flexibility to resolve problems.	1	2	3	4	5
<b>A5</b>	I seldom have to follow the same work methods or steps while performing my major tasks from day to day.	1	2	3	4	5
<b>A6</b>	Our business regularly introduces new services/products/processes.	1	2	3	4	5
<b>A7</b>	Our business places a strong emphasis on new and innovative products/ services/processes.	1	2	3	4	5
<b>A8</b>	Our business has increased the number of services/products offered during the past two years.	1	2	3	4	5
<b>A9</b>	Our business is continually pursuing new opportunities.	1	2	3	4	5
<b>A10</b>	Over the past few years, changes in our processes, services and product lines have been quite dramatic.	1	2	3	4	5
<b>A11</b>	In our business there is a strong relationship between the number of new ideas generated and the number of new ideas successfully implemented.	1	2	3	4	5
<b>A12</b>	Our business places a strong emphasis on continuous	1	2	3	4	5

	improvement in products/service delivery/processes.					
<b>A13</b>	Our business has a widely held belief that innovation is an absolute necessity for the business' future.	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
<b>A14</b>	Our leaders seek to maximise value from opportunities without constraint to existing models, structures or resources.	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
<b>A15</b>	When confronted with uncertain decisions, our business typically adopts a bold posture in order to maximise the probability of exploiting opportunities.	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
<b>A16</b>	In general, our business has a strong inclination towards high-risk projects.	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
<b>A17</b>	Owing to the environment, our business believes that bold, wide-ranging acts are necessary to achieve the business' objectives.	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
<b>A18</b>	Employees are often encouraged to take calculated risks concerning new ideas.	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
<b>A19</b>	The term 'risk-taker' is considered a positive attribute for employees in our business.	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
<b>A20</b>	Our business is very often the first to introduce new products/services/ processes.	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
<b>A21</b>	Our business typically initiates actions that competitors respond to.	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
<b>A22</b>	Our business continuously seeks out new products/processes/services.	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
<b>A23</b>	Our business continuously monitors market trends and identifies future needs of customers.	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
<b>A24</b>	In dealing with competitors our business typically adopts a very competitive undo-the-competitor "posture.	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
<b>A25</b>	Our business is very aggressive and intensely competitive.	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
<b>A26</b>	Our business effectively assumes an aggressive posture to combat trends that may threaten our survival or competitive position.	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
<b>A27</b>	Our business knows when it is in danger of acting overly aggressive (this could lead to erosion of our business's reputation or to retaliation by our competitors).	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>

## SECTION B

The following statements concern your attitude towards the success of the business.

Please rate the extent to which you agree or disagree with the following statements by making an "X" over the appropriate number on the 1 to 5 point scale next to the statement.

<b>1 =</b> <i>Strongly disagree</i>	<b>2 =</b> <i>Disagree</i>	<b>3 =</b> <i>Neutral</i>	<b>4 =</b> <i>Agree</i>	<b>5 =</b> <i>Strongly agree</i>
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	STATEMENT	SCALE				
		1	2	3	4	5
<b>B1</b>	Our business has experienced growth in turnover over the past few years.	1	2	3	4	5
<b>B2</b>	Our business has experienced growth in profit over the past few years.	1	2	3	4	5
<b>B3</b>	Our business has experienced growth in market share over the past few years.	1	2	3	4	5
<b>B4</b>	The competitive position of our business has improved over the past few years.	1	2	3	4	5
<b>B5</b>	The effectiveness (doing the right things) of our business has improved over the past few years.	1	2	3	4	5
<b>B6</b>	The efficiency (doing things right) of our business has improved over the past few years.	1	2	3	4	5
<b>B7</b>	In our business, employees are viewed as the most valuable asset of the business.	1	2	3	4	5
<b>B8</b>	Our employees are highly committed to our business.	1	2	3	4	5
<b>B9</b>	The moral (job satisfaction) of our employees has improved over the past few years.	1	2	3	4	5
<b>B10</b>	The image (stature) of our business, relative to our competitors, has grown over the past few years.	1	2	3	4	5
<b>B11</b>	During difficult economic periods, investments in research and development/innovative projects continue and no significant financial cuts are made.	1	2	3	4	5

## SECTION C: BIOGRAPHICAL INFORMATION

The following information is needed to help us with the statistical analysis of the data for comparisons among different interest groups. We appreciate your help in providing this important information.

**Mark the applicable block with a cross (X). Complete the applicable information.**

<b>C1</b>	<i>Indicate your age group.</i>	$\leq 29$	30 - 39	40 - 49	50 - 59	60+
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<b>C2</b>	Indicate your gender?	Male	Female
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<b>C3</b>	Indicate your race group classification.	Black	White	Coloured	Indian
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<b>C4</b>	Indicate your highest academic qualification.				
	Lower than matric				
	Matric				
	Certificate				
	Diploma (Technical College or Technicon)				
	University degree				
	Post graduate degree				

**THANK YOU FOR YOUR TIME.**