

Chapter 6: Research findings

6.1 Introduction

The purpose of this chapter is to present the empirical research results. The literature review revealed the need for the SME owner to have a set of competencies to be successful in business. The review also highlighted the importance of related relevant training programmes that can help SMEs raise their skills. The key motivation behind this study is to investigate any notable differences or similarities between the successful and the less successful SMEs in terms of competencies, and to find out whether these competencies are related to the training received. This chapter provides a summary of the data analysis and interpretation of the research findings based on the responses from the respondents who completed the quantitative research questionnaires.

The first section of this chapter reports on the demographic profile of the respondents (570 manufacturing SMEs), comparing the 197 successful and the 373 less successful SMEs. The second section focuses on the business demographics of the respondents and examines all essential business information. Both section one and two use descriptive statistics to analyse the data characteristics in terms of shape, skewness and spread. The third section gives the results of factor analysis giving factors on which the successful and less successful samples will be compared. The factor analysis illustrated the reliability and validity of the data and the measuring instruments that were used in this study.

The fourth section focuses on the significant differences between successful and less successful SMEs with the t-tests, chi-square tests and one way analysis of Variance (ANOVA) are presented. In order to find out the sources of differences within the different aspects of a factor, more detailed tests are done using the Scheffe's multiple comparison procedure. The fifth section comprises the correlation analysis used to test the strength of the relationship between competence and training received. The final section of this chapter provides general comments on open ended questions from the respondents regarding the usefulness of training in SME success.

6.2 Response rate

Of the targeted sample of 700 SMEs of 350 per sub-sample, 600 were collected and acceptable yielding an 85% response rate. Two purposive samples were derived from the division of the responses elicited, based on the success criteria defined in chapter 1. Only those surveys in which all items were completed were used for statistical analysis. 30 questionnaires were excluded as they had too many missing entries or incorrect entries. 197 SMEs had more than 5 employees and earned more than R150 000 and were in existence as businesses for more than three years. 373 SMEs were considered as less successful SMEs as they had either less than 5 employees or had annual turnover of less than R150 000 or were less than 3 years in existence as a business.

6.3 Personal demographics

The personal demographics variables for which information was obtained included gender, age, level of education, ethnic groups, language and work experience. The personal demographics of the two respondent samples are presented in the tables and figures that follow:

6.3.1 Gender

The gender composition of the respondents is indicated in table 6.1

Table 6.1: Gender composition

Gender	Successful		Less successful		Total	
	frequency	percent	frequency	percent	frequency	percent
male	82	41.62%	102	27.35%	197	34.56%
female	115	58.38%	271	72.65%	373	65.44%
total	197	100.00%	373	100.00%	570	100.00%

It is found that this sector is female dominated as both samples had majority (over 50%) as females. However there were more females (72.65%) in the less successful than the

successful sample (58.38%). There are more males (41.62%) in the successful sample than males in the less successful sample (27.35%).

Figure 6.1: Gender composition of the successful and less successful SMEs



It could be stated that successful SMEs are led by mainly male managers while less successful SMEs are mainly female.

6.3.2 Average age of respondents

Descriptive statistics was generated using SAS v8.2 statistical software to find frequencies and percentages for the “age” variable. This is given in a summary statistic for the mean factor scores. The average age of the respondents is indicated in Table 6.2:

Table 6.2: Age of respondents

Respondents group	Frequency	Mean	Median	Std Dev	Minimum	Maximum
Successful	197	43.40102	42	10.33306	22	70
Less successful	373	40.89812	40	12.13102	18	80

Although the less successful group had more respondents than the successful group, there is no significant difference between the two groups in terms of the mean, median and standard deviation. The minimum ages of the two groups are four years different with the successful being older than the less successful group. However the successful group had far (10 years) younger maximum ages compared with the less successful group. This is in line with literature review which identifies that identifies the age of between 22 and 45 as ideal starting business. The less successful samples had those who were starting too early limiting their abilities, training, education and work experience. Also with the maximum age being 80 means there are those who may have started too late meaning the lack of energy and resilience of the youth that the business so needs (Ucbasaran et al, 2004:432; Rwigema & Venter 2004:70).

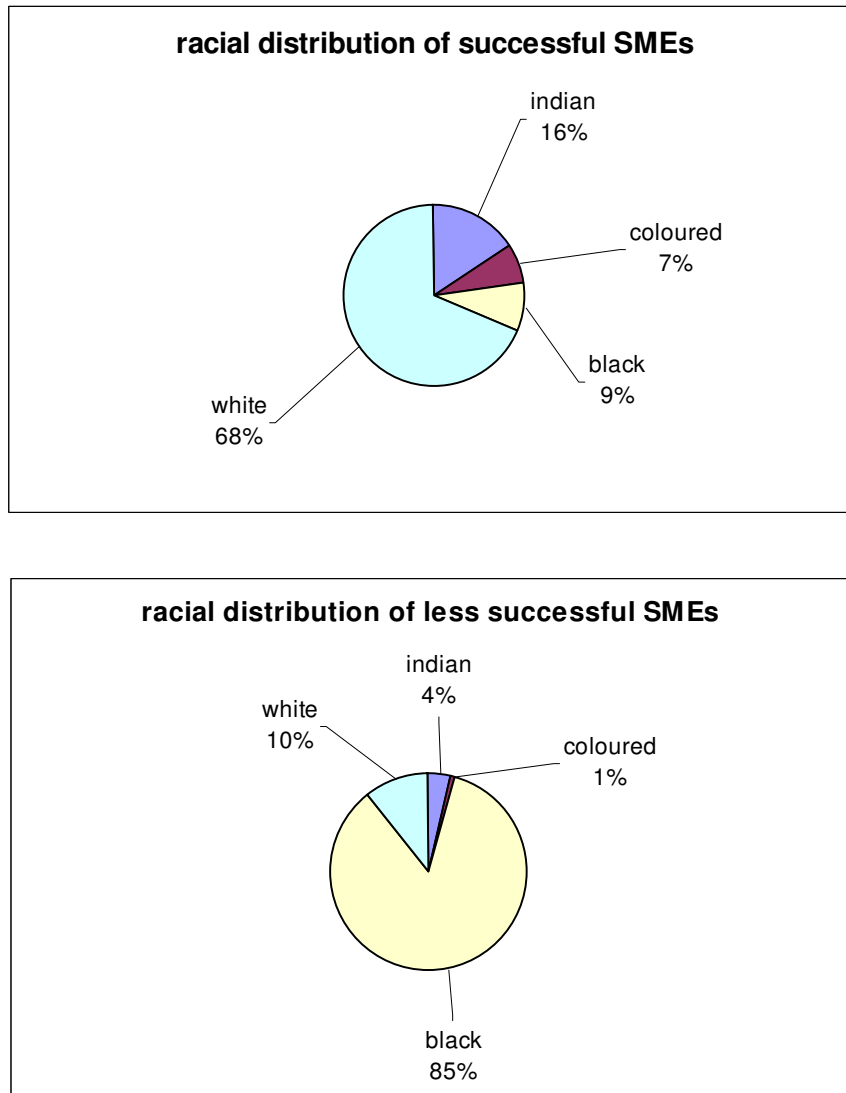
According to Cooper & Schindler (2008:439) the standard deviation shows the variation about the average of the data, measuring how far away from the average the data values typically are. The standard deviation for both groups was fairly large, which implies that the variability of the dataset was sufficient to continue with parametric tests. In both cases the standard deviation varied considerably.

It can therefore be stated that successful SMEs are led by managers older than 40 years; compared to less successful SME that are led by managers younger than 40 years.

6.3.3 Ethnic groups

All racial groups are included in the sample. The majority of the respondents in the successful SMEs are mainly Caucasian (68%) while the majority of the respondents in the less successful sample are mainly black (85%).

Figure 6.2: Ethnic groups of the two samples



It can be stated that successful SMEs are led by mainly white managers while less successful SMEs are mainly black.

6.3.4 Language

The home language of the groups is provided below in Table 6.3

Table 6.3: The home language of the respondents

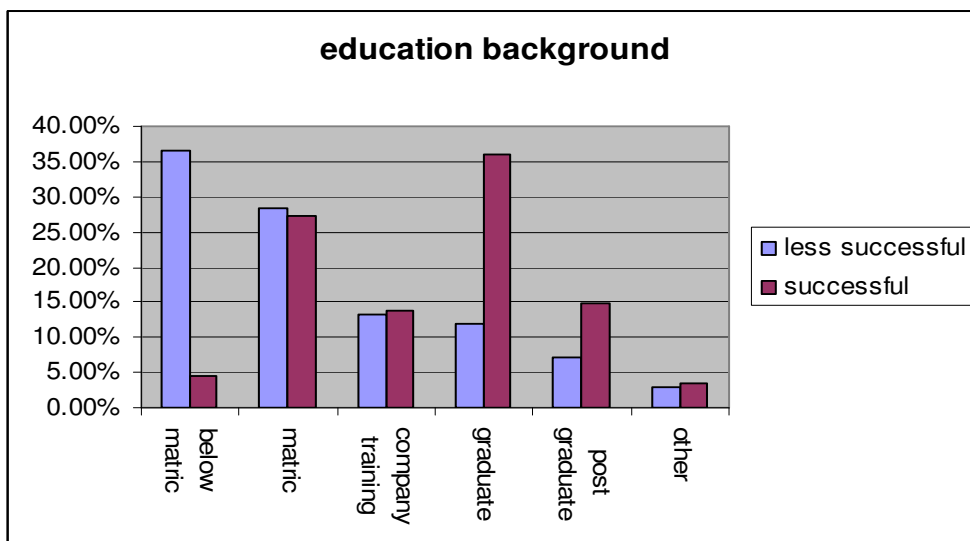
Language variable	Successful		Less successful	
	frequency	percent	frequency	percent
Afrikaans	19	9.64%	8	2.14%
English	161	81.73%	68	18.23%
Ndebele	1	0.51%	1	0.27%
Pedi	4	2.03%	21	5.63%
Sotho	2	1.02%	32	8.58%
Swazi	0	0.00%	8	2.14%
Tsonga	0	0.00%	14	3.75%
Tswana	2	1.02%	36	9.65%
Venda	1	0.51%	7	1.88%
Xhosa	3	1.52%	26	6.97%
Zulu	2	1.02%	150	40.21%
Other	2	1.02%	2	0.54%
total	197	100.00%	373	100.00%

The respondents in the successful sample were mostly English and Afrikaans speaking while the majority of the less successful SMEs were speaking the African languages dominated by Zulu. The other was excluded from any analysis as they were, even combined, too small to facilitate stable statistics.

6.3.5 Education background

The highest level of qualification of the sample groups is indicated in figure 6.3 below:

Figure 6.3: Education background



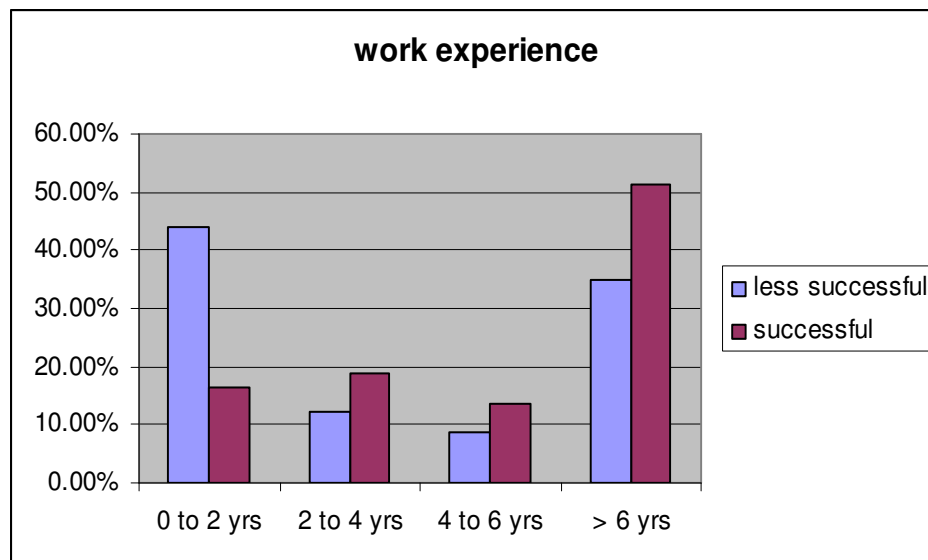
The majority of the successful group were on average more educated than the less successful group whose large majority (64.88%) have only matric and below. More than 54.31% of the successful SME respondents were graduates and or had other tertiary qualification. Both the successful and less successful SMEs had similar in terms of company training.

It can be stated that successful SMEs are led by managers with education levels above matric while less successful SME have education levels at matric or lower. This supports GEM (2005b:8) that states that South African adults who do not have tertiary education are less likely to sustain new ventures.

6.3.6 Work experience

More of the successful groups (51.27%) had on average worked more than 6 years prior to starting their own businesses as compared to the less successful group whose majority (43.97%) indicated they had two or less years of experience, as indicated in Figure 6.4 below.

Figure 6.4: Work experience of the respondents in the two samples



It can be stated that successful SMEs are led by mainly managers with more than 4 years of work experience while less successful SMEs have less than 4 years experience.

6.4 Business demographics

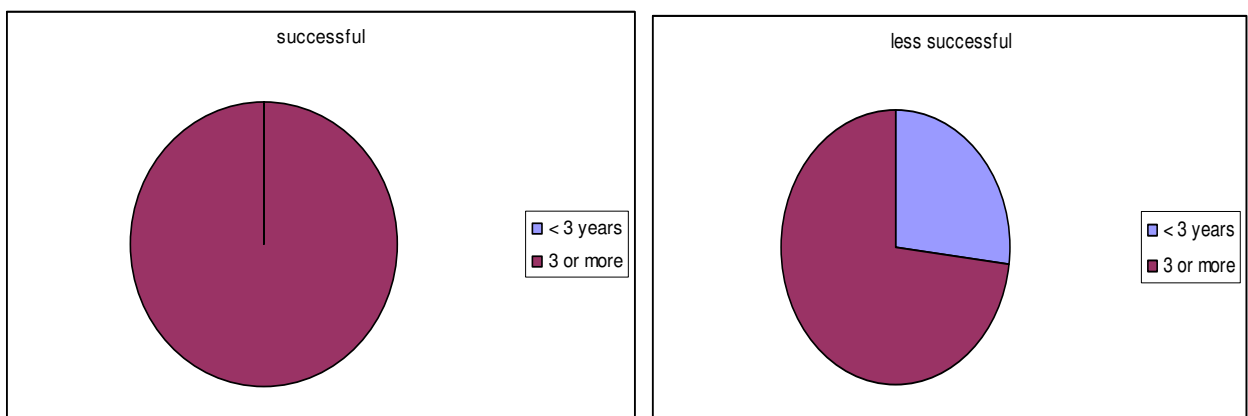
Business demographics report information about the respondents businesses. Both the successful and the less successful samples had to have similar business biographical characteristics (as far as possible) to be able to compare the samples against each other. The business demographics variables for which information was obtained included the number of years in business, the number of employees, income, the business sector, the regions, the location, the product focus and the form of business.

The first three variables were used as business performance indicators to categorise whether the SME fell into the successful or less successful sample. These three indicators were the number of years in business, annual turnover and number of employees in the SMEs.

6.4.1 Number of years in business

The number of years in business existence was three years or more for the successful SME sample. This questionnaire, divided the years of existence into less than three years and three and more being one of the three main factors used as business performance indicators.

Figure 6.5: Years in business



It was noted that there were other respondents whose age was more than three years but they were categorised as less successful due to less than 5 employees and or less than or equal to R150,000 annual turnover.

6.4.2 Number of employees

Descriptive statistics was generated using SAS v8.2 statistical software to find frequencies and percentages for categorical variables. This was given in a summary statistic for mean factor scores as shown in Table 6.4 below.

Table 6.4: Number of employees

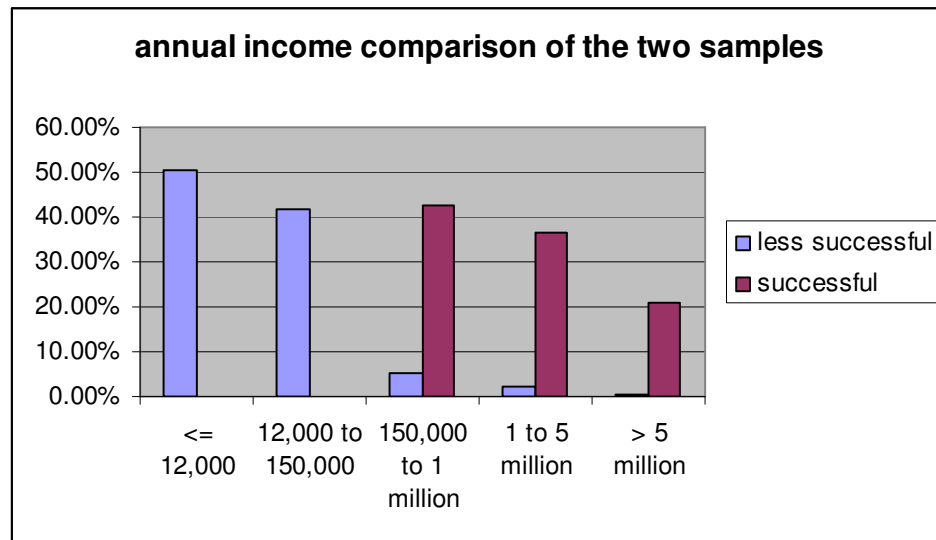
Number of Employees	Mean	Median	Std Deviation	Minimum	Maximum
Successful	41.38579	23	62.05234	6	520
Less successful	4.281501	2	7.600835	1	105

Average number of people employed by successful SMEs was 41 while those employed by less successful employees was 4.

6.4.3 Income

The majority of the respondents in the successful sample indicated that their annual turnover was more than R150,000. In contrast most of the less successful SMEs were under R150,000 with the majority earning less than R12,000. There was a normal distribution between all the intervals.

Figure 6.6: Annual income



6.4.3 Business sub-sector

The majority of the SME respondents indicated that their businesses were in the clothing or apparel sub-sector. Thus the focus of the study is mainly on apparel which is one of the easiest sub-sectors to enter for self employment in the SME sub-sector, as indicated in Table 6.5 below:

Table 6.5: Subsector

Sector	Less successful		Successful		Total	
	frequency	percent	frequency	percent	frequency	percent
apparel	262	70.24%	153	77.66%	415	72.81%
other	111	29.76%	44	22.34%	155	27.19%
total	373	100.00%	197	100.00%	570	100.00%

More than 70% of the respondents in both samples were operating in the apparel subsector.

6.4.5 Regions

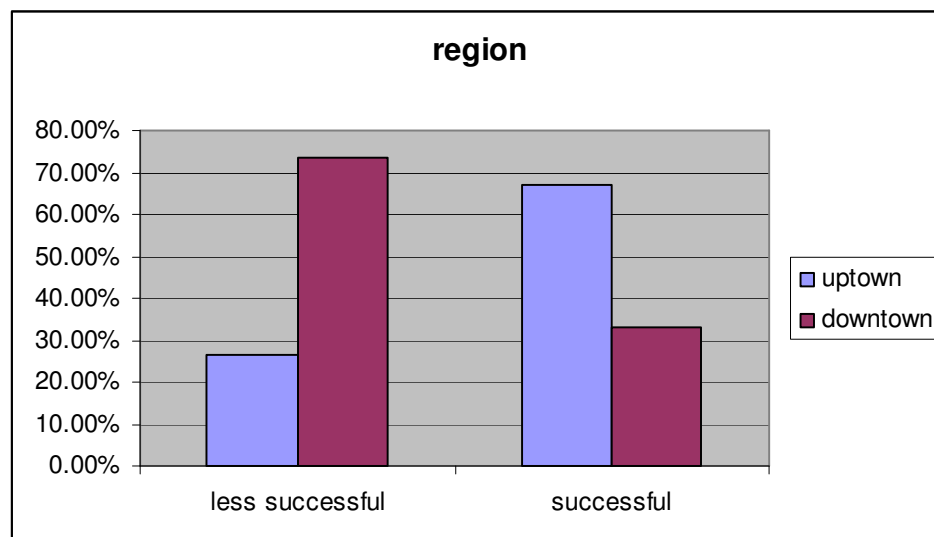
The samples comprised of SME owners/managers from the all the regions of Johannesburg as indicated in table 6. More than a third (37.54%) of the SMEs samples were from the Johannesburg city centre. This is in line with literature that indicates that the Textile and clothing industry tends to be localised (Gibbon, 2004:157; Rogerson, 2004:127; Kamaha; 2004:430).

Table 6.6: The regions where the business operates

Region	Less successful SMEs		Successful SMEs		Total	
	frequency	percent	frequency	percent	frequency	percent
midrand	14	3.75%	19	9.64%	33	5.79%
diepsloot	7	1.88%	0	0.00%	7	1.23%
sandton	38	10.19%	30	15.23%	68	11.93%
northcliff	6	1.61%	18	9.14%	24	4.21%
roodepoort	7	1.88%	25	12.69%	32	5.61%
soweto	54	14.48%	3	1.52%	57	10.00%
alexandra	5	1.34%	3	1.52%	8	1.40%
central	161	43.16%	53	26.90%	214	37.54%
south	22	5.90%	28	14.21%	50	8.77%
diepkloof	45	12.06%	2	1.02%	47	8.25%
orange farm	2	0.54%	4	2.03%	6	1.05%
other	12	3.22%	12	6.09%	24	4.21%
total	373	100%	197	100.00%	570	100.00%

The majority of the less successful SMEs were operating in the down town regions of Johannesburg like Diepsloot, Soweto, Alexandra, Central, Diepkloof, Orange farm – all labelled as downtown; while in contrast the more successful SMEs operated in up town regions like Midrand, Sandton, Northcliff, Roodepoort and Joburg South which are labelled as uptown. This is illustrated in Figure 6.7 below.

Figure 6.7: Regions of operations per sample

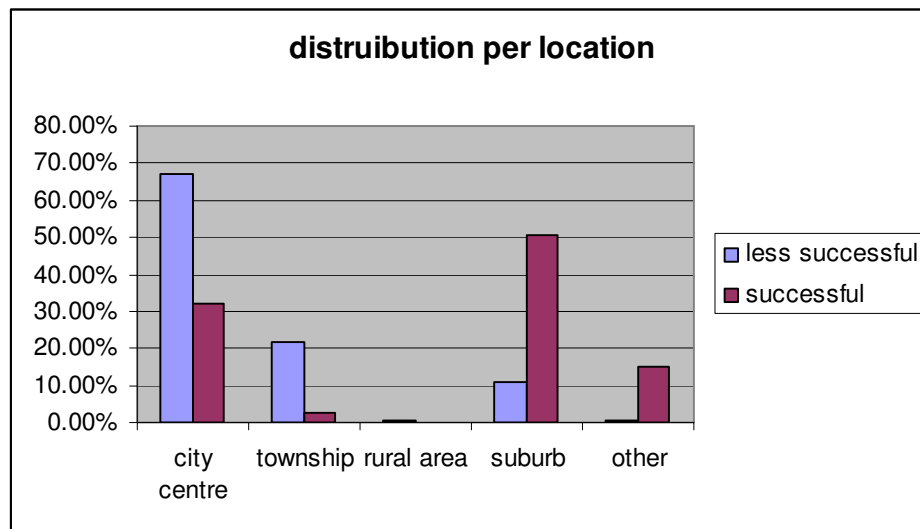


It can therefore be stated that successful SMEs operate mainly in upmarket regions while less successful SMEs operate in poorer regions.

6.4.6 Location

Most of the SMEs in the less successful sample were operating in the city centre or in the townships while the majority of the more successful SMEs were operating in the suburbs. Figure 6.8 below gives a picture of this type of location situation.

Figure 6.8: Distribution per location

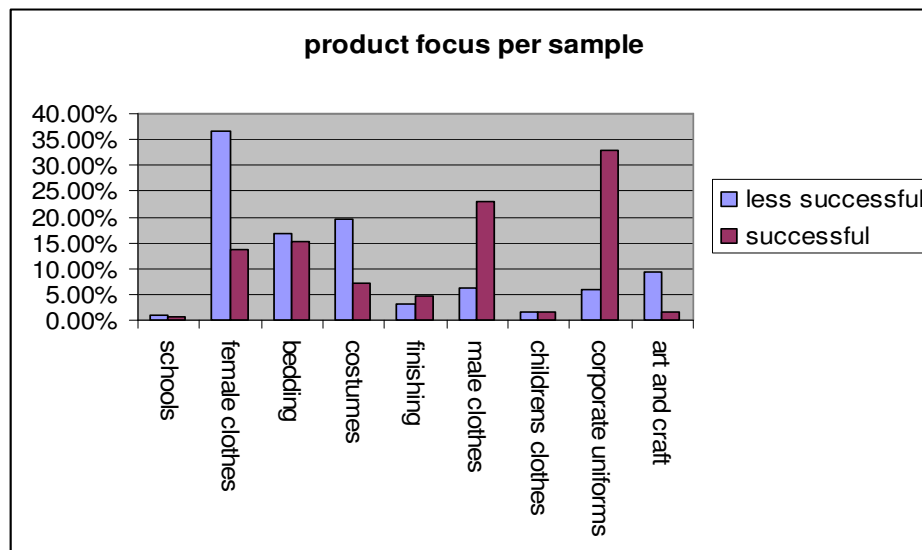


It can therefore be stated that successful SMEs operate in suburbs as compared to less successful SMEs who operate from the townships.

6.4.7 Product focus

Within the apparel sector the successful SMEs were specialising on corporate clothing and men’s wear which were more specialised sectors than the over flooded female clothes and curtains and costumes products. This is illustrated in figure 6.9 below.

Figure 6.9: Product focus per sample

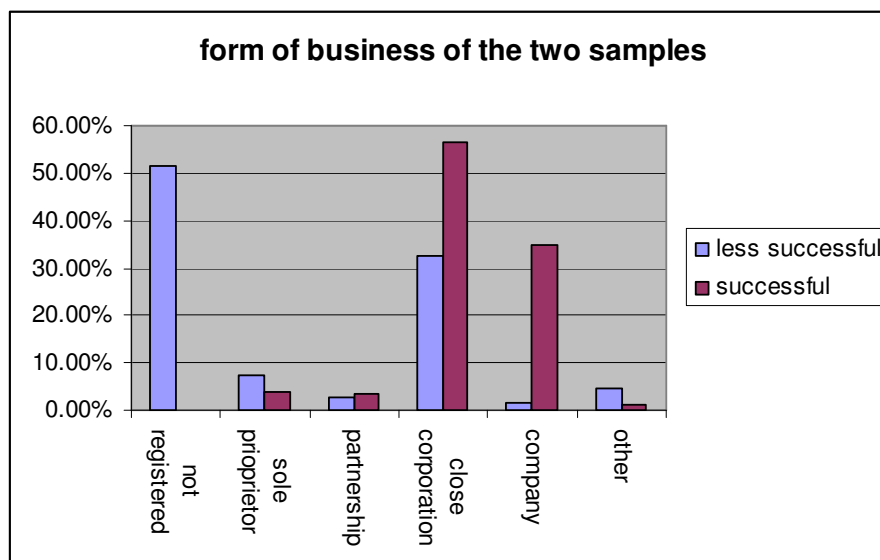


It can therefore be stated that most of the products of successful SMEs are niche textile products compared with the less successful SMEs that produce clothing that is flooding the market.

6.4.8 Form of business

The majority of the respondents in the successful SME sample had all formally registered their businesses with most registered as close corporations and companies (91.38%).

Figure 6.10: Forms of business per sample



In contrast most of the less successful SMEs (51.47%) were not formally registered and most of those registered were registered as close corporations (32.44%).

6.5 Descriptive statistical structure

The descriptive statistical analysis findings show that the shape and spread of the data was normal and therefore acceptable. This finding is consistent across the data set. Data reliability and validity were further tested through factorial designs.

6.6 Validity and reliability

To confirm the validity and reliability of the measuring instruments, factor analysis was executed. Factor analysis was carried out to further understand the data whose characteristics were found to be normal through descriptive analysis. In addition to being tested for normality the data was tested for reliability and validity using factorial design. Factor analysis is used primarily for data reduction, construct development and the investigation of variable relationships. As a narrowing device it allows the selections of salient variables from large groups, providing simplification of dominant variables and replacing them with isolated smaller numbers of hypothetical variants.

Factor analysis was used in this study for same reasons for data reduction, for easy usage of data plus structure validation and reliability checks. It also assisted in classifying the variables, developing/refining questions and ensuring meaningful results. Factorial design was used because a number of factors are involved. The method allowed for the analysis of independent variables and the dependant variables in this study. This helped to save money, time and resources. This study is multidimensional and so it is reasonable to study the several dimensions and their relationships simultaneously, instead of studying one variable at a time. The factorial design was used to measure whether there was any significant difference between successful and less successful businesses in terms of competency in their skills and whether they considered the same skills important for their business success.

Factor analysis was done on variables from the two main investigation questions namely question 15 and 16. The variables were sorted and rotated to illustrate the different factors. The values were presented from the highest to the lowest as evident in the tables below.

Factor analysis was done using BMDP Statistical Software on the items in Questions 15 and 16 for all of the respondents combined.

6.6.1 Procedure for determining factor structure

The two component instruments used in the study (namely importance of skills and competence in skills) were both revalidated in order to determine structure and reliability. The factor analysis procedure used included the following:

- Eigen values > 1.00 were identified. An eigenvalue is a measure of the explanation power of factor.
- The differentiation of possible factors was identified through clear breaks in the screen tests between eigenvalues > 1.00 .
- The variables were subjected to exploratory data analysis (EDA). Where variables loaded were found to be < 0.300 , they were removed and another round of exploratory analysis carried out. EDA simplifies the goal of learning about data as much as is possible. It provides a perspective and set tools for searching for clues and patterns.
- Rotated, unrotated and sorted factor analysis was carried out for the factors. Item analysis was then carried out for all the factors also.
- The procedure was repeated until two stable structures emerged, namely functional skills and enterprising skills.
- Cronbach alpha tests how well variables measure a single uni-dimensional latent construct. The critical values of alpha coefficients range from 0 to 1 and are used to describe the reliability (accuracy) of the factors extracted from dichotomous and or multi-point formatted questionnaires. Content analyses typically report a minimum reliability co-efficient of around 0.6. (Cooper & Schindler, 2008:293). The higher the alpha the more reliable the test. Cronbach alpha was used because it has the most utility for multi-item scales at interval level measurement.

6.6.2 Factor analysis – on the importance of skills

The rotated factor analysis of the respondents' views of the importance of various skills set are illustrated in Table 6.7 below:

Table 6.7: Rotated factor analysis - perception on the importance of skills

Description of the variables	Loadings	
	Factor 1: functional skills	Factor 2: enterprising skills
Business systems,	0.783	-0.173
Business linkages	0.675	0.051
Communication	0.629	0.197
Computer literacy	0.776	-0.131
Opportunity alertness	0.172	0.396
Financial	0.730	-0.079
Human Resource	0.616	0.313
Legal	0.741	-0.110
Life skills	0.466	0.178
Literacy	0.515	-0.090
Operations	0.545	0.050
Role Models	-0.161	0.563
Resources	0.515	0.022
Motivation	0.045	0.300
Planning	0.640	0.222
Value chain	0.786	-0.169
Technical	0.567	0.193
Percentage variance	35.91%	5.03%
Cronbach's alpha	0.9028	0.4308
Eigenvalue	6.63691	1.55465

The three variables marketing, risk taking and research & development were omitted since they had high double loadings and thus were not included in the statistical tests that analyse the factors.

Factors on importance

There were two factors which were given the following labels:

- Factor 1 was labelled “functional skills”. This includes business systems, business linkages, communication, computer literacy, financial management, human resources, legal, life skills, literacy, operations, securing resources, planning, value chain and technical abilities.
- Factor 2 was labelled “enterprising skills”. This includes creativity, innovation, opportunity identification, role models and motivation.

These factors are in line with the basis of a theoretical framework.

Eigenvalues

The eigenvalues of 6.63691 for functional skills and 1.55465 for the enterprising skills are greater than 1.00 which shows that both factors are relevant, good and reliable and should therefore be analysed.

Cronbach alphas

The Cronbach Alpha coefficient - using SAS was determined for the items in each factor. Cronbach’s Alpha is regarded as one of the most important reliability estimates. It measures internal consistency and the degree to which instrument items are homogeneous and reflect the same underlying construct(s). The acceptable threshold of Cronbach alphas ranges from 0.600 to 0.999 and indicates reliability (Athadye, 2003:10; Cooper & Schindler 2001:216-217). The Cronbach Alpha value of 0.8854 was obtained for all the variables used with individual Cronbach alphas as follows:

Table 6.8: Cronbach alpha results - importance of skills

Factor	Description	Cronbach Alpha value
factor 1	functional skills	0.9103
factor 2	enterprising skills	0.4308

The Cronbach Alpha for factor 1 was acceptable at 0.9103 which indicated that the instrument actually measured the concepts aimed to be measured and signified

consistence. On the other hand the Cronbach Alpha for factor 2 was not acceptable as it was very low at 0.4308. Low Cronbach alphas and eigenvalue < 1 indicate low validity and reliability of the factor. Normally such a factor would be excluded in a research study.

The researcher decided to include the second factor and accepted the low Cronbach alpha because the second factor items were similar to the enterprising skills category that was identified in the literature review. The inclusion of the second factor is in line with Davis (2000:484) who argues that the researcher should have some idea of underlying patterns in the data before analysis begins and use the factors that come out closely as the researcher envisages. In the literature review the researcher identified three main skills constructs, namely:

- Technical abilities. These abilities ensure that the product and or service is differentiated and produced at acceptable quality.
- Functional capabilities. These abilities assist the entrepreneur balances between opportunity, resources and the entrepreneurial team. This included all the skills in business management categories.
- Enterprising abilities. These abilities are linked with entrepreneurial competencies responsible for the booster/energizer/enterprising functions. This included motivation and skills in the entrepreneurial competencies identified.

As in the Nieman & van Vuuren (1999) model, the technical skills are included in the business skills construct that the study calls the functional skills. So it is acceptable to this study that instead of three factors, the results gave us only two with the technical skills being in the functional construct.

Furthermore, as factors are created by obtaining the mean scores over all the questions in the item; this low score may be due to the small number of variables (Kim & Mueller 1987:78). Factor 2 has only 3 variables as opposed to 16 variables in factor 1. This may also have been an error due to the categorising of innovation, opportunity identification and creativity into one skill category instead of three.

It may also be because there is low consistency in the understanding of the meaning of the constructs of the enterprising skills. Visser (2002:195) points out that the alphas are low if the respondents don't see the skills constructs in the same way or the questions don't measure the same thing for the different respondents. Thus the respondents don't give consistent answers.

Furthermore the nature of the variables could have contributed to this low alpha result. People's perception of all the skills in the list is very close and may be difficult to differentiate between the constructs thus leading to low factor scores.

Also it was noted that the second factor had all the variables that are not normally labelled as business skills. These correspond to variables such as motivation, creativity, innovation and opportunity identification to which most respondents are not exposed and whose level of competency is not being developed whether they had gone through the training or not.

The researcher decided to go ahead with the analysis of the data collected because the purpose of this study is aimed at dissecting the skills construct into two or more skills constructs to identify the differences in terms of competence in the various skills categories. Thus in essence this study is attempting to separate something that is essentially the same thing. It is therefore acceptable to continue with the analysis especially in lieu of the fact that the factors were consistent with the constructs identified in theory. It is acknowledged that there may be problems in tests that are dependant on the factor reliability therefore a chi squared analysis will also be done on each of the items in the factors.

Factor correlations for rotated factors

The correlation between the two factors was investigated. Factor correlations for rotated factors are reported in table 6.9 below.

Table 6.9: Factor correlation for rotated factors on importance

Factor	Factor 1	Factor 2
1 – functional skills	1.000	
2 – enterprising skills	0.211	1.000

The correlation between factors one and two are not high so the structure is stable enough for them to be used as separate factors.

Factor score covariance

Table 6.10: Factor score covariance on importance

Factor	Factor 1	Factor 2
1 – functional skills	0.924	
2 – enterprising skills	0.208	0.606

These factors were created along the basis of a theoretical framework. Each factor was subjected to an item analysis as part of establishing internal reliability.

Item analysis

Item analysis was done with Cronbach alphas calculated for each factor, to establish the internal reliability. Each item's contribution to that alpha is shown indicating what the alpha of the factor will be if that question is left out of the factor. If the alpha increases by a large margin, when leaving out the question, to the discretion of the researcher, it is decided to leave that question out of further analysis.

Item analysis for factor 1 is illustrated in table 6.16 below (total 13 items):

Table 6.11: Item analysis for factor 1 on importance

Skills variables	Alpha if item is deleted
Business systems	0.9011
Business linkages	0.9028

Communication	0.9033
Computer literacy	0.9010
Finances	0.9020
Human Resource	0.9027
Legal	0.9017
Life skills	0.9085
Literacy	0.9090
Operations	0.9071
Resources	0.9081
Planning	0.9026
Value chain	0.9009
Technical	0.9057
Cronbach alpha for the factor = 0.9103	

A high internal reliability is seen for factor functional skills with all the items contributing to the reliability. None of the items were therefore excluded.

Item analysis for factor 2 is illustrated in table 6.17 below (total 4 items):

Table 6.12: Item analysis for factor 2 on importance

Skills variables	Alpha if item is deleted
Creativity, Innovation, opportunity ID	0.3273
Role Models	0.3209
Self Motivation	0.3574
Cronbach alpha for the factor = 0.4308	

A high internal reliability is seen for factor enterprising skills with all the items contributing to the reliability. None of the items were excluded.

6.6.3 Factor analysis – on competence in these skills

The rotated factor analysis of the respondents views of their competence in various skills set are as follows:

Table 6.13: Rotated factor analysis - respondents rating their competence

Skills variables	Factor 1: functional skills	Factor 2: enterprising skills
Business systems	0.885	-0.201
Business linkages	0.749	-0.021
Communication	0.742	0.067
Computer literacy	0.549	0.272
Opportunity alertness	0.111	0.341
Financial	0.822	-0.172
Human Resource	0.648	0.296
Legal	0.643	0.093
Life skills	0.540	-0.034
Literacy	0.514	-0.034
Operations	0.668	-0.030
Role Models	-0.136	0.513
Resources	-0.078	0.675
Motivation,	0.101	0.301
Planning	0.639	0.303
Value chain	0.747	-0.104
Technical	0.502	0.386
Percentage variance	37.06%	7.37%
Cronbach's alpha	0.8909	0.6011
Eigenvalue	6.78645	1.92688

Factors on competence

There are two factors which were given the following labels:

- Factor 1 was labelled “functional skills”. This includes business systems, business linkages, communication, computer literacy, financial management, human resources, legal, life skills, literacy, operations, planning, value chain and technical abilities.
- Factor 2 was labelled “enterprising skills”. This includes creativity, innovation, opportunity identification, role models, motivation and securing resources.

It is interesting to note that the ability to gather and control resources is seen as a functional skill when analysing the factor analysis of the importance question. However, in the competence question the same skill “ability to gather resources” it is seen as an enterprising skill.

Eigenvalues

The eigenvalue of 6.78645 for functional skills and 1.92688 for enterprising skills are both greater than 1.00 which shows that both factors are relevant good and reliable and should therefore both be analysed. Each factor is therefore acceptable and reliable.

Cronbach alphas

The Cronbach Alpha value of 0.8881 was obtained for all the variables used.

Table 6.14: Cronbach alpha results - competence rating

Factor	Description	Cronbach Alpha value
factor 1	functional skills	0.9188
factor 2	enterprising skills	0.6018

The Cronbach Alpha for factor 1 was well acceptable at 0.8909 while the Cronbach Alpha for factor 2 was just acceptable at 0.6018. The Cronbach alphas indicate that the instrument actually measured the concepts of competence and tested the intended constructs well.

Factor correlation

The correlation between the two factors was investigated. Factor correlations for rotated factors are reported in table below:

Table 6.15: Factor correlation for rotated factors on competence

Factor	Factor 1	Factor 2
1 – functional skills	1.000	
2 – enterprising skills	0.253	1.000

The correlation between factors one and two are not high so the structure is stable enough for them to be used as separate factors.

Factor score covariance

Table 6.16: Factor score covariance on competence

Factor	Factor 1	Factor 2
1 – functional skills	0.934	
2 – enterprising skills	0.256	0.724

Item analysis

Item analysis was done with Cronbach alpha calculated for each factor to establish the internal reliability. Each items contribution to that alpha is shown in Table 6.17 indicating what the alpha of the factor will be if that question is left out of the factor. If the alpha increases by a large margin when leaving out the question, to the discretion of the researcher, it implies leaving that question out of further analysis.

Item analysis for factor 1 is illustrated below (total 13 items):

Table 6.17: Item analysis for factor 1 on competence

Skills variables	Alpha if item is deleted
Business systems	0.9081
Business linkages	0.9112
Communication	0.9100
Computer literacy	0.9145
Financial Management	0.9099
Human Resource	0.9099

Legal	0.9128
Life skills	0.9178
Literacy and Numeracy	0.9189
Operations	0.9132
Strategy & planning	0.9109
Value chain skills	0.9113
Technical/vocational ability	0.9145
Cronbach alpha for the factor = 0.9188	

A high internal reliability is seen for factor functional skills with all the items contributing to the reliability. So none of the items were excluded.

Item analysis for factor 2 is illustrated below (total 4 items):

Table 6.18: Item analysis for factor 2 on competence

Skills variables	Alpha if item is deleted
Opportunity alertness	0.5282
Role Models	0.5161
Securing resources	0.5350
Motivation	0.5037
Cronbach alpha for the factor = 0.6018	

Internal reliability is seen for factor enterprising skills with all the items contributing to the reliability. So none of the items were excluded as they all contribute well to the overall alpha.

6.6.4 Testing the statistical and substantive significance

Since any sample will almost certainly vary somewhat from its population, it must be judged whether these differences are statistically significant or insignificant (Cooper & Schindler, 2001:486).

Various statistical tests were employed in the analysis between the dependant variable, success and the independent variables linked with functional and enterprising skills. The following measures were conducted to compare successful and less successful SMEs in terms of how they rated the importance of certain skills set to their business success; how they rated themselves in terms of competence in that skills and; if they had been trained in that particular skill.

First chi-square tests were computed using SAS for association with the "success" variable.

Secondly the t-tests for independent samples were carried out using all the factors that were identified in the factor analysis. Student's t-test was used to compare mean factor scores for successful and less successful groups as well as for comparing courses attended for successful and less successful groups. The BMDP statistical software (BMDP3D – T-tests) was used in performing the multivariate statistical tests.

Third, one-way ANOVA tests were conducted using SAS to compare the mean factor scores of demographic groups for the successful and less successful respondents separately.

Finally a Scheffe's multiple comparison procedure was conducted.

6.6.5 The chi-square test

The chi-square test for association was performed to indicate the significant differences between the successful and the less successful groups concerning their opinions about the importance of certain business skills towards success, their competence in those skills and the training. The test used the 95% confidence level meaning that the p value must be lower than 0.05.

The chi-square test is a non parametric test of significance used for nominal measurements. The chi-square is presented to indicate the nominal variables with significant differences. Any appropriately performed test of statistical significance indicates the degree of confidence one can have in accepting or rejecting a proposition. Typically the propositions tested with chi-square was whether or not two different samples were different enough in

some characteristic or aspect of their behaviour to allow for the generalisation that the population from which the sample was drawn was also different in behaviour and characteristic. The chi-square is a rough estimate of confidence; it accepts weaker, less accurate data as input than parametric tests and therefore has less status in the pantheon of statistical tests. Because it is more forgiving it can be used in a wide variety of research contexts.

a) Importance

There were significant differences between the successful and less successful SMEs in terms of how they consider the importance of the skills with $p < 0.05$ for all the skills categories as illustrated below:

Table 6.19: Significant differences between the SMEs on importance

Skills variables	Successful group			Less successful group			Chi-square value	P value
	Not NB	Just NB	Very NB	Not NB	Just NB	Very NB		
Business systems	3.05	44.67	52.28	24.13	34.32	41.55	40.9482	<0.0001
Business linkages	8.63	44.16	47.21	32.71	42.36	24.93	50.3438	<0.0001
Communication	3.05	48.22	48.73	23.59	49.06	27.35	49.9923	<0.0001
Computer literacy	9.14	30.46	60.41	31.64	30.56	37.80	41.79	<0.0001
Opportunity ID	4.06	48.73	47.21	10.72	39.95	49.33	9.2301	0.0099
Finances	4.06	30.96	64.97	17.43	29.49	53.08	21.2617	<0.0001
Human Resource	11.17	65.48	23.35	52.82	34.32	12.87	94.5579	<0.0001
Legal	11.17	37.06	51.78	11.53	32.71	55.76	24.2332	<0.0001
Life skills	5.58	68.02	26.40	21.98	53.98	24.13	25.8986	<0.0001
Literacy	1.02	46.70	52.28	28.42	31.37	40.21	25.0563	<0.0001
Marketing	3.05	39.59	57.36	11.26	35.66	53.08	11.3016	0.0035
Operations	4.06	31.47	64.47	11.53	34.05	54.42	10.538	0.0051
Research	27.92	52.28	19.80	59.79	26.54	13.67	54.0098	<0.0001
Risk Taking	47.72	43.15	9.14	39.41	41.29	19.30	10.6474	0.0049

Role Models	41.12	46.70	12.18	42.36	29.76	27.88	24.586	<0.0001
Resources	4.06	28.43	67.51	13.67	30.63	55.50	14.876	0.0006
Motivation	2.54	26.9	70.56	5.9	34.58	59.52	7.9358	0.0189
Planning	12.18	45.18	42.64	35.12	37.80	27.08	36.3002	<0.0001
Value chain skills	6.6	43.65	49.75	23.59	30.03	46.38	28.2093	<0.0001
Technical	21.32	52.28	26.40	44.50	28.69	26.81	38.4822	<0.0001

Confidence interval: 95%

$\alpha = 0.05$

Proposition 3.1: Successful SMEs are not likely to consider technical skills to be more important than less successful SMEs. Proposition 3.1 is therefore rejected.

Proposition 4.1 to 4.4: Successful SMEs are not likely to consider the following personal skills to be more important than less successful SMEs:

- Proposition 4.1: Motivation skills – rejected.
- Proposition 4.2: Life skills - rejected.
- Proposition 4.3: Literacy skills – rejected.
- Proposition 4.4: Communication – rejected.

Proposition 10.1 to 10.4: Successful SMEs are not likely to consider the following entrepreneurial skills to be more important than less successful SMEs:

- Proposition 10.1: Opportunity identification, creativity and innovation – rejected.
- Proposition 10.2: Risk taking – rejected.
- Proposition 10.3: Role models – rejected.
- Proposition 10.4: Securing and controlling resources – rejected.

Proposition 7.1 to 7.11: Successful SMEs are not likely to consider the following business skills to be more important for business success than less successful SMEs:

- Proposition 7.1: Business systems – rejected.
- Proposition 7.2: Business linkages – rejected.
- Proposition 7.3: Computer literacy – rejected.
- Proposition 7.4: Financial – rejected.
- Proposition 7.5: Human resource – rejected.

- Proposition 7.6: Legal – rejected.
- Proposition 7.7: Marketing – rejected.
- Proposition 7.8: Operations – rejected.
- Proposition 7.9: Research – rejected.
- Proposition 7.10: Planning – rejected.
- Proposition 7.11: Supplier management – rejected.

The majority (between 47.21% and 67.51%) of the successful SMEs considered 9 of the 20 skills categories to be extremely important (marked blue). The 9 categories considered extremely important to successful SMEs are business systems, business linkages, communication, computer literacy, financial management, legal, literacy, value chain and securing resources. In contrast the majority (larger than 50%) of the less successful SMEs considered only 6 of the 9 skills to be extremely important namely business systems, computer literacy, legal, securing resources, value chain skills and financial management, while another large number (between 39.95% and 53.98%) considered the other two skills namely communication and business linkages to be just important.

The large number of the successful SMEs (between 45.18% and 68.02%) considered another 6 skills to be just important (marked in green). These are planning, technical, human resource, life skills, research and role models. In contrast a large majority of the less successful SMEs considered 4 of these 6 skills not important. These four are technical, human resource, research and role models. The other two namely planning and life skills are also considered to be just important by the less successful SMEs.

There was less indication of significant differences between the two groups in terms of the 5 remaining skills categories namely opportunity alertness, marketing, operations, risk taking and self motivation. Most successful SMEs (48.73%) considered opportunity alertness skills to be just important while more of the less successful SMEs (49.33%) considered opportunity alertness to be very important but there was some significant difference as $p < 0.05$. Most of both successful and less successful SMEs considered risk taking to be just important for business success. Most of both successful and less successful SMEs considered marketing and operations skills to be just important for business success.

This result does imply that more successful SMEs are likely to consider skills more important than the less successful SMEs consider them. This finding is expected, considering that for a business to succeed the SMEs require certain competencies to function in all areas related to the entrepreneurial trade (Nieman et al, 2003:7).

Competence

There was significant difference ($p < 0.0001$) between how the successful SMEs and those that are less successful rate themselves in terms of competence in all 19 categories of skills except the risk management where $p = 0.1807$ which is > 0.05 as illustrated below:

Table 6.20: Significant differences between the SMEs on competence

Skills variables	Successful group			Less successful group			Chi-square value	P value
	not	just	very	not	just	very		
Business systems	2.03	62.44	35.53	41.94	37.90	20.16	101.5864	<0.0001
Business linkages	9.64	70.05	20.30	51.61	37.10	11.29	97.2709	<0.0001
Communication	5.58	73.60	20.81	43.01	43.01	13.98	86.2005	<0.0001
Computer literacy	8.63	47.21	44.16	71.51	15.05	13.44	203.7124	<0.0001
Opportunity ID	4.06	64.97	30.96	20.43	46.51	33.06	31.8574	<0.0001
Financial	3.05	46.70	50.25	42.20	32.80	25.00	99.9041	<0.0001
Human Resource	10.66	78.68	10.66	66.94	26.88	6.18	166.405	<0.0001
Legal	20.81	28.07	51.12	61.29	22.04	16.67	87.2649	<0.0001
Life skills	8.12	65.99	25.89	27.96	57.80	14.25	35.0022	<0.0001
Literacy	2.54	50.76	46.70	13.71	48.66	37.63	19.0444	<0.0001
Marketing	3.05	45.69	51.27	22.85	40.59	36.56	39.0636	<0.0001
Operations	1.52	39.59	58.88	23.12	39.52	37.37	51.7076	<0.0001
Research	42.13	47.72	10.15	73.39	20.43	6.18	54.8892	<0.0001
Risk Taking	55.33	38.58	6.09	50.27	39.25	10.48	3.4214	0.1807
Role Models	40.10	50.76	9.14	47.58	30.38	22.04	28.1051	<0.0001
Resources	40.10	24.87	35.03	55.91	29.84	14.25	33.4473	<0.0001
Motivation	2.03	26.9	71.07	8.06	43.55	48.39	29.0701	<0.0001
Planning	15.23	48.73	36.04	47.58	39.78	12.37	75.0038	<0.0001

Value chain	5.08	53.30	41.62	30.65	37.10	32.26	49.7381	<0.0001
Technical	27.41	51.27	21.32	60.48	25.81	13.71	51.4126	<0.0001

Confidence interval: 95%

$\alpha = 0.05$

The majority of successful SMEs (above 50%) considered themselves to be extremely competent in 5 out of 19 skills categories namely financial management, marketing; legal, operations and self motivation skills. In contrast many less successful SMEs considered themselves to be just competent in marketing and operations; and not competent at all in financial and legal skills. Interestingly a substantial number of less successful SMEs rated themselves very competent in self motivation.

Most successful SMEs considered themselves to be just competent in 13 of the 19 skills categories while most of the SMEs considered themselves not competent at all in these skills. Only in the securing resources category were the many (40.10%) successful SMEs who indicated that they were not competent at all in that skill. Still there were more less successful SMEs (55%) who had indicated that they were not competent in this same skill category. Thus the significant difference between the two sets.

With the p-value > 0.001 there was no statistical significant difference between successful and less successful SMEs in terms of competence in risk taking.

Proposition 3.2: Successful SMEs are not likely to be more competent in technical skills than less successful SMEs - rejected.

Proposition 5.1 to 5.4: Successful SMEs are not likely to be more competent in the following personal skills than less successful SMEs:

- Proposition 5.1: Motivation skills – rejected.
- Proposition 5.2: Life skills – rejected.
- Proposition 5.3: Literacy skills – rejected.
- Proposition 5.4: Communication skills – rejected.

Proposition 8.1 to 8.11: Successful SMEs are not likely to be more competent in the following business skills than less successful SMEs:

- Proposition 8.1: Business systems – rejected.
- Proposition 8.2: Business linkages – rejected.
- Proposition 8.3: Computer literacy – rejected.
- Proposition 8.4: Financial – rejected.
- Proposition 8.5: Human resource – rejected.
- Proposition 8.6: Legal – rejected.
- Proposition 8.7: Marketing – rejected.
- Proposition 8.8: Operations – rejected.
- Proposition 8.9: Research – rejected.
- Proposition 8.10: Planning – rejected.
- Proposition 8.11: Supplier – rejected.

Proposition 11.1 to 11.4: Successful SMEs are not likely to be more competent in the following entrepreneurial skills than less successful SMEs:

- Proposition 11.1: Opportunity alertness – rejected.
- Proposition 11.2: Risk taking – accepted.
- Proposition 11.3: Role models – rejected.
- Proposition 11.4: Securing and controlling resources – rejected.

Key and supportive skills

From the chi square test results the study can induce what these SMEs view points were in terms of what skills can be considered key skills. It was noted that the majority of both successful SMEs and less successful SMEs considered the following skills to be extremely important namely motivation, securing resources, operations, financial management, legal and marketing. It was also noted that using chi-square test, majority of the successful SMEs considered themselves extremely competent in 4 skills namely financial management, marketing, operations and self motivation skills.

This means that be the study can acceptance or reject the propositions on key skills and supporting skills. In terms of importance 4 (finance, marketing, self motivation and securing resources) of the 7 propositions skills were indicated as key, while in terms of competence 3 (finance, marketing and self motivation) of the seven proposed key skills were identified.

This implies that while human resources, opportunity identification and technical skills were not extremely important and so could be said to be important supporting skills. This finding also implies that operations and legal skills were wrongly identified as supporting but should be categorised as key or extremely important. Interestingly, only few of the successful SMEs considered themselves to be extremely competent in the securing of resources skill category that was considered by both groups as extremely important.

Propositions 1: The following skills are not likely to be considered to be key skills:

- Proposition 1.1 Marketing – rejected.
- Proposition 1.2 Finance – rejected.
- Proposition 1.3 Human resource – accepted.
- Proposition 1.4 Motivation – rejected.
- Proposition 1.5 Gathering of resources – rejected.
- Proposition 1.6 Opportunity identification – accepted.
- Proposition 1.7 Technical – accepted.

Propositions 2: The following skills are not likely to be considered to be supportive skills:

- Proposition 2.1 Life skills – rejected.
- Proposition 2.2 Literacy skills – rejected.
- Proposition 2.3 Communication – rejected.
- Proposition 2.4 Business systems – rejected.
- Proposition 2.5 Business linkages – rejected.
- Proposition 2.6 Computer literacy – rejected.
- Proposition 2.7 Legal – accepted.
- Proposition 2.8 Operations management – accepted.
- Proposition 2.9 Research and development – rejected.
- Proposition 2.10 Strategy and business planning – rejected.

- Proposition 2.11 Supplier management – rejected.
- Proposition 2.12 Risk taking – rejected.
- Proposition 2.13 Role models – rejected.

Training

For all the training that was tested (with the exception of literacy and numeracy), there was a statistically significant difference ($p < 0.0001$) between the successful and the less successful SMEs.

Table 6.21: Significant differences between the SMEs on training

Skills variables	Successful group		Less successful group		Chi-square value	P value
	yes	no	yes	no		
Business systems	90.36	9.64	43.82	56.18	116.1582	< 0.0001
Business linkages	85.28	14.72	34.14	65.86	134.9150	< 0.0001
Communication	89.34	10.66	40.59	59.41	125.2231	< 0.0001
Computer literacy	92.39	7.61	33.06	66.94	182.2378	< 0.0001
Opportunity alertness	85.79	14.21	42.47	57.53	98.8573	< 0.0001
Finances	91.88	8.12	40.59	59.41	139.3945	< 0.0001
Human Resource	86.80	13.20	30.38	69.62	164.0257	< 0.0001
Legal	74.62	25.28	31.45	68.55	96.5017	< 0.0001
Life skills	87.31	12.69	40.86	59.14	113.3368	< 0.0001
Literacy	97.97	2.03	92.47	7.53	7.3309	0.0680
Marketing	88.32	11.68	40.70	59.30	119.2207	< 0.0001
Operations	92.39	7.61	45.70	54.30	118.9894	< 0.0001
Research	70.05	29.95	25.27	74.73	106.9571	< 0.0001
Risk Taking	54.31	45.69	34.68	65.32	20.4611	< 0.0001
Role Models	75.63	24.37	34.41	65.59	87.6192	< 0.0001
Securing resources	85.28	14.72	30.11	69.89	156.8548	< 0.0001
Motivation	76.65	23.35	39.25	60.75	72.2097	< 0.0001
Planning	82.23	17.77	43.01	56.99	80.6575	< 0.0001

Value chain skills	89.23	10.66	36.56	63.44	144.8733	< 0.0001
Technical	81.73	18.27	39.52	60.48	92.4179	< 0.0001

Confidence interval: 95%

$\alpha = 0.05$

Therefore the study can accept the proposition that successful SMEs are more likely to have received training than less successful SMEs.

Proposition 3.3: Successful SMEs are less likely to have been trained in technical skills than less successful SMEs – rejected.

Proposition 6.1 to 6.4: Successful SMEs are less likely to have been trained in the following personal skills than less successful SMEs:

- Proposition 6.1: Motivation skills – rejected.
- Proposition 6.2: Life skills – rejected.
- Proposition 6.3: Literacy – accepted.
- Proposition 6.4: Communication – rejected.

Proposition 9.1 to 9.11: Successful SMEs are less likely to have been trained in the following business skills than less successful SMEs:

- Proposition 9.1: Business systems – rejected.
- Proposition 9.2: Business linkages – rejected.
- Proposition 9.3: Computer literacy – rejected.
- Proposition 9.4: Financial management – rejected.
- Proposition 9.5: Human resource management – rejected.
- Proposition 9.6: Legal – rejected.
- Proposition 9.7: Marketing – rejected.
- Proposition 9.8: Operations management – rejected.
- Proposition 9.9: Research and development – rejected.
- Proposition 9.10: Strategy and business planning – rejected.
- Proposition 9.11: Supplier management – rejected.

Proposition 12.1 to 12.4: Successful SMEs are less likely to have been trained in the following entrepreneurial skills than less successful SMEs:

- Proposition 12.1: Opportunity identification, creativity and innovation – rejected.
- Proposition 12.2: Risk taking – rejected.
- Proposition 12.3: Role models – rejected.
- Proposition 12.4: Securing and controlling resources – rejected.

In each skills category, at least 70.05% to 97.97% of the respondents in the successful sample indicated that they had been trained in that skill category. This is in contrast with the figures of between 34 and 45% of the less successful respondents who had been trained in the said skills categories (meaning between 56% and 74% of the respondents in the less successful sample indicating that they have not been trained in those skills categories). Risk was the only one skill set where only 54% of the successful respondents had indicated being trained in this category.

There was no significant difference between the two samples in respect of training in literacy and numeracy. Data shows that both the successful and the less successful SMEs were both trained in this skill factor.

These results imply that more successful SMEs have received training in more skills categories than the less successful SMEs. This finding is expected, as skills that help an SME run its business towards success are trainable. This implies that successful SMEs prepare well for their enterprise endeavours by continually improving their human resource skills. What was a surprising result is that the successful SMEs were as trained as less successful SMEs in enterprising skills.

This is contrary to many studies that show that while most SMEs are exposed to business and technical skills training, the majority of these SMEs are not exposed to entrepreneurial and personal skills training. On closer observation, though it seems that the average of the respondents who indicated that they had been trained in technical and business skills is above 80% (except for legal and research which are around 70%) while for the

entrepreneurial skills it is between 50 and 79%, with the exception of creativity which reflects more than 80%.

These results necessitated other tests to probe further these initial results from the chi-square.

6.6.6 t-tests

The t-tests were executed on the successful and less successful groups by comparing whether there were significant differences between the mean scores of the variables categorised in the two factors namely functional skills and enterprising skills. The Levene F for variability t test was used; then the pooled or separate t-tests were done as appropriate (refer to Table 6.22).

Table 6.22: Independent t-test - on importance

Importance - Factor	Mean		Std Deviation		P value
	Successful	Less successful	Successful	Less successful	
Functional skills	3.4013	2.9970	0.3240	0.6603	0.0000
Enterprising skills	3.2673	3.2028	0.3922	0.5618	0.2213

Confidence interval: 95%

$\alpha = 0.05$

There were significant differences ($p = 0.0000$ which is < 0.05) in the way the successful group rated the importance of functional skills as compared to the less successful group. On average, the successful group perceived functional skills as extremely important while less successful group rated functional skills as less than just important.

There was no significant difference ($p = 0.2213$ which is > 0.05) in the way the two groups perceived the importance of enterprising skills. They both considered enterprising skills to be just important for business success.

Therefore the following propositions are rejected / accepted:

Proposition 3: Successful SMEs are not likely to consider technical skills to be more important for business than less successful SMEs - rejected.

Proposition 4.1 to 4.4: Successful SMEs are not likely to consider the following personal skills to be more important for business than less successful SMEs:

- Proposition 4.1: Motivation skills – accepted.
- Proposition 4.2: Life skills – rejected.
- Proposition 4.3: Literacy – rejected.
- Proposition 4.4: Communication – rejected.

Proposition 7.1 to 7.11: Successful SMEs are not likely to consider the following business skills to be more important for business success than less successful SMEs:

- Proposition 7.1: Business systems – rejected.
- Proposition 7.2: Business linkages – rejected.
- Proposition 7.3: Computer literacy – rejected.
- Proposition 7.4: Financial management – rejected.
- Proposition 7.5: Human resource management – rejected.
- Proposition 7.6: Legal – rejected.
- Proposition 7.8: Operations management – rejected.
- Proposition 7.10: Strategy and business planning – rejected.
- Proposition 7.11: Supplier management – rejected.

Proposition 10.1 to 10.4: Successful SMEs are not likely to consider the following entrepreneurial skills to be more important for business success than less successful SMEs:

- Proposition 10.1: Opportunity alertness – accepted.
- Proposition 10.3: Role models – accepted.
- Proposition 10.4: Securing and controlling resources – rejected.

Table 6.23: Independent t-test - on competence

Competence Factor	Mean		Std Deviation		P value
	Successful	Less successful	Successful	Less successful	
Functional skills	3.2475	2.5243	0.3153	0.6705	0.0000
Enterprising skills	3.1154	2.8185	0.4632	0.5985	0.0000

Confidence interval: 95%;

$\alpha = 0.05$

There was a significant difference ($p=0.0000$ which is < 0.05) in the way the successful group perceived themselves to be competent in skills in factor 1 and factor 2 (functional and enterprising skills). The successful group considered themselves very competent in both the functional and enterprising skills while the less successful group considered themselves not very competent or just competent in both skills categories. Interesting enough the successful group considered themselves to be more competent on functional skills while the less successful group considered themselves to be more competent in enterprising skills.

All propositions on competence are rejected as follows.

Proposition 3.2: Successful SMEs are not likely to be more competent in technical skills than less successful SMEs. - rejected

Proposition 5.1 to 5.4: Successful SMEs are not likely to be more competent in the following personal skills than less successful SMEs:

- Proposition 5.1: Motivation skills – rejected.
- Proposition 5.2: Life skills – rejected.
- Proposition 5.3: Literacy – rejected.
- Proposition 5.4: Communication skills – rejected.

Proposition 8.1 to 8.11: Successful SMEs are not likely to be more competent in the following business skills than less successful SMEs:

- Proposition 8.1: Business systems – rejected.
- Proposition 8.2: Business linkages – rejected.
- Proposition 8.3: Computer literacy – rejected.
- Proposition 8.4: Financial management – rejected.
- Proposition 8.5: Human resource management – rejected.
- Proposition 8.6: Legal – rejected.
- Proposition 8.7: Marketing – rejected.
- Proposition 8.8: Operations management – rejected.
- Proposition 8.9: Research and development – rejected.
- Proposition 8.10: Strategy and business planning – rejected.
- Proposition 8.11: Supplier management – rejected.

Proposition 11.1 to 11.4: Successful SMEs are not likely to be more competent in the following entrepreneurial skills than less successful SMEs:

- Proposition 11.1: Opportunity identification, creativity and innovation – rejected.
- Proposition 11.2: Risk taking – rejected.
- Proposition 11.3: Role models – rejected.
- Proposition 11.4: Securing and controlling resources – rejected.

This confirms the chi-square tests above.

t-tests were also executed on the successful and less successful groups by comparing the number of different areas trained by the two groups. The Levene F for variability t test was used; then the pooled or separate t-tests were done as appropriate.

Table 6.24: Independent t-test – on the number of courses attended

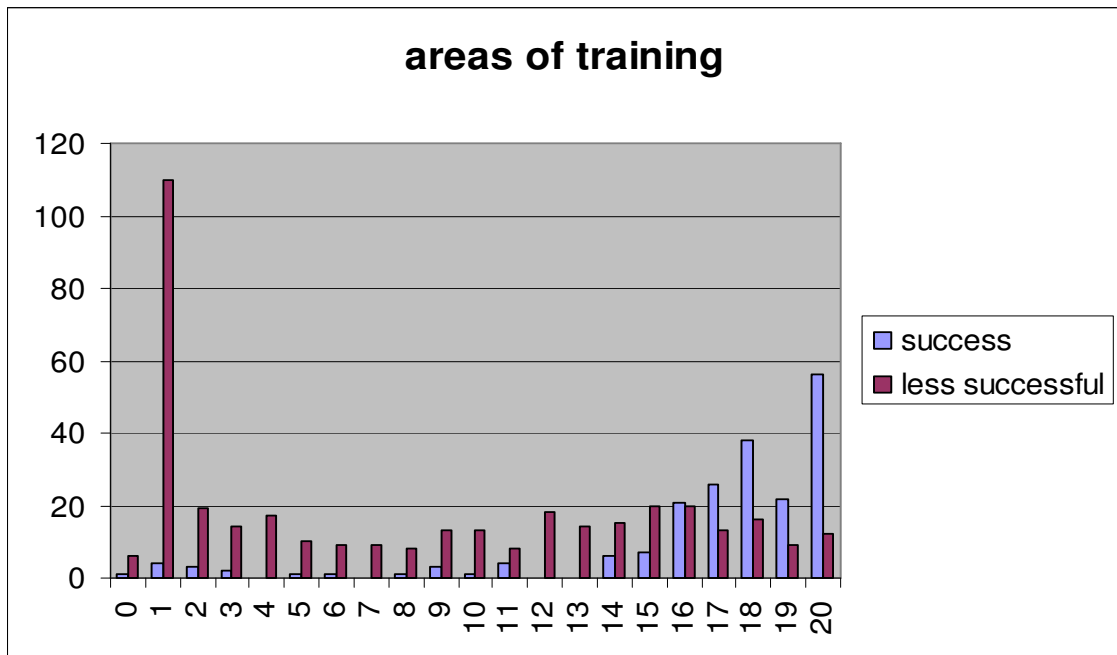
Mean		Std Deviation		P value
Successful	Less successful	Successful	Less successful	
16.7762	7.9677	4.4229	6.6112	0.0000

Confidence interval: 95%;

$\alpha = 0.05$

The variability between the samples is not equal and there is significant difference between the samples in terms of number of areas trained. On average the successful group were trained in at least 16 courses of the identified 20 skill categories; while the less successful group had been trained in less than 8 of the identified 20 skills categories. This was confirmed by the frequencies as illustrated in figure 6.11 below:

Figure 6.11: Areas of training comparing the two samples



Furthermore t-tests were executed on the successful and less successful groups to show that there is significant differences between the training in the different areas even when analysed by comparison of training in factors in the two groups and from the two main questions on importance and competence.

Table 6.25: Comparison of factor training areas - by success

Factor	Mean		Std Deviation		Mann Whitney
	Successful group	Less successful group	Successful group	Less successful group	
Importance factor 1 - Functional skills	12.2690	5.80690	3.1467	4.6396	0.0000
Importance factor 2 - Enterprising skills	2.3807	1.1581	0.8644	1.2781	0.0000
Competence factor 1 - Functional skills	11.4162	5.5066	2.9206	4.3444	0.0000
Competence factor 2 - Enterprising skills	3.2335	1.4584	1.0625	1.5245	0.0000

Confidence interval: 95%;

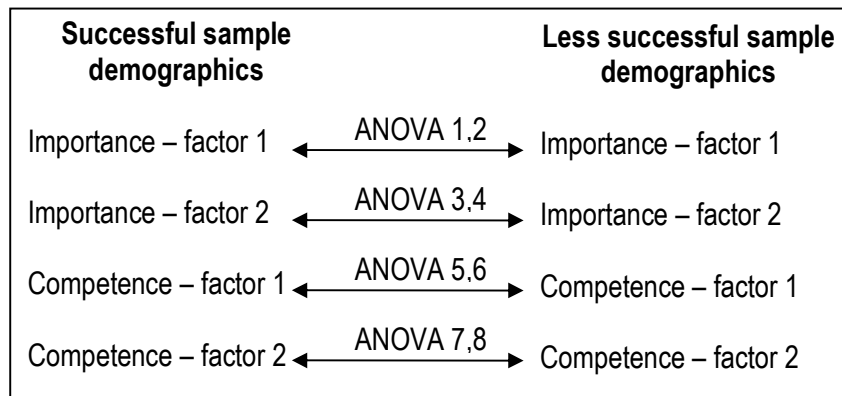
$\alpha = 0.05$

This confirmed the frequencies and the chi square results. After analyzing the chi-square and the t-tests, it became scientifically prudent to find out the differences between the same groups of variables and factors. This is done through the Analysis of Variance (ANOVA) method.

6.6.7 One way ANOVA

Eight one-way ANOVA tests (using SAS) were done to compute the mean factor scores of the successful and the less successful groups separately. The ANOVA was aimed at identifying differences in the factors between demographic variables. SAS (1988) works out a p-value that automatically incorporates the values in the F statistical tables.

Figure 6.12: ANOVA tests computed



The standard way of summarising the results of ANOVA contains the sources of variation, the degrees of freedom, sum of squares, mean squares and calculated F-value. The probability of rejecting the null proposition is computed up to 100% alpha that is the probability value column reports the exact significance for the F ration being tested. In cases where a statistically significant difference exists, the proposition is rejected. Where a statistically significant difference does not exist, the proposition is accepted.

Importance of factor 1

The first ANOVA (Analysis of variance) test results were for factor 1 – functional skills by all demographics for the successful group in terms of the importance of the skills. The overall ANOVA result for the functional skills factor is shown in Table 6.29 below. The results indicate that $p = 0.0353$. That p is less than $\alpha = 0.05$ means that it can be concluded that

there was statistically significant differences in the successful group demographics (one or more variables) in terms of the importance of functional skills.

Table 6.26: ANOVA 1 results - importance of factor 1 - successful

Source	DF	Sum of squares	Mean square	F Value	P value
Model	10	1.99918194	0.19991819	2.00	0.0353
Error	186	18.57452572	0.099856304		
Corrected total	196	20.57370766			

*** indicates a statistical significant variance at $\alpha = 0.05$, confidence interval: 95%

Proposition 13 stated that statistically significant variance does not exist between how successful SMEs view importance of functional skills regarding the demographics. Therefore the proposition is rejected. However the results in table 6.29 does not indicate which individual mean or means are different from the consensus value and in what direction they deviate. A more detailed ANOVA checked for any differences in each of the demographic variables in terms of the importance of factor1 - functional skills; to establish which demographic variables of the successful group show these significant differences:

Table 6.27: Detailed ANOVA 1 results

Independent variable	DF	Sum of squares	Mean square	F Value	P value
Age	1	0.90620998	0.90620998	9.07	0.0030***
Education	1	0.51865004	0.51865004	5.19	0.0238***
Ethnic group	1	0.27292975	0.27292975	2.73	0.1000
Forms of business	1	0.41498751	0.41498751	4.16	0.0429***
Gender	1	0.27357581	0.27357581	2.74	0.0996
Location	1	0.038827378	0.03882738	0.39	0.5337
Region	2	0.06675435	0.03337718	0.33	0.7163
Sector	1	0.08705373	0.08705373	0.87	0.3517
Work experience	1	0.01132146	0.01132146	0.11	0.7367

*** indicates a statistical significant variance at $\alpha = 0.05$, confidence interval: 95%

At a significant level of 5% ($\alpha = 0.05$) there is significant differences between three variables namely age (p-value = 0.0030 < $\alpha = 0.05$), education (p-value = 0.0238 < $\alpha = 0.05$) and forms of business (p-value = 0.0429 < $\alpha = 0.05$). It is also found that there is not statistically significant differences for the rest of the variables whose p value > $\alpha = 0.05$.

Proposition 13.1 to 13.9 stated that a statistically significant variance does not exist between how successful SMEs view importance of functional skills in the following demographic variables age (**P13.1**); education (**P13.2**); ethnic group (**P13.3**); gender (**P13.4**); work experience (**P13.5**); region (**P13.6**); subsector (**P13.7**); form of business (**P13.8**) and place where business is operated (**P13.9**). Applying the acceptance rule that the proposition is acceptable if and only if the p-value is > than $\alpha = 0.05$, else it must be rejected; the results are summarised below:

- Proposition 13.1: rejected.
- Proposition 13.2: rejected.
- Proposition 13.3: accepted.
- Proposition 13.4: accepted.
- Proposition 13.5: accepted.
- Proposition 13.6: accepted.
- Proposition 13.7: accepted.
- Proposition 13.8: rejected.
- Proposition 13.9: accepted.

The demographic variables that had a p-value of < 0.05 are examined for the differences between each pair of means and table 6.31 below indicated the significantly different stratification group means at a specified level as follows:

Table 6.28: Variables that show significant differences from ANOVA 1

Variable	N	Mean	Std Deviation
AGE			
< 40	76	3.32142857	0.35254179
>= 40	121	3.45159386	0.29525944
EDUCATION LEVEL			

Matric or below	63	3.359341043	0.26384265
Above matric and other	134	3.42110874	0.34786760
FORM OF BUSINESS			
Close corporation	111	3.36293436	0.34715049
Other forms of business	86	3.45099668	0.28576924

*** indicates a statistical significant variance at $\alpha = 0.05$, confidence interval: 95%

The results show that there is statistical difference between the age group of successful SMEs that are older than 40 years who consider functional skills to be more important and those who are less than 40 years. This result implies that age does affect how successful SMEs view the importance of functional skills. This supports the assertion that increasing age of the entrepreneur/SME owner manager is positive correlated with successful SMEs (Rwigema & Venter 2004:70; Ucbasaran et al, 2004:432).

The SME owners with educational level more than matric were found to consider functional skills to be more important that those who have matric or less. This result implies that education levels do affect how successful SMEs view the importance of functional skills. This supports the assertion that increasing education levels is positively correlated with successfully developing skills key for entrepreneurship (Markman & Baron, 2003:287; Guzman & Santos, 2001:217).

Those successful SMEs whose business form is not close corporation consider functional skills to be more important that those whose business form is close corporation. This implies that the form of business does affect how successful SMEs view the importance of functional skills. The results indicate that the proposition was not erroneously rejected.

The second ANOVA (Analysis of variance) test results were for factor 1 - functional skills by all demographics for the less successful group in terms of the importance. The ANOVA result is shown in Table 6.32 below. That the p-value = 0.0003 is also less than 0.05. Therefore it can be concluded that there was statistically significant differences in the less successful group demographics (one or more variables) in terms of how they view the importance of functional skills.

Table 6.29: ANOVA 2 results - importance of factor 1 - less successful

Source	DF	Sum of squares	Mean square	F Value	P value
Model	11	14.7497676	1.3408880	3.28	0.0003
Error	361	147.4665425	0.4084946		
Corrected total	372	162.2163101			

*** indicates a statistical significant variance at $\alpha = 0.05$, confidence interval: 95%

Proposition 14 stated that statistically significant variance does not exist between how less successful SMEs view importance of functional skills regarding the demographics. The proposition is rejected. However the results in table 6.32 does not indicate which individual mean or means are different from the consensus value and in what direction they deviate. A more detailed ANOVA checked for any differences in the demographic variables of the less successful group in terms of the importance of factor 1 - functional skills; to establish which demographic variables of the less successful group show these significant differences. These are illustrated in figure 6.33 below:

Table 6.30: Detailed ANOVA 2 results

Independent variable	DF	Sum of squares	Mean square	F Value	P value
Age	1	0.16535285	0.16535285	0.40	0.5250
Education	1	0.50322650	0.50322650	1.23	0.2678
Ethnic group	1	0.05079811	0.05079811	0.12	0.7246
Forms of business	2	3.14605616	1.57302808	3.85	0.0221
Gender	1	0.15429624	0.15429624	0.38	0.5392
Location	1	3.38608164	3.38608164	8.29	0.0042
Region	2	2.47013426	1.23506713	3.02	0.0499
Sector	1	0.04624545	0.04624545	0.11	0.7367
Work experience	1	0.10792112	0.10792112	0.26	0.6076

*** indicates a statistical significant variance at $\alpha = 0.05$, confidence interval: 95%

At a significant level of 5% ($\alpha = 0.05$) there is significant differences between three variables namely forms of business ($p\text{-value} = 0.0221 < \alpha = 0.05$); location ($p\text{-value} = 0.0042 < \alpha = 0.05$) and region ($p\text{-value} = 0.0499 < \alpha = 0.05$). It is also found that there is not statistically significant differences for the rest of the variables whose $p\text{ value} > \alpha = 0.05$.

Proposition 14.1 to 14.9 stated that a statistically significant variance does not exist between how less successful SMEs view importance of functional skills in the following demographic variables age (**P14.1**); education (**P14.2**); ethnic group (**P14.3**); gender (**P14.4**); work experience (**P14.5**); region (**P14.6**); subsector (**P14.7**); form of business (**P14.8**) and place where business is operated (**P14.9**). Applying the acceptance rule that the proposition is acceptable if and only if the $p\text{ value}$ is $>$ than $\alpha = 0.05$; else it must be rejected; the results are summarised below:

- Proposition 14.1: accepted.
- Proposition 14.2: accepted.
- Proposition 14.4: accepted.
- Proposition 14.4: accepted.
- Proposition 14.5: accepted.
- Proposition 14.6: rejected.
- Proposition 14.7: accepted.
- Proposition 14.8: rejected.
- Proposition 14.9: rejected.

The demographic variables that had a $p\text{-value}$ of < 0.05 are examined for the differences between each pair of means and table 6.34 below indicated the significantly different stratification group means at a specified level as follows:

Table 6.31: Variables that show significant differences from ANOVA 2

Variable	N	Mean	Std Deviation
FORMS OF BUSINESS			
Close corporation	121	3.08264463	0.59647549
Not registered	192	2.87388393	0.70707756
Other registered forms	60	3.21904762	0.54109352

LOCATION			
City centre	250	2.89600000	0.71097938
Other	123	3.20267131	0.48413903
REGION			
1	65	3.17802198	0.41460176
2	296	2.94280888	0.70172047
3	12	3.35714286	0.35649292

*** indicates a statistical significant variance at $\alpha = 0.05$, confidence interval: 95%

The location of less successful SMEs that are in the other areas either than the city centre consider functional skills to be more important than those who are in the city centre. This result implies that location does affect how less successful SMEs view the importance of functional skills. This supports the assertion that success depends on location of the business operations (Tustin, 2001:102; Dahlgvist et al, 2000:7).

To analyse the forms of business and the regions demographics a Scheffe's multiple comparison procedure was conducted for the less successful groups as both these variables had more than two groups.

Table 6.32: Scheffe's comparisons for regions for ANOVA 2

Region comparison	Difference between means	Simultaneous 95% confidence	Limits
3 and 1	0.17912	-0.31446	0.67271
3 and 2	0.41433	-0.04826	0.87693
1 and 3	-0.17912	-0.67271	0.31446
1 and 2	0.23521	0.02003	0.45040 ***
2 and 3	-0.41433	-0.87693	0.04826
2 and 1	-0.23521	-0.45040	-0.02003 ***

*** indicates a statistical significant variance at $\alpha = 0.05$, confidence interval: 95%

There were only significant differences between region 1 and 2 (indicated by ***) while there was no significant differences between region 1 and 3 and regions 2 and 3. This result

implies that less successful SMEs in region 1 and 3 considered functional skills to be more important than those in region 2. This result supports the location result above that implies that regions do affect how less successful SMEs view the importance of functional skills.

There were significant differences between less successful SMEs that were not registered and those who were registered either as close corporation or other registrations (indicated by *** in table 6.33 below). SMEs that were registered as close corporation and other registration considered functional skills to be more important than those not registered.

Table 6.33: Scheffe's comparisons for form of company for ANOVA 2

Region comparison	Difference between means	Simultaneous 95% confidence	Limits
Other and close corporation	0.13640	-0.11164	0.38445
Other and not registered	0.34516	0.11282	0.57751 ***
Close corporation and other	-0.13640	-0.38445	0.11164
Close corporation and not registered	0.20876	0.02642	0.39111 ***
Not registered and other	-0.34516	-0.57751	-0.11282 ***
Not registered and close corporation	-0.20876	-0.39111	-0.02642 ***

*** indicates a statistical significant variance at $\alpha = 0.05$, confidence interval: 95%

This result implies that the form of a company does affect how less successful SMEs view the importance of functional skills. This supports the assertion that increasing age of the entrepreneur/SME owner manager is positive correlated with successful SMEs (Kangasharju, 2000:38).

b) Importance of factor 2

The third ANOVA (Analysis of variance) test results were for factor 2 - enterprising skills. The ANOVA result is shown in Table 6.34 below. The p-value = 0.0023 which is less than $\alpha = 0.05$. Therefore it can be concluded that there was statistically significant differences in the successful group demographics (one or more variables) in terms of the importance of enterprising skills.

Table 6.34: ANOVA 3 results - importance of factor 2 - successful

Source	DF	Sum of squares	Mean square	F Value	P value
Model	11	4.04738563	0.40473856	2.88	0.0023
Error	186	26.09474635	0.14029434		
Corrected total	196	30.14213198			

*** indicates a statistical significant variance at $\alpha = 0.05$, confidence interval: 95%

Proposition 15 stated that statistically significant variance does not exist between how successful SMEs view importance of enterprising skills regarding the demographic variables. The proposition is rejected. However the results in table 6.34 does not indicate which individual mean or means are different from the consensus value and in what direction they deviate. A more detailed ANOVA checked for any differences in each demographic variables of the successful group in terms of the importance of factor 2 - enterprising skills to establish which demographic variables show these significant differences as illustrated in Table 6.35 below.

Table 6.35: Detailed ANOVA 3 results

Independent variable	DF	Sum of squares	Mean square	F Value	P value
Age	1	0.41923241	0.41923241	2.99	0.0855
Education	1	0.65257151	0.65257151	4.65	0.0323
Ethnic group	1	0.06756632	0.06756632	0.48	0.4886
Forms of business	1	0.48143835	0.48143835	3.43	0.0655
Gender	1	0.31988359	0.31988359	2.28	0.1327
Location	1	0.08725648	0.08725648	0.62	0.4313
Region	2	0.78507719	0.39253860	2.80	0.0635
Sector	1	0.02909172	0.02909172	0.21	0.6494
Work experience	1	0.85314501	0.85314501	6.08	0.0146

*** indicates a statistical significant variance at $\alpha = 0.05$, confidence interval: 95%

At a significance level of 5% ($\alpha = 0.05$) there are significant differences between two variables namely education ($p\text{-value} = 0.0323 < \alpha = 0.05$) and work experience ($p\text{-value} = 0.0146 < \alpha = 0.05$). It is also found that there is not statistically significant differences for the rest of the variables whose $p\text{ value} > \alpha = 0.05$.

Proposition 15.1 to 15.9 stated that a statistically significant variance does not exist between how successful SMEs view importance of enterprising skills in the following demographic variables age (**P15.1**); education (**P15.2**); ethnic group (**P15.3**); gender (**P15.4**); work experience (**P15.5**); region (**P15.6**); subsector (**P15.7**); form of business (**P15.8**) and place where business is operated (**P15.9**). Applying the acceptance rule that the proposition is acceptable if and only if the $p\text{ value}$ is $>$ than $\alpha = 0.05$, else it must be rejected; the results are summarised below:

- Proposition 15.1: accepted.
- Proposition 15.2: rejected.
- Proposition 15.3: accepted.
- Proposition 15.4: accepted.
- Proposition 15.5: rejected.
- Proposition 15.6: accepted.
- Proposition 15.7: accepted.
- Proposition 15.8: accepted.
- Proposition 15.9: accepted.

The demographic variables that had a $p\text{-value}$ of < 0.05 are examined for the differences between each pair of means and table 6.36 below indicated the significantly different stratification group means at a specified level as follows:

Table 6.36: Variables that show significant differences from ANOVA 3

Variable	N	Mean	Std Deviation
EDUCATION LEVEL			
Matric or below	63	3.20634921	0.34614400
Above matric and other	134	3.29601990	0.41010716
WORK EXPERIENCE			

0 to 4 years	69	3.13526570	0.39323877
4 + years	128	3.33854167	0.37410582

*** indicates a statistical significant variance at $\alpha = 0.05$, confidence interval: 95%

The successful SMEs with educational level more than matric consider enterprising skills to be more important than those who have matric or less. This result implies that education levels do affect how successful SMEs view the importance of enterprising skills. This also supports the assertion that increasing education levels are positively correlated with successful development of key entrepreneurship skills.

The group of successful SMEs that have more than 4 years working experience consider enterprising skills to be more important than those who have less than 4 years experience. This result implies that working experience does affect how successful SMEs view the importance of enterprising skills. This supports the assertion that work experience is positively correlated with successful development of key entrepreneurship skills and improves their capacity in performing various tasks (Guzman & Santos, 2001:217; Markman & Baron, 2003:287).

The fourth ANOVA (Analysis of variance) test results were for analysing the importance of factor 2 - enterprising skills by all demographics for the less successful group. The ANOVA result is shown in Table 6.37 below. The p-value = 0.0043 which is less than $\alpha = 0.05$ therefore the less successful group, it can be concluded that there was statistically significant differences in the less successful group demographics in terms of the importance of enterprising skills.

Table 6.37: ANOVA 4 results - importance of factor 2 - less successful

Source	DF	Sum of squares	Mean square	F Value	P value
Model	11	8.4257396	0.7659763	2.54	0.0043
Error	361	109.0023212	0.3019455		
Corrected total	372	117.4280608			

*** indicates a statistical significant variance at $\alpha = 0.05$, confidence interval: 95%

Proposition 16 stated that statistically significant variance does not exist between how less successful SMEs view importance of enterprising skills regarding the demographics. The proposition is rejected. However the results in table 6.37 does not indicate which individual mean or means are different from the consensus value and in what direction they deviate. A more detailed ANOVA (see Table 6.38) checked for any differences in each demographic variables in terms of the importance of factor 2 - enterprising skills to establish which demographic variables of the less successful group show these significant differences. Location, education and region are the demographics with significant differences as illustrated below:

Table 6.38: Detailed ANOVA 4 results

Independent variable	DF	Sum of squares	Mean square	F Value	P value
Age	1	0.00216462	0.00216462	0.01	0.9326
Education	1	2.37931022	2.37931022	1.23	0.0053
Ethnic group	1	0.00648624	0.00648624	7.88	0.8836
Forms of business	2	0.15154640	0.07577320	0.25	0.7782
Gender	1	0.33408361	0.33408361	1.11	0.2936
Location	1	1.26127061	1.26127061	4.18	0.0417
Region	2	2.28738747	1.14369373	3.79	0.0236
Sector	1	0.26627713	0.26627713	0.88	0.3483
Work experience	1	0.37380426	0.37380426	1.24	0.2666

*** indicates a statistical significant variance at $\alpha = 0.05$, confidence interval: 95%

At a significant level of 5% ($\alpha = 0.05$) there is significant differences between three variables namely location (p-value = 0.0417 < $\alpha = 0.05$), region (p-value = 0.0236 < $\alpha = 0.05$) and education (p-value = 0.0053 < $\alpha = 0.05$). It is also found that there is not statistically significant differences for the rest of the variables whose p value > $\alpha = 0.05$.

Proposition 16.1 to 16.9 stated that a statistically significant variance does not exist between how less successful SMEs view the importance of enterprising skills in the following

demographic variables age (**P16.1**); education (**P16.2**); ethnic group (**P16.3**); gender (**P16.4**); work experience (**P16.5**); region (**P16.6**); subsector (**P16.7**); form of business (**P16.8**) and place where business is operated (**P16.9**). Applying the acceptance rule that the proposition is acceptable if and only if the p-value is > than $\alpha = 0.05$; else it must be rejected; the results are summarised below:

- Proposition 16.1: accepted.
- Proposition 16.2: rejected.
- Proposition 16.3: accepted.
- Proposition 16.4: accepted.
- Proposition 16.5: accepted.
- Proposition 16.6: rejected.
- Proposition 16.7: accepted.
- Proposition 16.8: accepted.
- Proposition 16.9: rejected.

The demographic variables that had a p-value of < 0.05 are examined for the differences between each pair of means and table 6.39 below indicated the significantly different stratification group means at a specified level as follows:

Table 6.39: Variables that show significant differences from ANOVA 4

Variable	N	Mean	Std Deviation
EDUCATION LEVEL			
Matric or below	242	3.14049587	0.55371176
Above matric and other	131	3.31806616	0.56062022
LOCATION			
City centre	250	3.16533333	0.57327667
Other	123	3.27913279	0.53198940
REGION			
1	65	3.08205128	0.44107968
2	296	3.21734234	0.58582078
3	12	3.50000000	0.38924947

*** indicates a statistical significant variance at $\alpha = 0.05$, confidence interval: 95%

The location demographics of less successful SMEs that are in areas other than the city centre consider enterprising skills to be more important than those who are in the city centre. This result implies that location does affect how less successful SMEs view the importance of skills. This supports the assertion that success depends on location of the business operations.

As with the successful SMEs above, the less successful SMEs with educational level more than matric consider enterprising skills to be more important than those who have matric or less. This supports the theory that education levels do affect how even less successful SMEs view the importance of enterprising skills. This also supports the assertion that increasing education levels is positively correlated with successful development of key entrepreneurship skills.

To analyse the regions demographics a Scheffe's multiple comparison procedure was conducted for the less successful groups as this variable has more than two groups.

Table 6.40: Scheffe's comparisons for regions for ANOVA 4

Region comparison	Difference between means	Simultaneous 95% confidence	Limits
3 and 2	0.28266	-0.11506	0.68037
3 and 1	0.41795	-0.00641	0.84231
2 and 3	-0.28266	-0.68037	0.11506
2 and 1	0.13529	-0.04972	0.32030
1 and 3	-0.41795	-0.84231	0.00641
1 and 2	-0.13529	-0.32030	0.04972

The Scheffe's procedure shows that there are no significant differences between the three regions. This type of result was expected due to that the factor 2 is not reliable, so the results are not predictable. It is possible that a true proposition may have been wrongly rejected.

c) Competence factor 1

The fifth ANOVA (Analysis of variance) test results was for analysing if there are difference in how the successful group rates their competence in factor 1 - functional skills by all demographics. The ANOVA result is shown in Table 6.41 below. The p-value is = 0.0074 is smaller than $\alpha=0.05$, therefore it can be concluded that there was statistically significant differences in the successful group demographics in terms of their competence in functional skills.

Table 6.41: ANOVA 5 results - competence in factor 1 - successful

Source	DF	Sum of squares	Mean square	F Value	P value
Model	10	2.31988537	0.23198854	2.51	0.0074
Error	186	17.16895613	0.09230622		
Corrected total	196	19.48884150			

*** indicates a statistical significant variance at $\alpha= 0.05$, confidence interval: 95%

Proposition 17 stated that statistically significant variance does not exist between how successful SMEs rate their competence in functional skills regarding the demographics. The proposition is rejected. However the results in table 6.41 does not indicate which individual mean or means are different from the consensus value and in what direction they deviate. A more detailed ANOVA (see table 6.42) checked for any differences in each demographic variables in terms of the competence of factor1 – functional skills; to establish which demographic variables of the successful group show these significant differences:

Table 6.42: Detailed ANOVA 5 results

Independent variable	DF	Sum of squares	Mean square	F Value	P value
Age	1	0.60072687	0.60072687	6.51	0.0115
Education	1	0.23807828	0.23807828	2.58	0.1100
Ethnic group	1	0.04885484	0.04885484	0.53	0.4678
Forms of business	1	0.94676269	0.94676269	10.26	0.0016

Gender	1	0.00035618	0.00035618	0.00	0.9505
Location	1	0.20169366	0.20169366	2.19	0.1410
Region	2	0.35778841	0.17889420	1.94	0.1469
Sector	1	0.02897522	0.02897522	0.31	0.5760
Work experience	1	0.01808876	0.01808876	0.20	0.6585

*** indicates a statistical significant variance at $\alpha = 0.05$, confidence interval: 95%

At a significant level of 5% ($\alpha = 0.05$) there is significant differences between two variables namely age (p-value = $0.0115 < \alpha = 0.05$) and forms of business (p-value = $0.0016 < \alpha = 0.05$). It is also found that there are no statistically significant differences for the rest of the variables whose p value $> \alpha = 0.05$.

Proposition 17.1 to 17.9 stated that a statistically significant variance does not exist between how successful SMEs rate their competence in functional skills in the following demographic variables age (**P17.1**); education (**P17.2**); ethnic group (**P17.3**); gender (**P17.4**); work experience (**P17.5**); region (**P17.6**); subsector (**P17.7**); form of business (**P17.8**) and place where business is operated (**P17.9**). Applying the acceptance rule that the proposition is acceptable if and only if the p-value is $>$ than $\alpha = 0.05$; else it must be rejected; the results are summarised below:

- Proposition 17.1: rejected.
- Proposition 17.2: accepted.
- Proposition 17.3: accepted.
- Proposition 17.4: accepted.
- Proposition 17.5: accepted.
- Proposition 17.6: accepted.
- Proposition 17.7: accepted.
- Proposition 17.8: rejected.
- Proposition 17.9: accepted.

The demographic variables that had a p-value of < 0.05 are examined for the differences between each pair of means and table 6.43 below indicated the significantly different stratification group means at a specified level as follows:

Table 6.43: Variables that show significant differences from ANOVA 5

Variable	N	Mean	Std Deviation
AGE			
< 40	76	3.18016194	0.31216054
>= 40	121	3.28989193	0.31116000
FORM OF BUSINESS			
Close corporation	111	3.18572419	0.28071768
Other forms of business	86	3.32737030	0.34038655

*** indicates a statistical significant variance at $\alpha = 0.05$, confidence interval: 95%

The age group of the successful entrepreneurs that are older than 40 years consider themselves to be more competent in functional skills than those who are less than 40 years. This result implies that age does affect the competence of successful SMEs in functional skills. This supports the assertion that increasing age of the entrepreneur/SME owner manager is positive correlated with fostering the development of skills (Aldrich, 1999:397).

There was a significant difference between successful SMEs whose business form is not close corporation and those registered as close corporation. Those successful SMEs whose business form is not close corporation consider themselves to be more competent in functional skills than those whose are registered as close corporation.

The sixth ANOVA (Analysis of variance) test results were for analysing if there are differences in how the less successful group rates their competence in terms of factor 1 - functional skills by all demographics. The ANOVA result is shown in Table 6.44 below. For the less successful group the p-value (< 0.0001) is also than 0.05 therefore it can be concluded that there was statistically significant differences in the less successful group demographics in terms of their competence in functional skills.

Table 6.44: ANOVA 6 results - competence in factor 1 - less successful

Source	DF	Sum of squares	Mean square	F Value	P value
Model	11	34.2241332	3.1112848	8.45	<0.0001
Error	360	132.5662212	0.3682395		
Corrected total	371	166.7903544			

*** indicates a statistical significant variance at $\alpha = 0.05$, confidence interval: 95%

Proposition 18 stated that statistically significant variance does not exist between how less successful SMEs rate their competence in functional skills regarding the demographics. The proposition is rejected. However the results in table 6.44 does not indicate which individual mean or means are different from the consensus value and in what direction they deviate.

A more detailed ANOVA (see table 6.45) checked for any differences in each demographic variables in terms of the competence in factor 1 - functional skills; to establish which demographic variables of the less successful group show these significant differences.

Table 6.45: Detailed ANOVA 6 results

Independent variable	DF	Sum of squares	Mean square	F Value	P value
Age	1	0.12073672	0.12073672	0.33	0.5673
Education	1	0.40398395	0.40398395	1.10	0.2956
Ethnic group	1	1.18943243	1.18943243	3.23	0.0731
Forms of business	2	4.39786016	2.19893008	5.97	0.0028
Gender	1	0.25904137	0.25904137	0.70	0.4022
Location	1	4.93895320	4.93895320	13.41	0.0003
Region	2	2.66533424	1.33266712	3.62	0.0278
Sector	1	0.03843990	0.03843990	0.10	0.7468
Work experience	1	0.42299913	0.42299913	1.15	0.2845

*** indicates a statistical significant variance at $\alpha = 0.05$, confidence interval: 95%

At a significant level of 5% ($\alpha = 0.05$) there is significant differences between three variables namely forms of business ($p\text{-value} = 0.0028 < \alpha = 0.05$); location ($p\text{-value} = 0.0003 < \alpha =$

0.05) and region ($p\text{-value} = 0.0278 < \alpha = 0.05$). It is also found that there is not statistically significant differences for the rest of the variables whose p value $> \alpha = 0.05$.

Proposition 18.1 to 18.9 stated that a statistically significant variance does not exist between how less successful SMEs rate their competence in functional skills in the following demographic variables age (**P18.1**); education (**P18.2**); ethnic group (**P18.3**); gender (**P18.4**); work experience (**P18.5**); region (**P18.6**); sub sector (**P18.7**); form of business (**P18.8**) and place where business is operated (**P18.9**). Applying the acceptance rule that the proposition is acceptable if and only if the p value is $>$ than $\alpha = 0.05$; else it must be rejected; the results are summarised below:

- Proposition 18.1: accepted.
- Proposition 18.2: accepted.
- Proposition 18.3: accepted.
- Proposition 18.4: accepted.
- Proposition 18.5: accepted.
- Proposition 18.6: rejected.
- Proposition 18.7: accepted.
- Proposition 18.8: rejected.
- Proposition 18.9: rejected.

The demographic variables that had a p -value of < 0.05 are examined for the differences between each pair of means and table 6.48 below indicated the significantly different stratification group means at a specified level as follows:

Table 6.46: Variables that show significant differences from ANOVA 6

Variable	N	Mean	Std Deviation
FORMS OF BUSINESS			
Close corporation	121	2.69675779	0.65469760
Not registered	191	2.31574708	0.65571074
Other registered forms	60	2.84102564	0.51647546
LOCATION			
City centre	250	2.38584615	0.69847485

Other	122	2.80832282	0.50352039
REGION			
1	65	2.88402367	0.46911314
2	296	2.43285528	0.68003221
3	12	2.82692308	0.65855973

*** indicates a statistical significant variance at $\alpha = 0.05$, confidence interval: 95%

The location of less successful SMEs that are in the other areas either than the city centre consider themselves to be more competent in functional skills than those who are in the city centre. This result implies that location does affect the competence of less successful SMEs in functional skills.

To analyse the forms of business and the regions demographics a Scheffe's multiple comparison procedure was conducted for the less successful groups as both these variables had more than two groups.

Table 6.47: Scheffe's comparisons for regions for ANOVA 6

Region comparison	Difference between means	Simultaneous 95% confidence	Limits
1 and 3	0.05710	-0.41154	0.52574
1 and 2	0.45117	0.24679	0.65554 ***
3 and 1	-0.05710	-0.52574	0.41154
3 and 2	0.39407	-0.04518	0.83331
2 and 1	-0.45117	-0.65554	-0.24679 ***
2 and 3	-0.39407	-0.83331	-0.04518

*** indicates a statistical significant variance at $\alpha = 0.05$, confidence interval: 95%

There were only significant differences between region 1 and 2 (indicated by ***) while there were no significant differences between region 1 and 3 and regions 2 and 3. SMEs in region 1 and 3 considered themselves to be more competent in functional skills than those in region 2.

Table 6.48: Scheffe’s comparisons for form of company for ANOVA 6

Form comparison	Difference between means	Simultaneous 95% confidence	Limits
Other and close corporation	0.14427	-0.09124	0.37978
Other and not registered	0.52528	0.30454	0.74602 ***
Close corporation and other	-0.14427	-0.37978	0.09124
Close corporation and not registered	0.38101	0.20771	0.55431 ***
Not registered and other	-0.52528	-0.74602	-0.30454 ***
Not registered and close corporation	-0.38101	-0.55431	-0.20771 ***

*** indicates a statistical significant variance at $\alpha = 0.05$, confidence interval: 95%

There were significant differences between less successful SMEs that were not registered and those who were registered either as close corporation or other registrations (indicated by ***). SMEs that were registered as close corporation and other forms of registration considered themselves to be more competent in functional skills than those not registered.

d) Competence factor 2

The seventh ANOVA (Analysis of variance) test results was for analysing if there are difference in how the successful group rates their competence in terms of factor 2 - enterprising skills by all demographics. The ANOVA result is shown in Table 6.51 below. The p-value is <0.0001 which is less than 0.05 therefore it can be concluded that there was statistically significant differences in the successful group demographics in terms of how they rate their competence in enterprising skills.

Table 6.49: ANOVA 7 results - competence in factor 2 - successful

Source	DF	Sum of squares	Mean square	F Value	P value
Model	10	10.67102578	1.06710258	6.32	<0.0001
Error	186	31.38925341	0.16875943		
Corrected total	196	42.06027919			

*** indicates a statistical significant variance at $\alpha = 0.05$, confidence interval: 95%

Proposition 19 stated that statistically significant variance does not exist between how successful SMEs rate their competence in enterprising skills regarding the demographics. The proposition is rejected. However the results in table 6.49 does not indicate which individual mean or means are different from the consensus value and in what direction they deviate. A more detailed ANOVA (see table 6.50) checked for any differences in each demographic variables in terms of the competence in factor 2 - enterprising skills; to establish which demographic variables of the successful group show these significant differences:

Table 6.50: Detailed ANOVA 7 results

Independent variable	DF	Sum of squares	Mean square	F Value	P value
Age	1	0.69437359	0.69437359	4.11	0.0439
Education	1	1.77765081	1.77765081	10.53	0.0014
Ethnic group	1	0.04323488	0.04323488	0.26	0.6133
Forms of business	1	0.63173851	0.63173851	3.74	0.0545
Gender	1	0.00056828	0.00056828	0.00	0.9538
Location	1	0.61290457	0.61290457	3.63	0.0582
Region	2	2.77025783	1.38512892	8.21	0.0004
Sector	1	0.09429989	0.09429989	0.56	0.4557
Work experience	1	1.93456933	1.93456933	11.46	0.0009

*** indicates a statistical significant variance at $\alpha = 0.05$, confidence interval: 95%

At a significant level of 5% ($\alpha = 0.05$) there are significant differences between four variables namely age (p-value = 0.0439 < $\alpha = 0.05$); education (p-value = 0.0014 < $\alpha = 0.05$); region (p-value = 0.0004 < $\alpha = 0.05$) and forms of business (p-value = 0.0009 < $\alpha = 0.05$). It is also found that there is not statistically significant differences for the rest of the variables whose p value > $\alpha = 0.05$.

Proposition 19.1 to 19.9 stated that a statistically significant variance does not exist between how successful SMEs rate their competence in enterprising skills in the following demographic variables age (**P19.1**); education (**P19.2**); ethnic group (**P19.3**); gender (**P19.4**); work experience (**P19.5**); region (**P19.6**); subsector (**P19.7**); form of business (**P19.8**) and

place where business is operated (P19.9). Applying the acceptance rule that the proposition is acceptable if and only if the p value is $>$ than $\alpha = 0.05$; else it must be rejected; the results are summarised below:

- Proposition 19.1: rejected.
- Proposition 19.2: rejected.
- Proposition 19.3: accepted.
- Proposition 19.4: accepted.
- Proposition 19.5: rejected.
- Proposition 19.6: rejected.
- Proposition 19.7: accepted.
- Proposition 19.8: accepted.
- Proposition 19.9: accepted.

The demographic variables that had a p-value of < 0.05 are examined for the differences between each pair of means and table 6.51 below indicated the significantly different stratification group means at a specified level as follows:

Table 6.51: Variables that show significant differences from ANOVA 7

Variable	N	Mean	Std Deviation
AGE			
< 40	76	2.99671053	0.41531799
≥ 40	121	3.19008264	0.47765136
EDUCATION LEVEL			
Matric or below	63	2.96825397	0.40033268
Above matric and other	134	3.18470149	0.47585410
WORK EXPERIENCE			
0 to 4 years	69	2.91304348	0.42837348
4 + years	128	3.22460938	0.44571433
REGION			
1	92	3.20108696	0.44972386
2	93	2.99193548	0.43839442
3	12	3.41666667	0.50377364

*** indicates a statistical significant variance at $\alpha = 0.05$, confidence interval: 95%

The group of successful entrepreneurs that are older than 40 years consider themselves to be more competent in enterprising skills than those who are less than 40 years. This result implies that age does affect the competence of successful SMEs in enterprising skills. This also supports the assertion that increasing age of the entrepreneur/SME owner manager is positive correlated with fostering the development of skills.

The group of successful SMEs that have more than 4 years working experience consider themselves to be more competent in enterprising skills than those who have less than 4 years work experience. This result implies that working experience does affect the competence of successful SMEs in enterprising skills. This supports the assertion that work experience is positively correlated with higher their entrepreneurial quality skills (Barreira, 2004:43; Tustin, 2001:88).

The successful SMEs with educational level more than matric consider themselves to be more competent in enterprising skills than those who have matric or less. This result implies that education levels do affect the competence of successful SMEs in terms of enterprising skills. This also supports the assertion that increasing education levels are positively correlated with how successful SMEs develop skills that are key for entrepreneurship.

To analyse the region demographics a Scheffe's multiple comparison procedure was conducted as both these variables had more than two groups. There was significant differences between region 1 and 2 plus region 3 and 2 (indicated by ***) while there was no significant differences between region 1 and 3. SMEs in region 1 and 3 considered themselves to be more competent in enterprising skills than those in region 2.

Table 6.52: Scheffe's comparisons for regions for ANOVA 7

Region comparison	Difference between means	Simultaneous 95% confidence	Limits
3 and 1	0.21558	-0.09555	0.52671
3 and 2	0.42473	0.11380	0.73567 ***
1 and 3	-0.21558	-0.52671	0.09555
1 and 2	0.20915	0.06009	0.35821 ***
2 and 3	-0.42473	-0.73567	-0.11380 ***
2 and 1	-0.20915	-0.35821	-0.06009 ***

*** indicates a statistical significant variance at $\alpha = 0.05$, confidence interval: 95%

This result implies that successful SMEs in region 1 and 3 considered themselves more competent in enterprising skills than those in region 2. This result supports the location result above that implies that regions do affect the competence of successful SMEs in enterprising skills.

The eighth ANOVA (Analysis of variance) test results was for analysing if there are difference in how the less successful group rates their competence in terms of factor 2 – enterprising skills by all demographics. For the less successful group the p-value (< 0.0001) is also less than 0.05 therefore it can be concluded that there was statistically significant differences in the less successful group demographics in terms of how they rate their competence in enterprising skills.

Table 6.53: ANOVA 8 results - competence in factor 2 - less successful

Source	DF	Sum of squares	Mean square	F Value	P value
Model	11	22.7058473	2.0641679	6.74	<0.0001
Error	360	110.1711689	0.3060310		
Corrected total	371	132.8770161			

*** indicates a statistical significant variance at $\alpha = 0.05$, confidence interval: 95%

Proposition 20 stated that statistically significant variance does not exist between how less successful SMEs rate their competence in enterprising skills regarding the demographics. The proposition is rejected. However the results in table 6.29 does not indicate which individual mean or means are different from the consensus value and in what direction they deviate. A more detailed ANOVA checked for any differences in each demographic variables in terms of the competence in factor 2 – enterprising skills; to establish which demographic variables of the less successful group show these significant differences.

Table 6.54: Detailed ANOVA 8 results

Independent variable	DF	Sum of squares	Mean square	F Value	P value
Age	1	1.80931493	1.80931493	5.91	0.0155
Education	1	11.25457764	11.25457764	36.78	<0.0001
Ethnic group	1	0.01892188	0.01892188	0.06	0.8038
Forms of business	2	0.01779436	0.00889718	0.03	0.9713
Gender	1	0.00128541	0.00128541	0.00	0.9484
Location	1	3.16322595	3.16322595	10.34	0.0014
Region	2	2.78859366	1.39429683	4.56	0.0111
Sector	1	0.28626335	0.28626335	0.94	0.3341
Work experience	1	0.34659170	0.34659170	1.13	0.2879

*** indicates a statistical significant variance at $\alpha = 0.05$, confidence interval: 95%

At a significant level of 5% ($\alpha = 0.05$) there is significant differences between four variables namely age (p-value = 0.0155 < $\alpha = 0.05$); education (p-value = 0.0001 < $\alpha = 0.05$); location (p-value = 0.0014 < $\alpha = 0.05$) and region (p-value = 0.0499 < $\alpha = 0.0111$). It is also found that there are no statistically significant differences for the rest of the variables whose p value > $\alpha = 0.05$.

Proposition 20.1 to 20.9 stated that a statistically significant variance does not exist between how successful SMEs rate their competence in enterprising skills in the following demographic variables age (**P20.1**); education (**P20.2**); ethnic group (**P20.3**); gender (**P20.4**); work experience (**P20.5**); region (**P20.6**); subsector (**P20.7**); form of business (**P20.8**) and place where business is operated (**P20.9**). Applying the acceptance rule that the proposition is acceptable if and only if the p value is > than $\alpha = 0.05$; else it must be rejected; the results are summarised below:

- Proposition 20.1: rejected.
- Proposition 20.2: rejected.
- Proposition 20.3: accepted.
- Proposition 20.4: accepted.

- Proposition 20.5: accepted.
- Proposition 20.6: rejected.
- Proposition 20.7: accepted.
- Proposition 20.8: accepted.
- Proposition 20.9: rejected.

The demographic variables that had a p-value of < 0.05 are examined for the differences between each pair of means and table 6.39 below indicated the significantly different stratification group means at a specified level as follows:

Table 6.55: Variables that show significant differences from ANOVA 8

Variable	N	Mean	Std Deviation
AGE			
< 40	174	2.75431034	0.59287322
> = 40	198	2.87500000	0.59914808
EDUCATION LEVEL			
Matric or below	242	2.68904959	0.55333197
Above matric and other	130	3.05961538	0.60665227
LOCATION			
City centre	250	2.75900000	0.59462874
Other	123	2.94057377	0.59008096
REGION			
1	65	2.72307692	0.58816963
2	295	2.82457627	0.59792533
3	12	3.18750000	0.55519243

*** indicates a statistical significant variance at $\alpha = 0.05$, confidence interval: 95%

The less successful SMEs with educational level more than matric consider themselves to be more competent in enterprising skills than those who have matric or less. This result implies that education levels do affect the competence of less successful SMEs in terms of enterprising skills. This also supports the assertion that lower education levels are negatively correlated with the development of skills key for entrepreneurship.

The age group of less successful entrepreneurs that are older than 40 years consider themselves to be more competent in enterprising skills than those who are less than 40 years. This result implies that age does affect the competence of less successful SMEs in enterprising skills. This also supports the assertion that increasing age of the entrepreneur/SME owner manager is positively correlated with fostering the development of skills.

The less successful SMEs that are located in the areas either than the city centre consider themselves to be more competent in enterprising skills than those who are in the city centre. This result implies that location does affect how less successful SMEs view the importance of skills. This supports the assertion that success depends on location of the business operations.

To analyse the regions demographics a Scheffe's multiple comparison procedure was conducted for the less successful groups as this variable has more than two groups.

Table 6.56: Scheffe's comparisons for region for ANOVA 8

Region comparison	Difference between means	Simultaneous 95% confidence	Limits
3 and 2	0.36292	-0.03751	0.76335
3 and 1	0.46442	0.03720	0.89165 ***
2 and 3	-0.36292	-0.76335	0.03751
2 and 1	0.10150	-0.08481	0.28781
1 and 3	-0.46442	-0.89165	-0.03720 ***
1 and 2	-0.10150	-0.28781	0.08481

*** indicates a statistical significant variance at $\alpha = 0.05$, confidence interval: 95%

There were significant differences between region 1 and 3 (indicated by ***) while there was no significant differences between region 1 and 2 or regions 3 and 2. SMEs in region 3 and 2 considered themselves to be more competent in enterprising skills than those in region 1. This result implies that successful SMEs in region 1 and 3 considered themselves more

competent in enterprising skills than those in region 2. This result supports the location result above that implies that regions do affect the competence of successful SMEs in enterprising skills.

In summary there are significant differences in the two groups in terms of demographics with the following standing out namely age, education which is linked and work experience, form of business and location which is linked with region

The successful group had variances more in personal demographics (age and education) while the less successful group had more variances in company demographics (location, region and form)

There were no significant differences in both groups of SMEs in terms of the following demographics: Ethnic groups, language, gender, sub-sector and product type.

Furthermore the ANOVA outputs and significance of source tested for factor 1 and factor 2 comparing the successful and less successful SMEs in terms of their views of the importance of the skills in the two factors. This showed differences between the two groups namely the successful and the less successful SMEs.

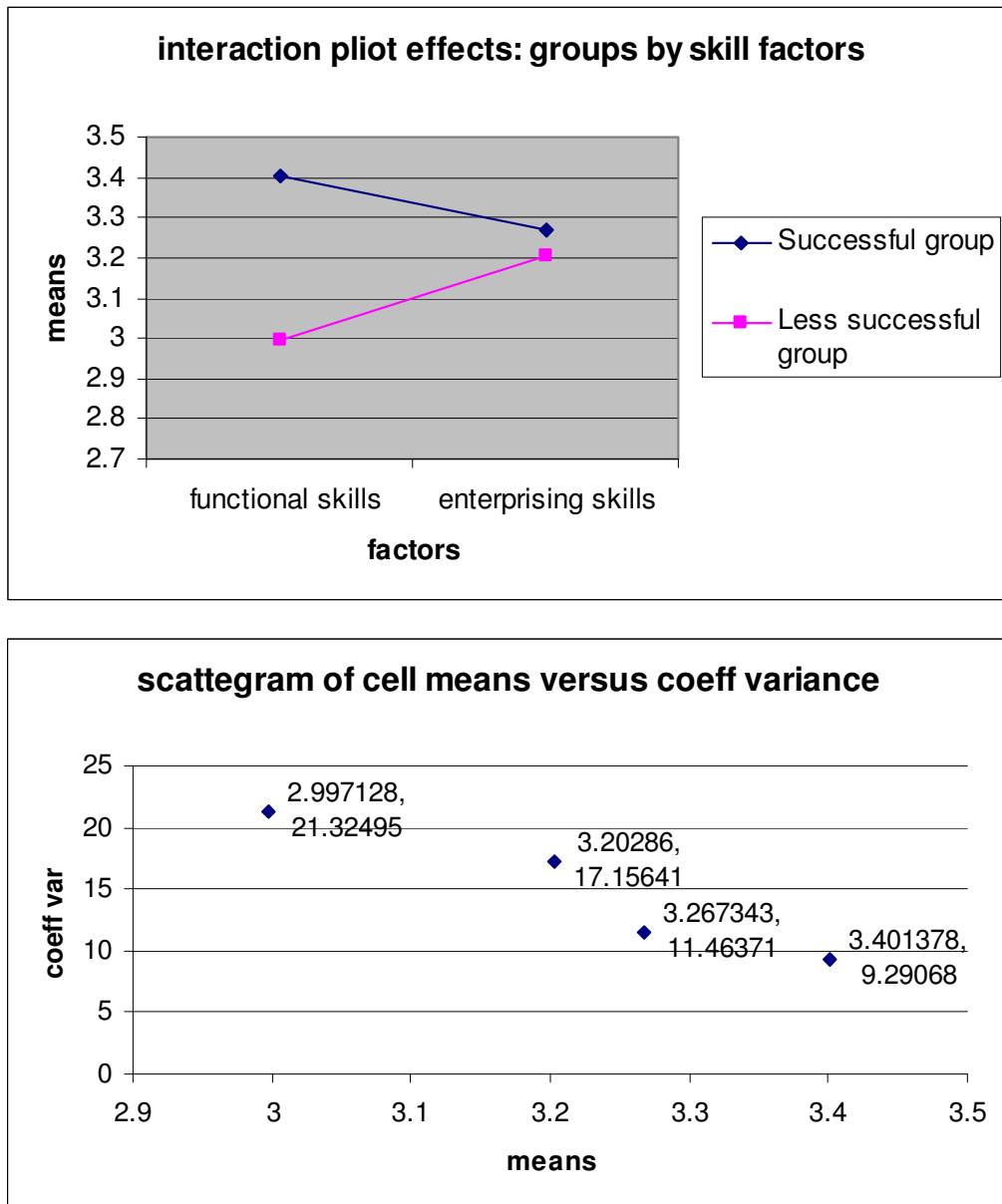
Table 6.57: ANOVA of the difference between the SMEs on importance

Factor	Mean		Coeff Var		R square	
	Successful group	Less successful group	Successful group	Less successful group	Successful group	Less successful group
Factor 1	3.401378	2.997128	9.290680	21.32495	0.097172	0.090927
Factor 2	3.267343	3.202860	11.46371	17.15641	0.134277	0.071752

R square cannot exceed 1

A graphical plot of the mean scores on each of the factors gives an indication of the difference between the groups in terms of how they view the importance of the skills in each factor.

Figure 6.13: Comparing the two samples on importance



The successful group of SMEs consider functional skills to be more important than the less successful group. However both groups are very close in terms of how they view the importance of enterprising skills factor. The successful group has less variance in terms of their views than the less successful group.

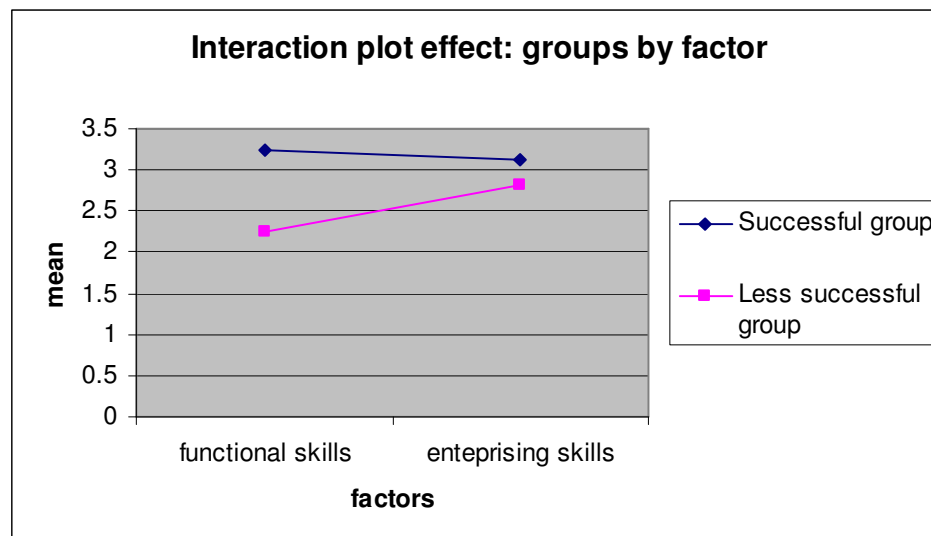
Table 6.58: ANOVA of the difference between the SMEs on competence

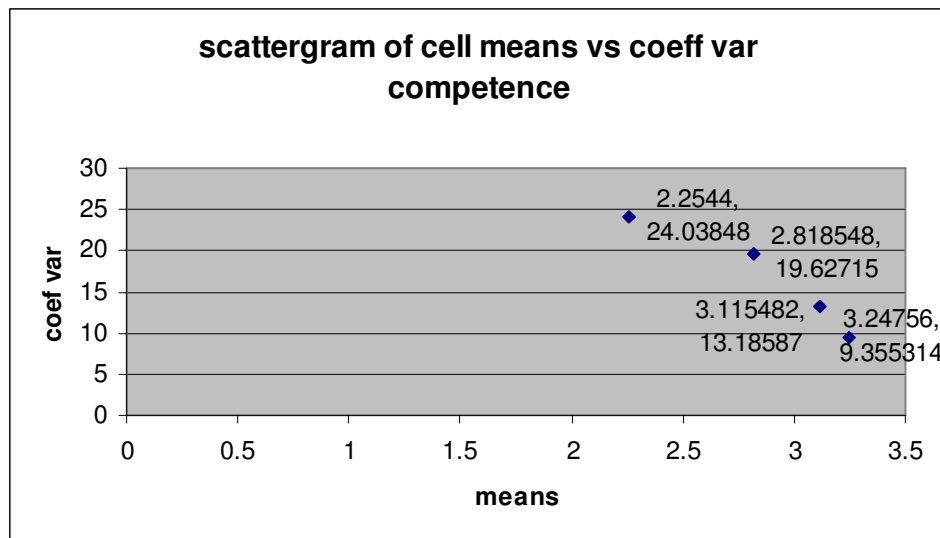
Factor	Mean		Coeff Var		R square	
	Successful group	Less successful group	Successful group	Less successful group	Successful group	Less successful group
Factor 1 – functional skills	3.247560	2.254400	9.355314	24.03848	0.119037	0.205193
Factor 2 – enterprising skills	3.115482	2.818548	13.18587	19.62715	0.253708	0.170879

R square cannot exceed 1

A graphical plot of the mean scores on each of the factors gives an indication of the difference between the groups in terms of how they view their competence in the skills in each factor:

Figure 6.14: Comparing the two samples on competence





The successful group of SMEs consider themselves to be more competent in functional skills than the less successful group. Although the ANOVA results show that both groups are close in terms of how they rate their competence in the enterprising skills factor, the successful group of SMEs consider themselves to be more competent in enterprising skills than the less successful group. The successful group has less variance in terms of how they rated themselves than the less successful group.

6.6.8 Impact

More of the successful group (average 90.78%) found the training they attended much more helpful in terms of performance indicators than the less successful group (average 53.17%).

Table 6.59: Impact of training as perceived by the two groups

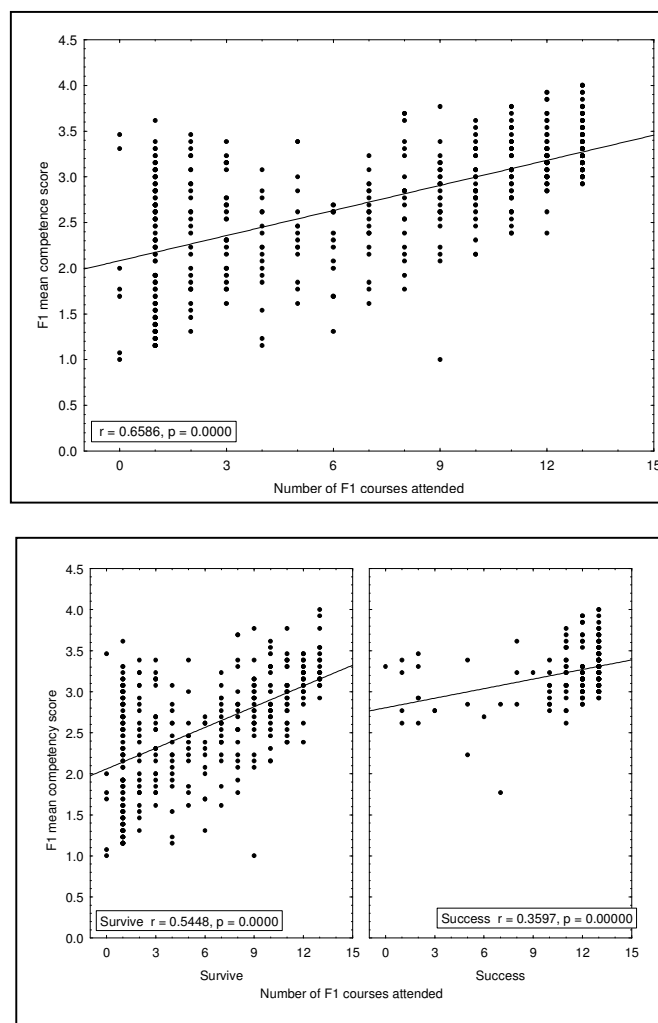
Variable	Successful group			Less successful group		
	Agree/strongly agree	Don't know	Disagree/strongly disagree	Agree/strongly agree	Don't know	Disagree/strongly disagree
Product quality	93.91	5.08	1.02	56.84	36.46	6.7
Productivity	89.85	5.58	4.57	54.96	38.34	6.71
Sales	78.68	16.75	4.57	49.86	39.95	10.19
Operations	92.38	7.61	0	55.49	35.92	8.58
Skills	94.92	4.57	0.51	43.44	47.99	8.58
Motivation	94.93	5.08	0	58.45	33.78	7.77

Whereas more of the less successful group didn't know whether the training received was useful or not.

Correlation between factors and training

Correlation procedure indicated that the competence is related to the increase in the number of training for functional skills. Pearson correlation coefficients = 0.65859 with $p < 0.0001$.

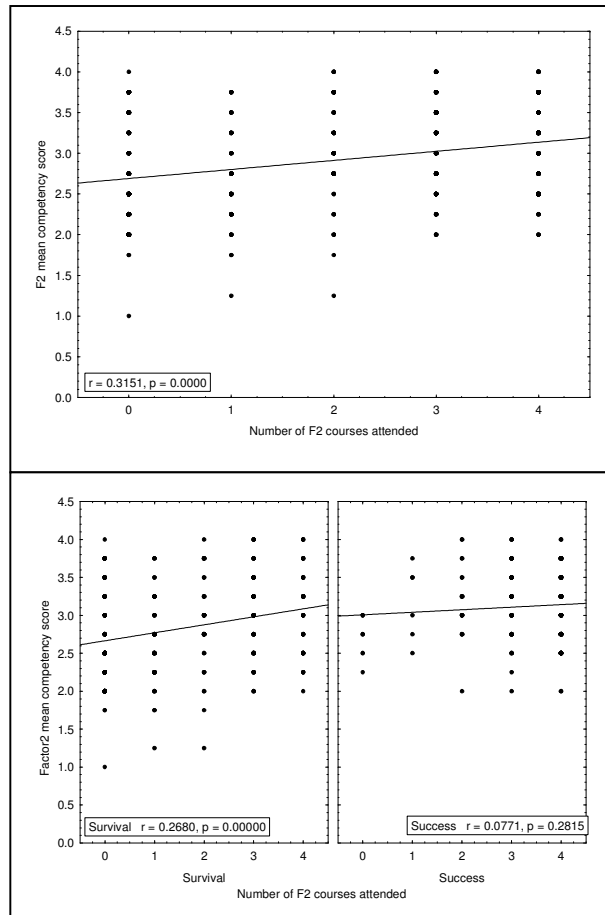
Figure 6.15: Correlation between training and factor 1 - competence



However, the correlation procedure also fails to show clear correlation between competence and the increase in the number of training for enterprising skills. Pearson correlation

coefficients = 0.31509 with $p < 0.0001$; is weak and thus there is no correlation between number of training areas and competency in enterprising skills.

Figure 6.16: Correlation between training and factor 2 – competence



6.7 Conclusion

This chapter presented the main findings of the empirical study. During the course of this chapter, relevant information was obtained and explained by means of descriptive and inferential statistics. Relevant data was captured and provided in tabular and figure format. The various statistical techniques and methods as discussed within the scope of chapter 5 (research design and methodology of the study) were practically applied within chapter 6.

The personal demographic information of the respondents (successful and less successful SMEs) showed normal distribution. The descriptive statistics for the demographics data

showed normal distribution. Based on the demographic data, the SMEs population appears to be made up of informal, micro, small and very small business with no evidence of medium enterprises participating in the survey. The data also that over 70% of the respondents have at least matric and that they are mainly black SA and mainly female.

The business demographic information also showed normal distribution. These factor analyses confirmed two main factors namely functional and enterprising skills. Except for one of the four factors, the factor analysis indicated relatively high construct validity of the measuring instruments as evidenced by the high Cronbach alphas. Item analysis showed scale mean score that were higher than the midpoint of all factors indicating that all items were contributing to the two factors.

The chi-square test, the t-test, Mann-Whitney tests and the one way ANOVA tests were executed to present the statistical differences between the successful and less successful groups. ANOVA showed some significant differences among the successful and less successful groups. For functional skills, there were significant differences for age, educational level, ethnicity and size of business. For enterprising skills, there were significant differences for experience, region and type of business. Significant different factors identified by the ANOVA were investigated further by comparing the scale means for demographic variables through the Scheffe's multiple comparison procedure. This showed varying degrees of significant differences some of which call for further investigation through separate research.

The next chapter revisits the objectives, discusses the findings, makes final conclusions, provides recommendations for policy makers and makes suggestions on areas for further research.