THE LEVEL OF CORPORATE ENTREPRENEURSHIP WITHIN SMALL AND MEDIUM-SIZED ENTERPRISES IN THE SEA FREIGHT TRANSPORT INDUSTRY

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Despite the variety of literature and studies that have been conducted on the topic of corporate entrepreneurship (CE), very few studies combine the topics of CE within small and medium enterprises (SMEs). This study aims to investigate the level of CE within SMEs operating in the sea freight transport industry in South Africa.

The study was conducted by means of the CE climate instrument, testing the six main drivers of CE. These indicators provide an accurate reflection on the currently prevailing level of CE within an organisation. The sample consisted of three SMEs which were selected based on size and the number of employees.

The study found that the prevailing level of CE can be classed as moderate within SMEs, with drivers such as rewards, reinforcement and organisational boundaries showing positive results. Other drivers such as management support, as well as climate specific variables showed disappointing levels of CE. The larger business showed much more promising results than its smaller counterparts did in terms of the prevailing level of CE. Females and respondents below the age of thirty tended to perceive CE much more positively than other respondents.

Key phrases: entrepreneur, corporate entrepreneur, small and medium enterprises, sea freight transport industry

1 INTRODUCTION

Small and medium enterprises (SMEs) are a crucial component of employment creation as well as drivers of innovation (Kirsten & Rogerson 2002:29). Deakins and Freel (2006:35) describe SMEs as not preceding economic growth, but rather following and amplifying it. This is due to SMEs exploring the current market offerings for gaps, and then offering products and services which fill these gaps and improve on current market offerings. SMEs

thus drive future economic growth. Rogerson (2006:54) describes SMEs as the innovation engine of the economy. This essentially means that the theoretical driver of creation and sustainability of entrepreneurial ventures is innovation. Such findings and statements determine that SMEs should be entrepreneurial ventures, which are established and should flourish due to new ideas and innovation. Yet a large number of SMEs survive and exist without producing the necessary innovation.

If SMEs were the growth engine of an economy due to their innovative products and/or services, and started and controlled by an entrepreneur, the question arises whether entrepreneurial thinking can develop within SMEs. Joy (2004:214) acknowledges that the onus is on SMEs to produce innovative ideas, while the task of large corporations is to standardise products and make them readily available. Da Silva, Tadashi and Kikuo (2005:80) conducted a study into the lack of innovation in small businesses in Japan and Brazil. The findings showed that there was a lack of autonomy, agile management and adaptability within small businesses. A continuous improvement philosophy seemed to have been adopted by small businesses, as the focus of SMEs seemed to be increasingly to focus on incremental improvements, rather than radical innovation. The result was a marked reduction in entrepreneurial activity within small businesses, which traditionally resulted in innovation, new products and new ideas.

In the South African context, a large majority of sea freight transport providers are SMEs that only perform basic services. This is a worrying aspect, as they do not have any features that set them apart from large businesses. There is also an indication that there is a lack of corporate entrepreneurship (CE) and innovation in this particular industry within small businesses (Porter 2007:252). The transport sector is dominated by small businesses, which are both vital service providers and gap-fillers for large logistics providers. This industry is reliant on SMEs to produce the necessary innovation, as large businesses have failed to do so due to the extremely competitive nature of the industry and consequent cost-cutting exercises (Deakins & Freel 2006:125).

Recently the failure rate of SMEs within the transport sector has skyrocketed due to the lack of entrepreneurial spirit within these businesses (Kokkonen & Tuohino 2007:44). Coupled with the current economic crisis, this is a potent recipe for disaster. Rapoza (2005:52) claims that small businesses are afraid of innovation, as this disrupts the business model, changes business procedures and changes the industry. Minor improvements are thus considered less risky than radical innovation.

According to Acs (2008:62), there is a clear correlation between business size and innovations produced. The larger a business becomes, the greater the number of innovations produced. Conversely, the smaller a business, the fewer innovations it produces. This means that smaller organisations are less willing to provide funding for research and development projects, as these constitute a larger percentage of organisational capital and are thus considered more risky. Smaller businesses forfeit a number of possibly profitable innovations in this manner. As SMEs are at an inherent disadvantage in the marketplace due to their lack of resources and competitive muscle, they are forced to practise behaviours in line with CE. This view is further shared by Wang and Zhang (2009:10) who explain that corporate entrepreneurial behaviours occur in any organisation regardless of its size.

2 PROBLEM STATEMENT

SMEs are currently in a situation in which innovation has taken a backseat to incremental improvement. Porter (2007:252) explains that the majority of seafreight transport services in South Africa are provided by small and medium-sized businesses that perform basic traditional services rather than new innovative services. Henry, Hill and Leitch (2005:105) summarise the issue at hand as that SMEs do not want to take risks and accordingly, focus heavily on management practices such as finance and marketing, rather than on risk-taking, innovation and fostering an entrepreneurial culture.

Colas (2005:83) describes the founding entrepreneur of an SME as the owner-creator who dominates the working environment in an effort to have complete control over the business. This is because the owner's livelihood is at stake, should the business fail. This observation

suggests that staff members within SMEs are unable to operate as corporate entrepreneurs because they are dominated by the vision and ideas of the founding entrepreneur. The ability of businesses to create a culture in which entrepreneurial thinking can flourish is reduced, as employees do not have the freedom to experiment. This leads to a reduction in innovation that puts the SME at a disadvantage in comparison with larger organisations.

Management and owners of SMEs in the transport industry in South Africa seem to be unable to foster an environment that is conducive to corporate entrepreneurial activity within their businesses. The question thus arises as to how familiar SMEs are with the environmental and managerial factors that are conducive to corporate entrepreneurial activity, as well as what the current status of corporate entrepreneurial activity within these businesses is. The status of current entrepreneurial activity can be established by means of investigating the level of CE within SMEs. The level of CE can be established by means of evaluating the corporate entrepreneurial climate within SMEs.

3 PURPOSE AND OBJECTIVES OF THE RESEARCH

The research is related to the seafreight transport industry in South Africa with the focus being on SMEs. The topic of CE in SMEs has not been explored to a great extent. In South Africa, little research has been conducted in the transport sector. The lack of research within this industry raises questions concerning the corporate entrepreneurial and innovation capabilities of SMEs. The corporate entrepreneurial and innovation capabilities of SMEs in the transport sector in South Africa are questioned.

The primary objective of the research is to identify the current level of corporate entrepreneurial activity within SMEs in the sea-freight transport industry in South Africa. The secondary objectives are to:

- explore the factors conducive to an environment that fosters corporate entrepreneurial activity in the seafreight transport industry; and
- evaluate the impact of business size on corporate entrepreneurial activity in the seafreight transport industry.

4 LITERATURE REVIEW

Bjerke (2007:17) describes entrepreneurship as *the process of creating new user value*. He continues to say that this does not have to happen in a separate venture, but more often than not it occurs in a corporate setting. Entrepreneurship in a corporate setting is defined as *corporate entrepreneurship* or *intrapreneurship*. Bjerke (2007:20) draws a clear distinction between a small business and an entrepreneurial venture. As per the definition, entrepreneurship creates new user value whereas a small business does not necessarily fulfil this function.

The focus lies on the five key drivers of CE as identified by Morris, Kuratko and Covin (2008:330). The literature review does not aim to expand on each key driver of CE, but rather focus on the broader issues impacting and influencing CE. The external factors provide a guide to the issues that influence internal corporate entrepreneurial climate which is the additional measuring component in the Corporate Entrepreneurship Climate Instrument (CECI), thereby providing a more holistic picture of prevailing corporate entrepreneurial activity. According to the National Small Business Amendment Act (2003:6), businesses in the transport sector are classified as shown in Table 1.

Table 1: Business Classification

Size of Class	Full-time Employees	Turnover	Gross Asset Value
Medium	200	R26 m	R6 m
Small	50	R13 m	R3 m
Very Small	20	R3 m	R0.6 m
Micro	5	R0.2 m	R0.1 m

4.1 THE CONCEPT OF CORPORATE ENTREPRENEURSHIP

McFadzean, O'Laughlin and Shaw (2005:351) describe CE as *the effort of promoting innovation from an internal organisational perspective, through the assessment of potential new opportunities, alignment of resources, exploitation and commercialisation of said opportunities*. This definition shows that CE is a process of identifying new opportunities, gathering the resources necessary to exploit these opportunities, developing the idea and

finally turning the idea into a profitable business venture. This is an internal effort, which means that the process of entrepreneurship occurs within an established business.

Heivonen and Toivonen (2007:166) describe CE as a process which results in innovation, renewal or the creation of a new business inside an established business. CE is a behaviour that *"deviates from the customary way of doing business".* This definition shows that CE is a process that involves people, communication and unconventional behaviour that result in innovation. Behaviour associated with CE is closely linked to typical entrepreneurial behaviour. Brizek and Khan (2008:229) explain that CE manifests itself in either incremental innovation or radical innovation. This means that the concept of innovation is at the core of CE as well as entrepreneurship in general. Lassen, Gertsen and Riis (2006:360) explain that the focal point of CE is to produce innovation and more importantly, innovation of a radical nature. Brizek and Khan (2008:229) go even further, saying that CE either manifests itself in the creation of a new business venture inside an existing business or in a process termed *strategic renewal*.

Wang and Zhang (2009:10) explain that this behaviour occurs regardless of business size and type of innovation (such as new product, service and strategy). This means that CE can occur in both large businesses and SMEs. This also shows that business size is not necessarily a determinant of corporate entrepreneurial behaviour but it can influence the level of corporate entrepreneurial behaviour. Morris et al. (2008:12) explain that CE is a process that is mostly commonly found in medium to large organisations and contains elements of strategic renewal, innovation and corporate venturing. The factors promoting corporate entrepreneurial behaviour can be divided into factors internal to the business and factors that are external to the business.

4.1.1 LEVEL OF CORPORATE ENTREPRENEURSHIP

Bouchard and Basso (2011:219) explain that SMEs can differ significantly in terms of their strategic orientation, which can range from being very entrepreneurial to very conservative. Bouchard and Basso (2011:221) continue to say that SMEs differ in terms of the

organisational devices employed aimed at fostering innovation, risk-taking and facilitating the process of CE. The level of CE as referred to in this article concerns itself with measuring the degree to which these devices are employed. The devices are outlined in the literature review, as well as condensed by means of the CECI which measures the main drivers of CE, as well as provide an overall impression of the corporate entrepreneurial culture. The main focus is on the drivers of CE, the climate measure merely provides a more holistic picture of corporate entrepreneurial activity within a business.

4.2 INTERNAL FACTORS PROMOTING CORPORATE ENTREPRENEURIAL BEHAVIOUR

4.2.1 General factors and corporate entrepreneurial process

Bateman and Snell (2009:277) identify five key factors to establishing a climate that is conducive to corporate entrepreneurial activity. Combinations of these factors allow a business to motivate its staff to be truly entrepreneurial:

- Allowing independent action – freedom to be creative, ability to pursue ideas to completion;
- Innovativeness – supporting new ideas, allowing change and experimentation;
- Risk-taking – monetary support for new as well as radical ideas;
- Being proactive – allowing individuals to take initiative;
- Competitive aggressiveness – challenging competitors directly with new ideas and processes.

Lober (1998:28) describes the factors that contribute towards promoting corporate entrepreneurial behaviour as management support, rewards, work discretion, time availability and the boundaries set by the organisation. Lassen, Gertsen and Riis (2006:360) explain that there are three main components which are necessary to foster CE. These components are innovativeness, risk-taking and proactiveness.

Ireland, Covin and Kuratko (2009:27) explain that the main components of the corporate entrepreneurial process include opportunity recognition and exploitation. Ren and Guo (2008:1) use the terms *converging phase* and *screening phase* to describe the corporate

entrepreneurial process. In the converging phase, members of the organisation actively search for opportunities and scrutinise the current processes in order to uncover hidden opportunities. In the screening phase, the corporate entrepreneur has to sell the identified opportunity to management. Rutherford and Holt (2007:431) have developed an integrated individual level model for fostering CE. This model has three main components which consist of process, context and individual characteristics. Once these three components are added, a holistic model can be constructed which analyses how the individual employee perceives corporate entrepreneurial ability.

4.2.2 Work/organisational discretion

Jordaan and Prinsloo (2007:172) propose that the most important factor that stimulates CE activity within a South African SME is empowerment. Empowerment entails the earlier mentioned factors of giving employees responsibility as well as freedom to experiment. Simsek, Veiga and Lubatkin (2007:1399) make it clear that a key component in fostering CE within organisations is to allow employees to have *discretionary slack*. This means that employees are allowed to spend a predetermined amount of time on a project that does not form part of standard business functions and they can experiment during this project. It will ultimately allow the employee to develop ideas and products independently with management consent and without management intervention.

Aligned to discretionary slack, Bhardwaj, Sushil and Momaya (2007:136) point out that a key component in implementing CE is an approach termed *"Organisational Flexible Boundaries"*. This approach builds flexibility into organisational processes and allows the corporate entrepreneur to collect information from any internal source, access human resources from any department and have flexibility in selecting roles and responsibilities. This means that the creative idea/product generation process is not disrupted, and innovation is more likely to occur.

4.2.3 Managerial support and attitude

Monsen, Patzelt and Saxton (2010:107) have taken the previous research into CE one step further. They have tried to unravel what drives employees to participate in new corporate ventures and thus become corporate entrepreneurs. The drive towards CE is made up of three main aspects:

- **Risk.** This is a function of three main aspects of risk, namely expected success, employment risk and pay risk.
- **Effort.** The corporate entrepreneur is more likely to pursue a project that does not require an extra level of effort exceeding the level the corporate entrepreneur can provide.
- **Financial utility.** The corporate entrepreneur expects a reward from pursuing a new corporate venture project. The employee will either expect a financial reward such as profit-sharing or to participate in the new venture.

A trade-off situation exists between these three factors. If the outcome of the project seems viable to the employee, then he will pursue the opportunity despite the risk and extra effort required. Nieman (2006:33) indicates that small business owners attempt to be the innovator as well as the leader and manager at the same time. The business owners ignore the input of staff members and try to pursue their own ideas only. The most prominent cause for lack of corporate entrepreneurial activity in an organisation is ignoring the employees' inputs and efforts. This means that in order to stimulate corporate entrepreneurial activity, management has to listen to its employees as well as appreciate their ideas.

Among the factors already described, De Jong and Den Hartog (2007:51) identify the small business owner/manager as the most important component in promoting an entrepreneurial climate. The SME owner must act not only as a leader but most importantly as a role model by demonstrating corporate entrepreneurial behaviour and actions. Also, the leader must set a vision to which the corporate entrepreneurs can work towards, as well as show personal appreciation and provide monetary rewards for corporate entrepreneurial activity.

4.2.4 Organisational culture and climate

Sriram, Mersha and Herron (2007:246) argue that creating a strong culture within SMEs that is underpinned by the principles of respecting personal values, empowerment and resource availability are key to fostering corporate entrepreneurial activity. Corporate entrepreneurial activity is thus not only fostered by management styles but also by the organisational climate, both of which should be consistent throughout the business.

Lau, Chan, Tai and Ng (2010:9) have discovered that cultures which are high in context are less likely to exhibit innovative behaviour, while cultures which are low in context are more likely to exhibit innovative behaviour and thus be entrepreneurial. Thornberry (2003:333) explains that cultures which are bureaucratic are not conducive to fostering CE, as entrepreneurs require flexibility.

4.2.5 Internal human resources practices

With regard to education, Lynch, Batty, Abdullah and Seaman (2005:643) indicate that the level of entrepreneurship is directly correlated to the presence of higher learning opportunities. This means that the higher the level of education of staff, the higher the probability that innovation will occur. This is due to an increase in knowledge and the subsequent increase in skills that employees will have.

4.2.6 Summary of factors

Zampetakis and Moustakis (2007:417) concur with these observations but stress the importance of internal marketing in fostering CE within businesses. Furthermore, Underwood (2009:571) proposes that access to information, such as through the Internet, online journals and trade publications, increase the level of innovative capability of SMEs. The owner-manager of the SME has the task of facilitating access to information by providing the access. Laforet and Tann (2006:365) effectively sum up the factors contributing to successful entrepreneurship as:

- A flat business structure allowing individual decision-making and empowerment;
- Good external links to other businesses to aid new idea generation;
- Customer-focused business;
- A business with a clear vision, innovative culture and future orientation;
- Flexibility;
- Low level of bureaucracy; and
- Business leaders focusing on innovation.

4.3 EXTERNAL FACTORS AFFECTING CORPORATE ENTREPRENEURIAL ACTIVITY

Man and Lau (2005:467) describe culture, in particular national culture, as having an impact on entrepreneurial behaviour within SMEs. National culture determines how individuals perceive risk, opportunities and problem-solving approaches. If national or even industrial or business culture is open to taking risks and exploiting every viable opportunity, then entrepreneurial behaviour will be high within SMEs, as entrepreneurship contains strong elements of risk and opportunity.

Ha-Brookshire (2009:132) explains that the industry in which the SME operates, has a large impact on the level of entrepreneurship displayed. The higher the level of competitiveness displayed in the industry, the higher the level of entrepreneurship a business within that industry will display. This is due to the industry dynamics forcing the SME to innovate in order to retain a competitive advantage over other businesses in the industry. Industry competitiveness can thus be termed as a motivator of corporate entrepreneurial activity within SMEs. Wincent (2005:440) argues that internal trust as well as corporate networks stimulates CE within SMEs. Networks, such as suppliers, consultants and other service providers, have a great impact on corporate entrepreneurial activity within SMEs, as these are sources of inspiration, information, motivation and funding.

Day, Reynolds and Lancaster (2006:582) expand on this topic by proposing that every well-functioning SME business owner and manager should have an external advisor who can provide guidance, demonstrate best practices and has an objective view of current operations in the business. The advisor can spot shortcomings in the entrepreneurial environment more effectively and advise the SME owner of these shortcomings with impartiality. Pasanen (2003:420) mentions that highly entrepreneurial SME owners are involved in multiple enterprises and are thus able to build an effective network. Doloreux (2004:183) expands on the topic of networks by including the element of having a relationship with customers, suppliers and institutions. The strongest participation occurs in the area of knowledge-sharing with customers, with formal research and development

cooperation in second place. The strength of the relationship between the SME and the network determines the level of corporate entrepreneurial activity in a business. This can be attributed to greater information availability, efficient resource-sharing, and new and improved processes.

Abor and Adjasi (2007:113) explain the responsibility of government by explaining that one of the main determinants of corporate entrepreneurial activity within SMEs is access to finance and international markets. Thus, government has to construct a regulatory framework for the industry and the SME that will enable the SME to enter international markets with ease and as little bureaucracy as possible. The establishment of the SMME development plan and the Identitiy Development Fund by the SA government is a clear signal that SMEs in South Africa require

Lober (1998:28) goes further by saying that there are external factors which contribute towards promoting corporate entrepreneurial behaviour. These factors include the social, economic and financial situations. This means that an economy which is booming will have more opportunities, as more resources are available to exploit these opportunities. This can be explained by the greater availability of credit and higher discretionary consumer spending. There are, however, limitations for CE within SMEs. Two of these limitations are the resource limitation of a small business and the corporate capability of the entrepreneurial business (Sathe, 2003:107). A corporate entrepreneurial project which is very resource-intensive can lead to severe cash flow problems for the small business.

To overcome these resource limitations, SMEs have invented novel solutions to ensure that sufficient resources are available. Teng (2007:120) explains that SMEs often use alliances in order to share resources to foster CE. This is termed the *strategic alliance-based approach*. Teng (2007:123) further explains that the process of innovation requires the business to grow, allocate resources and give the entrepreneur the necessary tools he needs in order to innovate.

SMEs can lack the ability to provide the necessary resources. SMEs will thus need to approach other businesses in the form of strategic alliances, research alliances and joint ventures in order to spread the resource load (Teng 2007:126). In this manner, both financial and human resources can be combined to create innovations that an individual SME would not have been able to sustain on its own.

5 RESEARCH METHODOLOGY

This study has utilised an exploratory research design. Elements of previously researched knowledge are combined with practical applications in the field of CE within the seafreight transport industry. The research is quantitative in nature, as it makes use of questionnaires to measure the level of CE in terms of a Likert scale. The study also incorporates an exploration into the theoretical concept of CE within SMEs. This theory is combined with the data obtained from the questionnaires.

5.1 POPULATION AND SAMPLING

The population for the study can be defined as all SMEs who are active within the seafreight transport industry in South Africa, registered with the South African Association of Freight Forwarders (SAAFF) and employ up to two hundred staff members. A convenience sampling approach was used and the sample for this study consists of three businesses. The reasons for this sampling approach and size are due to limited accessibility to businesses within the industry, coupled with confidentiality concerns within the industry.

Originally ten businesses were selected as part of the sample that confirmed participation in the study, but seven of the selected businesses withdrew participation in the study due to confidentiality concerns. Owing to fierce competition in the industry, confidentiality concerns were raised by the three participating SMEs, their identity was requested to be kept anonymous and not divulged for the purposes of the study. Thus, for the purposes of this study, these SMEs are referred to as Company A, Company B and Company C in ascending order of size classification with Company A being the smallest. The SMEs participating in the survey are very small, small and medium with staff complements of 15, 38 and 175

respectively. Company A is thus the smallest business and Company C the largest. Company A had a total of 12 responses, Company B a total of 15 responses and Company C a total of 20 responses, thus making the total sample size 47.

The individual participants in the study within each organisation have been chosen based on a random sampling approach. For the study, a total of 110 questionnaires were distributed, 47 questionnaires were returned, resulting in an overall response rate of 42.7%.

5.2 METHOD OF DATA COLLECTION

Primary data for this study was collected through self-administered questionnaires. These questionnaires measure responses based on key corporate entrepreneurial activity indicators. The questions in the survey were adapted from the CECI) as published by Morris, Kuratko and Covin (2008:331). Morris et al. (2008:331) later adapted the original CECI in order to capture the main factors driving CE strategy within companies in a modern business setting.

The original CECI was thus modified to suit the assessed topic and industry better, without losing the original purpose of the questionnaire. Biographical information such as age and gender were added to the original questionnaire in order to find any possible correlations between biographical variables and key entrepreneurial indicators. A section on climate-specific variables is also included in the CECI, in addition to the five antecedents, in order to capture the overall climatic conditions in a company, in relation to their Corporate Entrepreneurial initiative (if any). Closed-ended questions were graded according to a Likert scale approach which ranges from ‘Strongly Agree’ to ‘Strongly Disagree’. This allows the research to measure the strength of responses.

5.3 DATA ANALYSIS

Data was analysed based on five key corporate entrepreneurial drivers, with climate specific variables added as per the CECI in order to discover any climate related issues, with the method of data analysis being a frequency distribution table which highlights trends in responses. These drivers correspond with the data collected in the literature review and

provide six distinct drivers which are necessary to create an environment that is conducive to sustainable CE. The quantitative data analysis has been conducted by means of a number of different analysis techniques, one of which is the multiple comparisons analysis table. This table outlines the mean, significant level, frequency of responses and mean difference relevant to each factor of corporate entrepreneurial activity.

A further quantitative analysis tool that has been utilised, namely an analysis of variance (ANOVA), compares the variance between the different businesses in order to draw conclusions from the comparison. Sing and Sharma (2011:125) explain that the ANOVA analysis tests and can aid in explaining variation in the dependant variable. In addition, independent samples t-tests were conducted to compare the means between the different businesses as well as between specific biographical elements such as age and gender. Pallant (2007:232) states that t-tests are ideal for comparing two groups. Should more than two groups wish to be compared, the ANOVA analysis is the more appropriate research tool. In order to spot significant differences the level of significance was tested in terms of p-value < 0.05 to indicate statistically significant differences to be explored further (Pallant 2007:235). This further exploration took the form of post-hoc tests which focused on individual variables in terms of their mean difference and confidence interval.

The cross-tabulation methodology was used to identify differences between the tested variables and the biographical data. Any differences were probed by means of a Levene's test for equality of variances.

5.4 VALIDITY AND RELIABILITY OF THE DATA

According to Zikmund (2003:303), construct validity is one of the most important measures of validity as it analyses the degree to which a question is based on a theoretical concept. Construct validity in the questionnaire is ensured by means of grouping questions according to key corporate entrepreneurial influencers identified in the literature review. Furthermore, the questionnaire is based on a proven academic instrument which has been developed since the 1990s. The data that is collected can thus be described as valid.

Zikmund (2003:300) explains that reliability is defined as *"the degree to which measures are free from error and therefore yield consistent results"*. In order to test reliability of the research instrument, an analysis based on the Cronbach Alpha has been utilised. A higher Cronbach value is more desirable, as it indicates better internal consistency of the research instrument. The ideal score for the Cronbach Alpha is one (1). For the purpose of this study, any section with a Cronbach Alpha around 0.7 and greater is utilised as the cut-off point as this ensures a high level of reliability. Table 2 provides the condensed scores.

Table 2: Tests of reliability (Source: Own research)

SECTION B1 (MANAGEMENT SUPPORT)

Reliability Statistics

Cronbach's Alpha	N of Items
.916	15

SECTION B2 (WORK DISCRECTION)

Reliability Statistics

Cronbach's Alpha	N of Items
.810	7

SECTION B3 (REWARDS / REINFORCEMENT)

Reliability Statistics

Cronbach's Alpha	N of Items
.797	6

SECTION B4 (TIME AVAILABILITY)

Reliability Statistics

Cronbach's Alpha	N of Items
.438	5

SECTION B5 (ORGANISATIONAL BOUNDARIES)

Reliability Statistics

Cronbach's Alpha	N of Items
.683	6

SECTION B6 (CLIMATE SPECIFIC VARIABLES)

Reliability Statistics

Cronbach's Alpha	N of Items
.872	20

Section B1 (Management Support) scored a Cronbach Alpha of 0.916. Section B2 (Work Discretion) scored a Cronbach Alpha of 0.810. Section B3 (Rewards/Reinforcement) scored a Cronbach Alpha of 0.797. Section B6 (Climate Specific Variables) consists of twenty items and scored a Cronbach Alpha of 0.872. These sections of the instrument can be said to exhibit high internal consistency and the instrument is thus a reliable measurement tool.

Section B5 (Organisational Boundaries) scored a Cronbach Alpha of 0.683 which is an acceptable Cronbach Alpha. Section B4 (Time Availability) scored a Cronbach Alpha of 0.438 which is lower than the set target. Due to the Cronbach Alpha being significantly lower than the acceptable range, this section of the research instrument is ignored for the purposes of the study.

6 RESULTS

6.1 OVERALL COMPARISON

The focus of this analysis was on the key contributors to a climate rich in CE. Table 3 summarises the means of the relevant sections between the three companies.

Table 3: One way ANOVA – Overall comparison (Source: Own research)

		N	Mean	Std. Deviation	Std. Error
Mean_Section1	A	12	3.62	.753	.217
	B	15	3.13	.659	.170
	C	20	2.59	.441	.099
	Total	47	3.02	.725	.106
Mean_Section2	A	12	3.25	.806	.233
	B	15	3.14	.750	.194
	C	20	2.43	.617	.138
	Total	47	2.87	.794	.116
Mean_Section3	A	12	3.29	.782	.226
	B	15	2.54	.638	.165
	C	20	2.14	.547	.122
	Total	47	2.56	.782	.114
Mean_Section5	A	12	2.60	.737	.213
	B	15	2.23	.763	.197
	C	20	2.10	.457	.102
	Total	47	2.27	.659	.096

		N	Mean	Std. Deviation	Std. Error
Mean_Section6	A	12	3.59	.629	.182
	B	15	3.27	.498	.129
	C	20	2.70	.456	.102
	Total	47	3.11	.632	.092

The data indicates that there is a drop in the means from Group A to Group B to Group C. Lower means indicate stronger agreement with a climate high in CE. Table 4 indicates that as the organisational size increases, there is stronger agreement with a culture high in CE.

Table 5 is a summary and comparison of the F ratios of the organisations. Pallant (2007:242) explains that a large F ratio indicates greater variability between the different groups than within the groups. This means that a large F ratio shows there is significant variability in the means between the three groups. The greater variability could thereby indicate that significant differences exist between the SMEs of different sizes.

Table 4: One way ANOVA – Between/within groups (Source: Own research)

		Sum of Squares	df	Mean Square	F	Sig.
Mean_Section1	Between Groups	8.155	2	4.078	11.206	.000
	Within Groups	16.011	44	.364		
	Total	24.167	46			
Mean_Section2	Between Groups	6.724	2	3.362	6.647	.003
	Within Groups	22.257	44	.506		
	Total	28.981	46			
Mean_Section3	Between Groups	10.012	2	5.006	12.171	.000

		Sum of Squares	df	Mean Square	F	Sig.
	Within Groups	18.097	44	.411		
	Total	28.109	46			
Mean_Section5	Between Groups	1.883	2	.942	2.290	.113
	Within Groups	18.092	44	.411		
	Total	19.975	46			
Mean_Section6	Between Groups	6.589	2	3.294	12.304	.000
	Within Groups	11.781	44	.268		
	Total	18.370	46			

Section 1 (Management Support) indicates $p < 0.05$, with the p. value being 0.000. This means there is a very high level of difference between the groups in terms of Section 1. The corresponding F value is 11.206 which is a very large value. This further indicates greater variability in the means between the groups.

Section 2 (Work Discretion) indicates $p < 0.05$, with the p. value being 0.003. This means there is a high level of variance between the groups in terms of this section of the instrument. The corresponding F value is 6.647 which is a high value, albeit not as significant as Section 1. This further indicates greater variability in the means between the groups.

Section 3 (Rewards/Reinforcement) indicates $p < 0.05$, with the p. value being 0.000. This means there is a very high level of variance between the groups in terms of this section of the instrument, as this value lies below the significant threshold of 0.05. The corresponding F value is 12.171 which is a high value, indicating a large variability in the means between the groups.

Section 5 (Organisational Boundaries) indicates $p > 0.05$, with the p. value being 0.113. This means there is no significant variance between the groups for this section of the instrument. This is due to the p. value lying below the significant threshold of 0.05. The corresponding F value is 2.290 which is a low value in line with the low level of significance indicated by the p. value.

Section 6 (Climate-specific Variables) indicates $p < 0.05$, with the p. value being 0.000. This means there is a significant variance between the groups for this section of the instrument. This is due to the p. value lying above the significant threshold of 0.05. This means that significant variances exist between the tested groups. The corresponding F value is expected to be high and is determined at 12.304. Between Group's dF is indicated at 2.

The data and level of significance strongly suggest that there is a definite link between the level of CE displayed in the sampled businesses and the size of the businesses. From the data it is also evident that certain subject areas of CE indicate more significant differences than other areas. Climate-specific evaluation (Section 6) rewards and reinforcement (Section 3) as well as work discretion (Section 2) revealed a definitive trend towards key factors prominent in cultures with a high level of CE as the size of the business increased.

6.2 T-TEST FOR EQUALITY OF MEANS

6.2.1 Age

An independent sample t-test was conducted to compare the section scores for individuals over and under the age of 30. Preliminary coding of the questionnaire showed that a comparable split could be established between respondents over and under the age of 30 years. The relevant scores can be observed in Table 5. The results indicate that respondents 30 years of age and younger tend to perceive CE much better than their older counterparts.

6.2.2 Gender

A further t-test was conducted based on gender for total responses received. The aim of the analysis was to determine whether any inequalities existed in the means based on

gender scoring. The relevant scores can be observed in Table 6. From the results it is clear that females are significantly more positive about CE than males.

Table 5: T-test – Age (Source: Own research)

Independent Samples Test									
	Equality of Variances		t-test for Equality of Means						
	F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
								Lower	Upper
Mean_Section1									
Equal variances assumed	12.070	.001	-2.151	45	.037	-.443	.206	-.857	-.028
Equal variances not assumed			-2.344	41.284	.024	-.443	.189	-.824	-.061
Mean_Section2									
Equal variances assumed	3.460	.069	-1.817	45	.076	-.415	.229	-.875	.045
Equal variances not assumed			-1.915	44.881	.062	-.415	.217	-.852	.022
Mean_Section3									
Equal variances assumed	2.178	.147	-.714	45	.479	-.165	.232	-.632	.302
Equal variances not assumed			-.743	44.952	.461	-.165	.223	-.614	.283
Mean_Section5									
Equal variances assumed	.003	.958	-.618	45	.540	-.121	.196	-.515	.273
Equal variances not assumed			-.619	41.218	.540	-.121	.196	-.516	.274
Mean_Section6									
Equal variances assumed	8.062	.007	-2.169	45	.035	-.389	.179	-.750	-.028
Equal variances not assumed			-2.360	41.510	.023	-.389	.165	-.722	-.056

Table 6: T-test – Gender (Source: Own research)

Independent Samples Test									
	Equality of Variances		t-test for Equality of Means						
	F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
								Lower	Upper
Mean_Section1									
Equal variances assumed	.673	.416	-.024	45	.981	-.005	.214	-.437	.426
Equal variances not assumed			-.023	42.304	.981	-.005	.216	-.441	.431
Mean_Section2									
Equal variances assumed	3.891	.055	.558	45	.579	.130	.234	-.340	.601
Equal variances not assumed			.548	38.826	.587	.130	.238	-.351	.612
Mean_Section3									
Equal variances assumed	1.074	.306	.861	45	.394	.197	.229	-.264	.659
Equal variances not assumed			.851	40.951	.400	.197	.232	-.271	.666
Mean_Section5									
Equal variances assumed	.111	.740	1.453	45	.153	.277	.190	-.107	.660
Equal variances not assumed			1.447	43.219	.155	.277	.191	-.109	.662
Mean_Section6									
Equal variances assumed	.280	.599	1.318	45	.194	.242	.183	-.128	.611
Equal variances not assumed			1.307	42.289	.198	.242	.185	-.131	.614

6.3 OVERALL EVALUATION OF THE LEVEL OF CORPORATE ENTREPRENEURSHIP

When comparing all the sections of the research instrument, it becomes evident that visible differences exist between the three SMEs sampled, as well as significant similarities. The findings show that the level of CE is perceived as moderate to good. When combining the

average of all sections tested, the overall result is a mean of 2.77. This indicates that employees within SMEs perceive a corporate entrepreneurial climate which reflects some characteristics of a well-structured model.

It is however noteworthy that as business size increased, mean scores improved. This means that as business size increases, the corporate entrepreneurial climate improves. From this observation it can be deducted that larger SMEs are more prone to foster an environment conducive to CE. The hypothesis exists that large businesses have the financial and structural means as well as the necessary management expertise to manage and operate a corporate entrepreneurial programme effectively. This implies that small businesses do not concern themselves overly with establishing an environment that fosters CE. It can be speculated that small businesses have a greater need to focus on their operations and thus their survival than focusing on fostering an environment conducive to CE.

When comparing the scores of the five sections it becomes evident that SMEs are much better equipped in some areas of CE. The findings show that the means on work discretion, rewards and reinforcements, and organisational boundaries have performed much higher than the means of the other researched areas. The section on organisational boundaries fared particularly well. This means that SMEs are effective at setting individual performance goals, structuring tasks and providing clear job descriptions to employees. Furthermore, SMEs are perceived to be actively rewarding and reinforcing behaviours characteristic of entrepreneurship. This includes not only monetary rewards but also verbal feedback.

It is noteworthy that the section on climate-specific variables has not performed according to expectations. The measure of management support for CE has performed similarly low contrary to expectations. This observation raises questions with regard to management's effectiveness at implementing and managing corporate entrepreneurial efforts. Management is not perceived to be supporting CE actively, but is seen to be rewarding and reinforcing corporate entrepreneurial behaviours as well as being very effective at structuring tasks and setting clear performance goals.

7 CONCLUSIONS

The purpose of the study was to determine the prevailing level of CE within the seafreight transport industry. As three SMEs of differing size classifications were tested, the test results are projected onto the industry as the three companies are regarded as typical examples of companies within the subject industry. The findings have shown that the level of CE, in particular focusing on SMEs, is moderate to low, with significant room for improvement. The study also showed that SMEs of a larger size classification are more inclined to create an environment conducive to CE when compared to smaller SMEs.

The study furthermore showed that female respondents as well as respondents 30 years and younger, tended to perceive a higher level of corporate entrepreneurial climate than their male and older counterparts. Certain areas characteristic of CE showed significantly better development than other areas. The findings of the research have revealed that SMEs are particularly skilled at rewarding and reinforcing behaviours characteristic of CE. This indicated that SMEs have the ability to recognise behaviours that further entrepreneurial efforts and reward these actions. This approach will encourage desired behaviours to be repeated, thereby strengthening CE within the business.

In addition, the research results has shown that SMEs have the ability to structure job functions, set performance goals and create realistic expectations for staff members. The scores in this subject area are particularly good when compared to the other areas investigated. The scores have been moderate to good in this area. As this area of the research instrument scored particularly high, it indicates a concerted effort by SMEs to reward behaviours characteristic of CE. The research findings furthermore indicated that while SMEs were making an effort to establish a climate high in CE, the implementation and associated implementation techniques were underdeveloped and partly ineffective.

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