



CHAPTER 6

RESEARCH METHOD, PROCEDURE AND RESULTS

1. INTRODUCTION

This research project took place over a period of five years, from 2000 until 2005 as part of the implementation of a Holistic Model for Leadership Development. The following process was followed:

- Design of a holistic model and process suitable for implementation in the organization where the research was conducted;
- Determine leadership competencies required to ensure the future success of the organization under research as described in Chapter 5;
- Design of a leadership model for the organization based on the identified leadership competencies as described in Chapter 5 and Appendix E;
- Design and validation of a 360° Leadership Assessment Questionnaire (LAQ) based on the identified leadership competencies as described in Chapter 5;
- The implementation of the 360° Leadership Assessment Questionnaire as part of a holistic model for leadership development as discussed in Chapters 2 and 3;
- The annual measurement of leadership behaviour in the research organization over a period of three years, by making use of the 360° Leadership Assessment Questionnaire as a research instrument;
- The statistical analysis and interpretation of the research results.

2. RESEARCH METHOD

2.1 RESEARCH DESIGN

In this research, a survey has been used as the research method. A survey can be described as a method of collecting data from people about who they are, how they think and what they do (Balnaves and Caputi, 2007). The design of this research can be described as a longitudinal study, because the same instrument (Leadership Assessment Questionnaire) was administered three times over a period of three years. The type of

survey design used for this research is called a panel survey because the data were gathered at different times from the same respondents (Dooley, 1984). According to Dooley (1984), the major advantage of the longitudinal panel survey is that changes in particular individuals can be monitored over time. Since the objective of this study was to measure changes in leadership behaviour over time, the longitudinal panel survey design was chosen for this research to answer the research questions as discussed in Chapter 1.

The design for this research is an empirical study using primary numerical data gathered in a field setting with a medium level of control over factors that may influence the research participants.

This research design can be described as quantitative with the aim of providing a broad overview of a representative sample of a large population.

2.2 RESEARCH SAMPLE AND DATA COLLECTION

In this research, non probability purposive sampling was used because the subjects were chosen based on certain characteristics (Dooley, 1984). Only respondents who participated in all three assessments were included in the initial research sample for this research. In the profile analysis, only questionnaires on which all the items had been completed, were included. A total of 258 respondents met the criteria of having fully completed questionnaires and were included in the profile analysis.

In this research, the Leadership Assessment Questionnaire (LAQ) as described in Chapter 5 was sent electronically to all 3 000 managers (top, senior- and middle management) in the organization under research annually over a period of three years. Together with the questionnaire they received a 360° Leadership Assessment Guideline document to inform them that their participation in the 360° Leadership Assessment Process was voluntary and for development purposes only (see Appendix F).

The participants in the 360° Leadership Assessment were rated by themselves, their supervisors, their peers and their subordinates. During the first year, 1516 managers



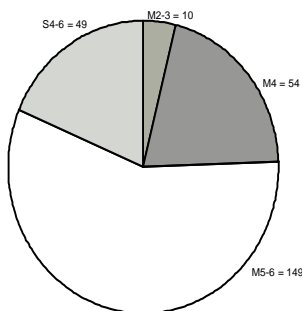
participated. During the second year, 1301 managers participated and during the third year, 1269 managers participated.

After each assessment, all participants received a feedback report based on the assessment results (see Appendix B) that indicated their areas of strength as well as their development areas. Together with the feedback report, participants received a development guideline, to compile a development plan for the next year based on the results of the questionnaire (see Appendix G)

The final sample of 258 respondents utilised for the profile analysis can be categorised as follows:

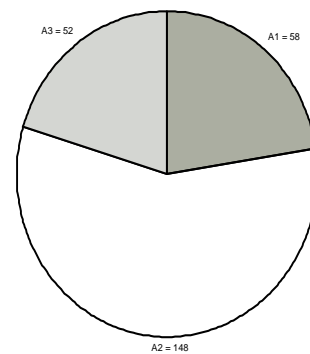
Management Levels

M2-3	10
M4	54
M5-6	149
S4-6	49



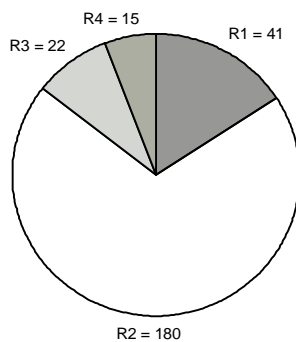
Age

A1 : 20 - 40 years	58
A2 : 41 - 50 years	148
A3 : 51 and older	52



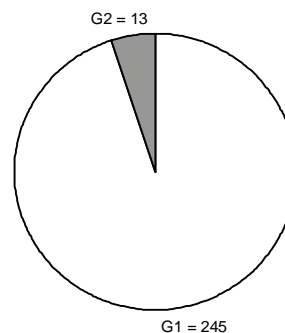
Race

R1 : African	41
R2 : White	180
R3 : Coloured	22
R4 : Asian	15



Gender

G1 : Male	245
G2 : Female	13



2.3 RESEARCH INSTRUMENT

In the research, a 360° Leadership Assessment Questionnaire (LAQ) was used to collect the research data. It was decided to make use of a multirater type questionnaire to collect the data for this research because the objective of this research was to measure leadership behaviour over a period of three years and this type of questionnaire was regarded as the most suitable for this type of research as discussed in Chapter 3.

The questionnaire used for this research has been developed specifically for this purpose because the leadership competencies and behaviour measured by this questionnaire are based on the customised leadership competency model developed specifically for the organization where this research was done. A generic existing questionnaire would therefore not have been suitable for this research. The development and validation of the questionnaire are described in detail in Chapter 3.

Before the analysis of the research results, it was decided to perform factor analysis on the different scales of the LAQ because of the bigger sample size involved in the research.

Based on the statistical analysis performed on the different scales of the research-instrument, the following results have been obtained:

Scale 1 – Integrity:

Year	N	Mean	Standard Deviation	Cronbach Alpha
1	2784	3.964	0.498	0.630
2	2784	3.962	0.459	0.630
3	2784	3.969	0.466	0.630

Scale 2 – Adaptability:

Year	N	Mean	Standard Deviation	Cronbach Alpha
1	2783	3.722	0.523	0.0025
2	2783	3.720	0.485	0.0025
3	2783	3.761	0.478	0.0025



Scale 3 – Self-Responsibility:

Year	N	Mean	Standard Deviation	Cronbach Alpha
1	2783	3.899	0.492	0.750
2	2783	3.896	0.455	0.750
3	2783	3.895	0.464	0.750

Scale 4 – Leadership Communication:

Year	N	Mean	Standard Deviation	Cronbach Alpha
1	2784	3.739	0.536	0.0007
2	2784	3.768	0.498	0.0007
3	2788	3.771	0.504	0.0007

Scale 5 – Purpose Building:

Year	N	Mean	Standard Deviation	Cronbach Alpha
1	2385	3.764	0.518	0.0026
2	2385	3.768	0.474	0.0026
3	2385	3.793	0.479	0.0023

Scale 6 – Motivational Capacity:

Year	N	Mean	Standard Deviation	Cronbach Alpha
1	2383	3.641	0.560	0.0025
2	2383	3.652	0.527	0.0025
3	2383	3.648	0.546	0.0025



Scale 7 – Information Capacity:

Year	N	Mean	Standard Deviation	Cronbach Alpha
1	2784	3.724	0.527	0.016
2	2784	3.736	0.496	0.016
3	2784	3.751	0.492	0.016

Scale 8 – Conceptual Ability:

Year	N	Mean	Standard Deviation	Cronbach Alpha
1	2783	3.784	0.523	0.001
2	2783	3.803	0.484	0.001
3	2783	3.820	0.475	0.001

Scale 9 – Visionary Thinking:

Year	N	Mean	Standard Deviation	Cronbach Alpha
1	2781	3.664	0.531	0.000
2	2781	3.691	0.492	0.000
3	2781	3.711	0.505	0.000

Scale 10 – Business Acumen:

Year	N	Mean	Standard Deviation	Cronbach Alpha
1	2784	3.811	0.552	0.014
2	2784	3.836	0.514	0.014
3	2784	3.840	0.510	0.014



Scale 11 – Diversity Learning:

Year	N	Mean	Standard Deviation	Cronbach Alpha
1	2784	3.821	0.504	0.022
2	2784	3.832	0.457	0.022
3	2784	3.843	0.465	0.022

Scale 12 – Cross-functional Teamwork:

Year	N	Mean	Standard Deviation	Cronbach Alpha
1	2784	3.675	0.545	0.000
2	2784	3.702	0.508	0.000
3	2784	3.738	0.501	0.000

Scale 13 – People Development:

Year	N	Mean	Standard Deviation	Cronbach Alpha
1	2368	3.654	0.561	0.000
2	2368	3.669	0.528	0.000
3	2368	3.706	0.523	0.000

Scale 14 – Performance Achievement:

Year	N	Mean	Standard Deviation	Cronbach Alpha
1	2784	3.732	0.527	0.000
2	2784	3.757	0.488	0.000
3	2784	3.789	0.501	0.000



Scale 15 – Empowerment:

Year	N	Mean	Standard Deviation	Cronbach Alpha
1	2784	3.672	0.485	0.000
2	2784	3.694	0.462	0.000
3	2784	3.714	0.476	0.000

In the following section of this Chapter, the analysis of the research results obtained by means of the LAQ will be discussed.

2.4 ANALYSIS OF THE 360° LEADERSHIP ASSESSMENT RESULTS

The research data has first been analysed by means of factor analysis. The factors identified did not correspond well with the internal components of the instrument having too few or too many items on a factor. Because of the inconsistent results, it was therefore decided to use the original components of the instrument and make use of a profile analysis to compare groups and categories.

The research data has subsequently been analysed by making use of profile analysis, a special application of multivariate analysis of variance (MANOVA).

According to Tabachnick and Fidell (2001), profile analysis is a special application of multivariate analysis of variance (MANOVA) to a situation where there are several dependent variables (DVs) that are all measured on the same scale. Profile analysis is commonly used in research of this nature, where subjects are measured repeatedly on the same dependent variable (DV). In this research, the dependent variables are the scores on the 360° Leadership Assessment Questionnaire (LAQ).

The major question asked in profile analysis is whether or not different groups (independent variables) have different profiles on the same set of measures. Profile analysis requires all measures to have the same range of possible scores, with the same score value having the same meaning on all the measures (Tabachnick & Fidell, 2001). In this research, the same scale has been used to measure all the dimensions of the

questionnaire. The main question in this research is therefore whether or not the different groups (race, age, gender, rater and management groups) have different profiles on the same set of measures (360° Leadership Assessment Questionnaire).

The primary question addressed by profile analysis is the following: “Do different independent variables (groups) have parallel profiles?” This is commonly known as the test of parallelism. The second question in profile analysis is whether one group, on average, scores higher on the collected set of measures than another. In profile analysis, this is called the “levels” hypothesis. The third question addressed by profile analysis concerns the similarity of the responses to all dependent variables, independent of the different groups. Do all the DVs elicit the same average response? In profile analysis, this tests the “flatness” hypothesis. This question is typically only relevant if the profiles are parallel. If the profiles are not parallel, then at least one of them is not flat. Although it is conceivable that non-flat profiles from two or more groups could cancel each other out to produce, on average, a flat profile, this result is often not of research interest (Tabachnick & Fidell, 2001).

If statistically significant differences are found between groups or measures, it can be represented as profiles in which the means for each of the dependent variables (360° scores) are plotted for each of the independent variables (groups, e.g. age, gender, race, year and level).

Profile analysis is a special application of multivariate analysis of variance (MANOVA) to a situation where there are several dependent variables that have been measured on the same scale (Tabachnick & Fidell, 2001). In this research the dependent variables are the scores on the different dimensions of the questionnaire as reflected in Appendix C. The independent variables (IVs), are age group, race group, gender group, management level, year and person. It can be expected that the dependent variables, in this research the scores on the 360° Assessment Questionnaire, will be impacted by the independent variables (IVs) as described below. The analysis for this research data was done for each scale of the questionnaire in terms of the following:



Age:

A1 = 20 – 40 years

A2 = 41 – 50 years

A3 = 51 and older

Level :

M2-3 = Top Management

M4 = Senior Management

M5-6 = Middle and Junior Managers

S4-6 – Specialists

Race :

R1 = African

R2 = White

R3 = Coloured

R4 = Asian

Gender :

E1 = Male

E2 = Female

Person (Raters):

r = supervisors

e = subordinates

p = peers

s = self

Year :

r0 = Year 1

r1 = Year 2

r2 = Year 3

The statistical analysis was conducted for each of the 15 scales in the questionnaire namely:

- Scale 1 - Integrity
- Scale 2 - Adaptability
- Scale 3 - Self-responsibility
- Scale 4 - Leadership communication
- Scale 5 - Purpose building
- Scale 6 - Motivational capacity



Scale 7	- Information capacity
Scale 8	- Conceptual ability
Scale 9	- Visionary thinking
Scale 10	- Business acumen
Scale 11	- Diversity learning
Scale 12	- Cross-functional teamwork
Scale 13	- People development
Scale 14	- Performance achievement
Scale 15	- Empowerment

The results are presented by providing the actual scores as a table. Thereafter, the plotted profiles are presented, followed by the analysis that was done in the framework of profile analysis as described by Tabachnick and Fidell (2001), namely:

- Parallelism (Do different groups have different profiles?);
- Levels (Does one group score higher on the collected set of measures than another?);
- Flatness (Does behaviour change over time?).

Statistically significant differences were identified on the following scales that will be represented in this section:

Scale 1	- Integrity (Person x Level)
Scale 5	- Purpose building (Level x Year)
Scale 7	- Information capacity (Level x Person)
Scale 7	- Information capacity (Year x Gender)
Scale 8	- Conceptual ability (Level x Year)
Scale 8	- Conceptual ability (Person x Age)
Scale 9	- Visionary thinking (Race x Year)
Scale 9	- Visionary thinking (Person x Age)
Scale 10	- Business acumen (Person x Age)
Scale 10	- Business acumen (Person x Level)



- Scale 13 - People development (Person x Gender)
- Scale 14 - Performance achievement (Person x Race)
- Scale 15 - Empowerment (Person x Level)
- Scale 15 - Empowerment (Person x Gender)

The following statistical information is given for each of the scales since it is regarded as important for the meaningful interpretation of the research results:

- Parallel profiles (Are the profiles parallel?);
Wilks Lamda is the particular test that was done and the score had to be equal to or smaller than 0.05 to be regarded as significant;
- Equal levels (Are the levels equal?);
An F-value with its corresponding degrees of freedom and a significance level which must be equal to or lower than 0.05;
- Flat profiles (Are the profiles flat?);
Hotteling which is the particular test that was done and the score must be equal or smaller than 0.05 to be regarded as significant.

The analysis was done by making use of a multivariate analysis of variance (MANOVA) analysing the data by comparing the following:

- Level x Year
- Level x Person
- Age x Year
- Age x Person
- Race x Year
- Race x Person
- Gender x Year
- Gender x Person

The average rating per scale has also been calculated for year one, two and three to indicate overall trends in assessment results and will be reflected at the end of this section.

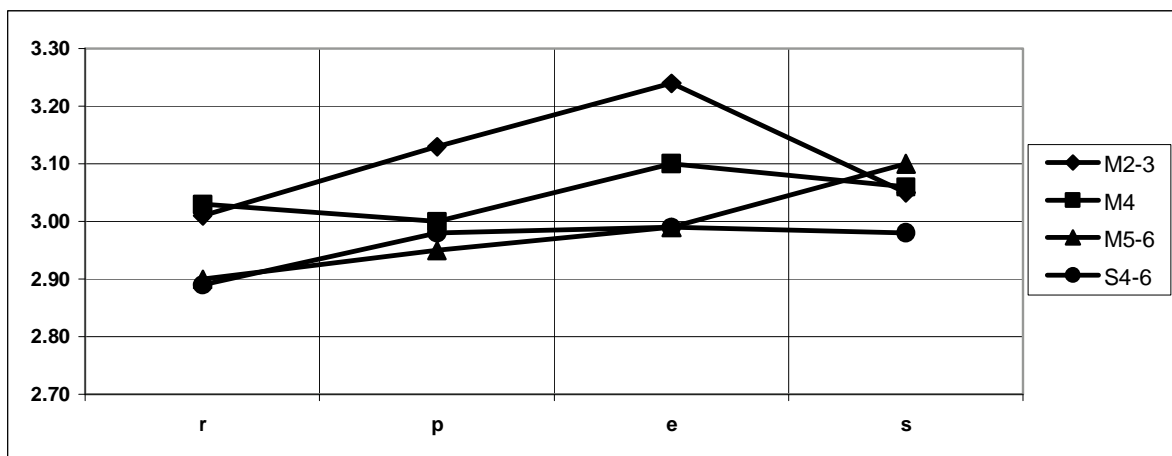
3. RESEARCH RESULTS

In the following section the research results are presented. Only those scales with significant statistical differences are shown in this section. The full results for all the scales can be found in Appendix C.

3.1 Scale 1: Integrity

Person x Level

		Person			
		r	p	e	s
Level	M2-3	3.01	3.13	3.24	3.05
	M4	3.03	3.00	3.10	3.06
	M5-6	2.90	2.95	2.99	3.10
	S4-6	2.89	2.98	2.99	2.98



Person

Person :	
r	= Supervisor
p	= Peers
e	= Subordinate
s	= Self

Level :	
M2-3	= Top Management
M4	= Senior Managers
M5-6	= Middle and Junior Manager
S4-6	= Specialists

Are the profiles parallel?

- No, because Wilks Lamda = 0.918, $F(9.598.85) = 2.36$, $p = 0.01$;



- The fact that the profiles are not parallel may be owing to the self-ratings of the M5-6 group. The self ratings of the M5-6 level are higher than the self-ratings of the other groups.

Are the levels equal?

- No, because $F(3,248) = 3.47$ $p = 0.02$;
- The levels are also not equal, which means that the scores between the different management levels differ significantly.

Are the profiles flat?

- Yes, because Hotteling = 0.01, $F(3,246) = 1.18$, $p = 0.32$;
- The profiles are flat which means that within one profile, e.g. M2-3, the scores do not differ widely from each other.

Trends and Patterns

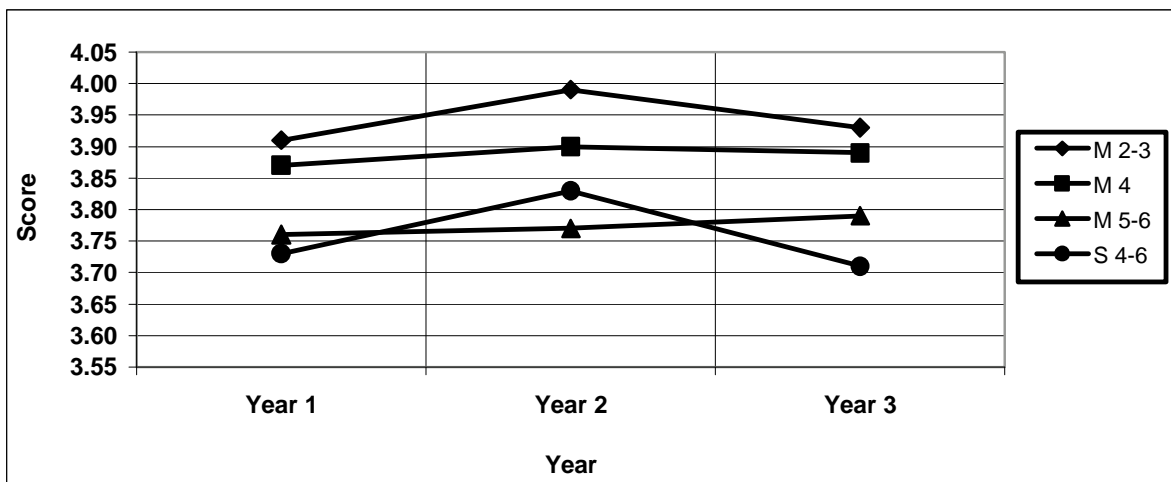
- Top management and senior managers are rated consistently higher than the other levels. An interesting trend is that the self-ratings of the managers (M5-6) are higher than all the other levels.
- Middle managers and specialists are rated lower by their supervisors, peers and subordinates than senior and top management.



3.2 Scale 5: Purpose Building

Level x Year

		Year		
		Year 1	Year 2	Year 3
Level	M 2-3	3.91	3.99	3.93
	M 4	3.87	3.90	3.89
	M 5-6	3.76	3.77	3.79
	S 4-6	3.73	3.83	3.71



Level :	
M2-3	= Top Management
M4	= Senior Managers
M5-6	= Middle and Junior Manager
S4-6	= Specialists

Are the profiles parallel?

- No, because Wilks Lamda = 0.933, F (6.482) = 2.82, p = 0.01;
- The profiles are not parallel because the ratings of the S4-6 group are lower than the ratings of the other management levels in year one and three.



Are the levels equal?

- No, because $F(3.242) = 3.70$ $p = 0.01$;
- The levels are not equal, probably owing to the significant differences in the rating for the different levels in year three.

Are the profiles flat?

- Yes, because Hotelling = 0.01, $F(3.246) = 1.18$, $p = 0.32$;
- The profiles are flat which means that within one profile, e.g. M2-3, the scores do not differ widely from each other.

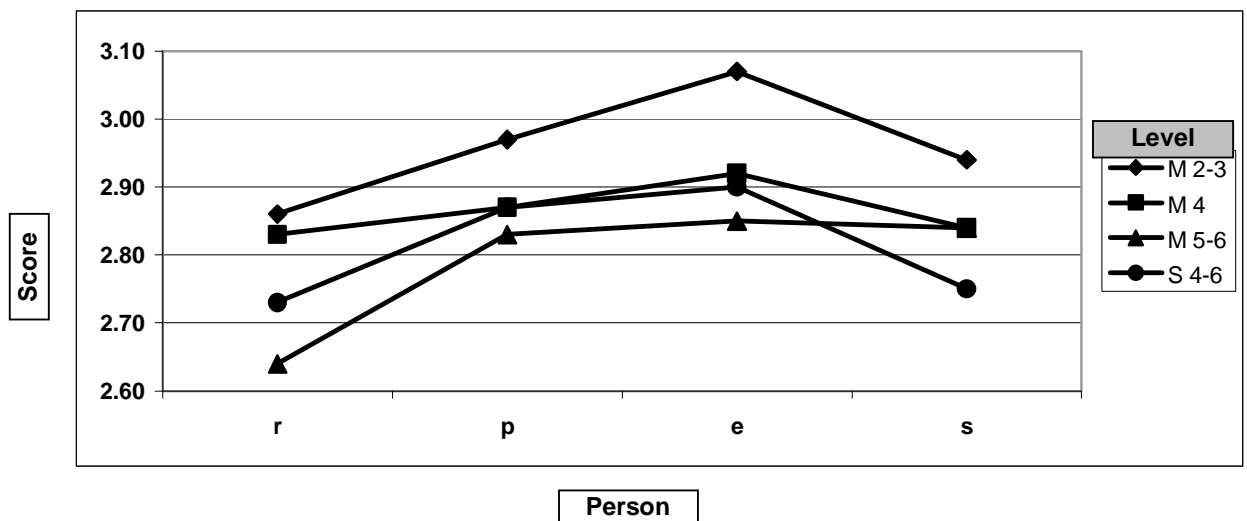
Trends and Patterns

- The top management level (M2-3) received the highest ratings in year one, two and three. The specialist level (S4-6) received the lowest ratings in year one and three.
- In year two, the middle management level (M5-6) received the lowest ratings.

3.3 Scale 7: Information Capacity

Level x Person

Level	Person			
	r	p	e	s
M 2-3	2.86	2.97	3.07	2.94
M 4	2.83	2.87	2.92	2.84
M 5-6	2.64	2.83	2.85	2.84
S 4-6	2.73	2.87	2.90	2.75



Level :	
M2-3	= Top Management
M4	= Senior Managers
M5-6	= Middle and Junior Managers
S4-6	= Specialists

Person :	
r	= Supervisor
p	= Peers
e	= Subordinate
s	= Self

Are the profiles parallel?

- No, because Wilks Lamda = 0.93, F (9.598) = 1.86, p = 0.05;
- The profiles are not parallel, because the middle management (M5-6) level received significantly lower ratings than the other levels..

Are the levels equal?

- No, because F (3.248) = 3.54 p = 0.02;



- The levels are not equal, because the ratings given by subordinates were significantly higher than the ratings given by supervisors. This seems to be a consistent trend in the research results.

Are the profiles flat?

- Yes, because Hotteling = 0.02, $F(3.246) = 1.51$, $p = 0.21$;
- The profiles are flat, which means that within one profile, e.g. M2-3, the scores do not differ significantly from each other.

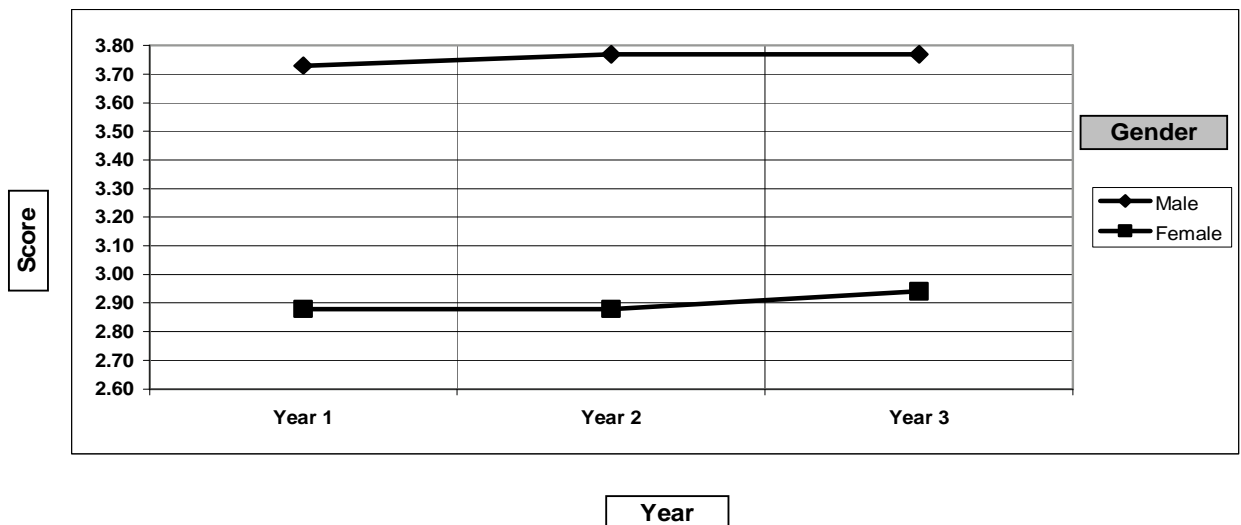
Trends and Patterns

- The top management (M2-3) level was rated the highest by all the rater-groups;
- The middle management (M5-6) level received the lowest ratings.

3.4 Scale 7: Information Capacity

Year x Gender

Gender	Year		
	Year 1	Year 2	Year 3
Male	3.73	3.77	3.77
Female	2.88	2.88	2.94



Are the profiles parallel?

- No, because Wilks Lamda = 0.9744, $F(2,247) = 3.28$, $p = 0.04$;
- The profiles are not parallel, probably because the ratings of gender group one (males) improved in year two, whilst the ratings of gender group two (females) remained the same in year two, but improved in year three.

Are the levels equal?

- No, because $F(1,248) = 4.54$, $p = 0.03$;
- The profiles are not equal because the ratings for the two gender groups differ significantly.

Are the profiles flat?

- Yes, because Hotteling = 0.03, $F(2,247) = 3.28$, $p = 0.04$;
- The profiles are flat because the ratings within the gender groups do not differ significantly.



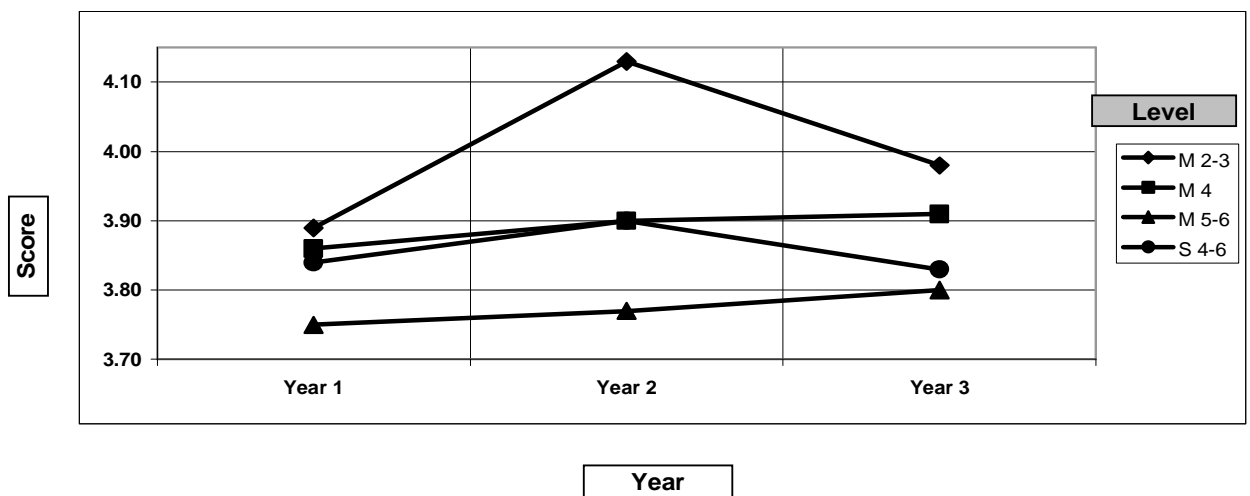
Trends and Patterns

- The male group received the highest ratings in year one, two and three;
- The ratings of the female group improved in year three, whilst the ratings of the male group remained the same.

3.5 Scale 8: Conceptual Ability

Level x Year

		Year		
		Year 1	Year 2	Year 3
Level	M 2-3	3.89	4.13	3.98
	M 4	3.86	3.90	3.91
	M 5-6	3.75	3.77	3.80
	S 4-6	3.84	3.90	3.83



Level :	
M2-3	= Top Management
M4	= Senior Managers
M5-6	= Middle- and Junior Manager
S4-6	= Specialists

Are the profiles parallel?

- No, because Wilks Lamda = 0.93, $F(6.494) = 2.97$, $p = 0.01$;
- The profiles are not parallel, probably owing to the ratings of the S4-6 level which went up in year two but dropped again in year three. It may also be due to the rating of the M2-3 level, which is higher than the ratings for the other levels, especially in year two.



Are the levels equal?

- No, because $F(3.248) = 3.86$ $p = 0.02$;
- The levels are not equal, probably because the ratings of the M2-3 level were significantly higher than the ratings of the other levels.

Are the profiles flat?

- Yes, because Hotelling = 0.02, $F(2.247) = 2.92$, $p = 0.06$;
- The profiles are quite flat, which means that within one profile, e.g. M2-3, the scores do not differ significantly from each other.

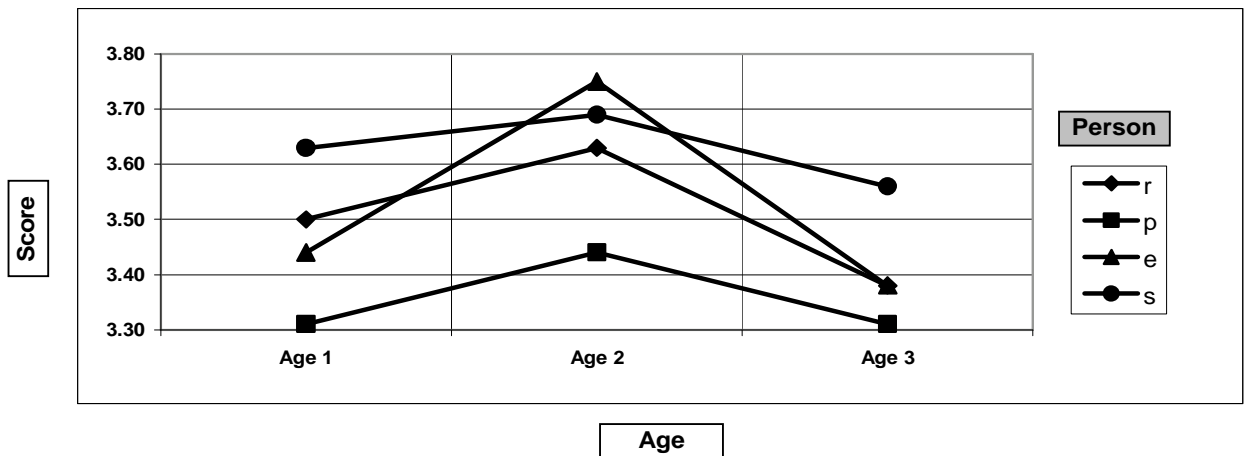
Trends and Patterns

- The top management (M2-3) level received the highest ratings while the middle management (M5-6) level received the lowest ratings.

3.6 Scale 8: Conceptual Ability

Person x Age

Person	Age		
	Age 1	Age 2	Age 3
r	3.50	3.63	3.38
p	3.31	3.44	3.31
e	3.44	3.75	3.38
s	3.63	3.69	3.56



Person :	
r	= Supervisor
p	= Peers
e	= Subordinate
s	= Self

Age :	
1	= 25 – 40 years
2	= 41 – 50 years
3	= 51 and older

Are the profiles parallel?

- No, because Wilks Lamda = 0.9508, $F(6.492) = 2.09$, $p = 0.05$;
- The profiles are not parallel, probably because the subordinates (e) rated age group two significantly higher than all the other rater groups.

Are the levels equal?

- Yes, because $F(2.248) = 1.56$ $p = 0.21$;
- The levels are also not equal, which means that the scores between the different age groups differ significantly.



Are the profiles flat?

- No, because Hotteling = 0.01, $F(3.246) = 0.85$, $p = 0.47$;
- The profiles are flat because the ratings within the age groups do not differ significantly.

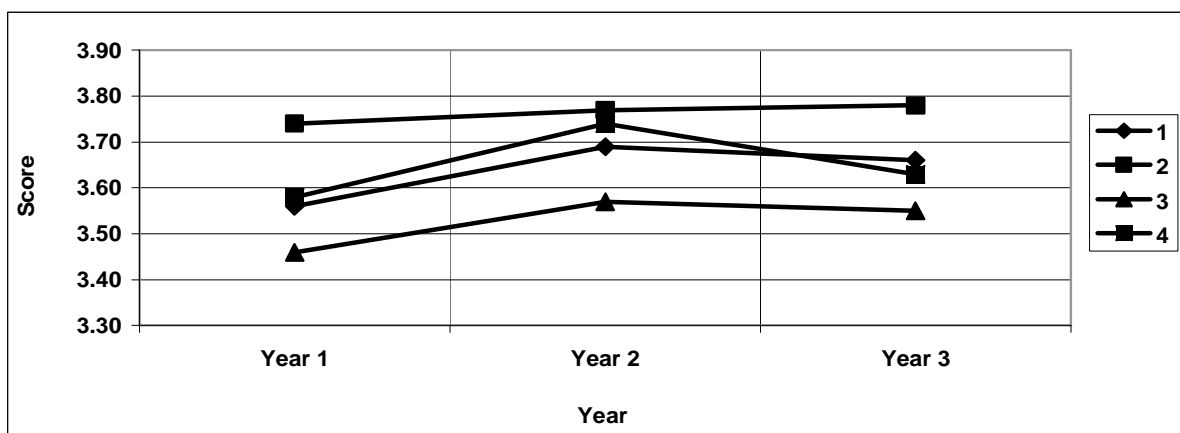
Trends and Patterns

- The age group 51 years and older were rated the lowest by all the rater groups and their self-rating was also the lowest;
- The age group 41 – 50 were rated the highest by all the rater groups and their self-ratings, were also the highest;
- The peer rater group (p) gave the lowest ratings.

3.7 Scale 9: Visionary Thinking

Race x Year

		Year		
		Year 1	Year 2	Year 3
Race	1	3.56	3.69	3.66
	2	3.74	3.77	3.78
	3	3.46	3.57	3.55
	4	3.58	3.74	3.63



Race :

- 1 = African
- 2 = White
- 3 = Coloured
- 4 = Asian

Are the profiles parallel?

- No, because Wilks Lamda = 0.95, $F(6.492) = 2.15$, $p = 0.05$;
- The profiles are not parallel because the ratings for race group four (Asians) were significantly higher in year two than in year one and three.

Are the levels equal?

- No, because $F(3.247) = 6.02$, $p = 0.05$;
- The levels are not equal, because the ratings of group three (Coloureds) are lower than the ratings of the other groups.



Are the profiles flat?

- No, because Hotteling = 0.04, $F(2.246) = 4.91$, $p = 0.01$;
- The profiles are not flat, because the ratings within group four (Asians) differ significantly between year one and two.

Trends and Patterns

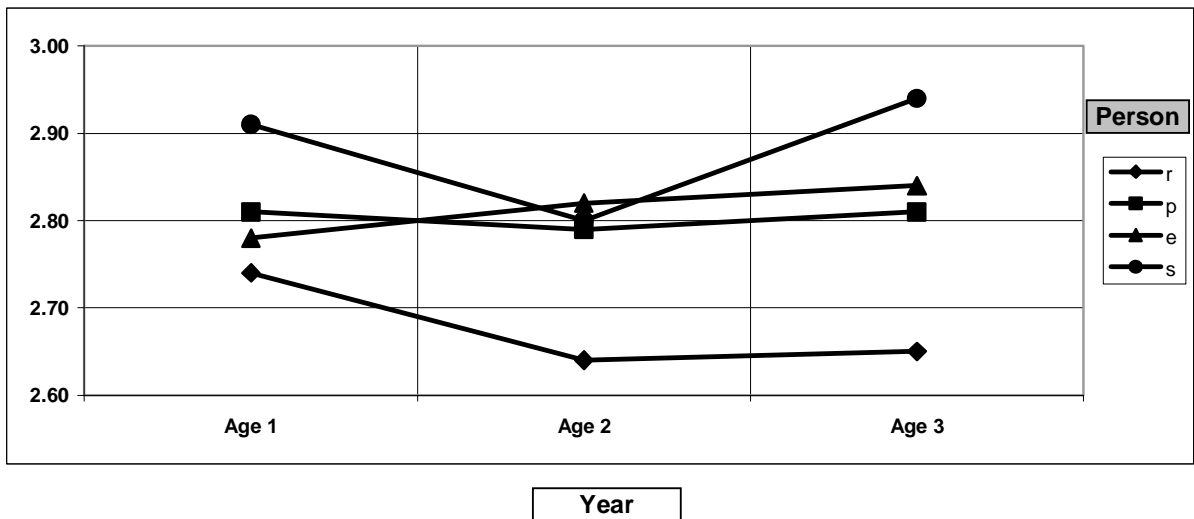
- Race group two (Africans) received the highest ratings in year one, two and three, while race group three (Coloureds) received the lowest ratings in year one, two and three.



3.8 Scale 9: Visionary Thinking

Person x Age

		Age		
		Age 1	Age 2	Age 3
Person	r	2.74	2.64	2.65
	p	2.81	2.79	2.81
	e	2.78	2.82	2.84
	s	2.91	2.8	2.94



Age :		
1	=	25 – 40 years
2	=	41 – 50 years
3	=	51 and older

Person :		
r	=	Supervisor
p	=	Peers
e	=	Subordinate
s	=	Self

Are the profiles parallel?

- No, because Wilks Lamda = 0.95, F (6.490) = 2.32, p = 0.03;
- The profiles are not parallel because the rating patterns of the subordinates differ from the rating patterns of the other groups. All the other groups gave lower ratings in year two than in year one.



Are the levels equal?

- Yes, because $F(3.247) = 1.93$ $p = 0.14$;
- The levels are equal because ratings of the different age groups do not differ significantly.

Are the profiles flat?

- No, because Hotteling = 0.02, $F(3.245) = 1.53$, $p = 0.21$;
- The profiles are not flat because the self-ratings of age group two are lower than the self-ratings of age groups one and three.

Trends and Patterns

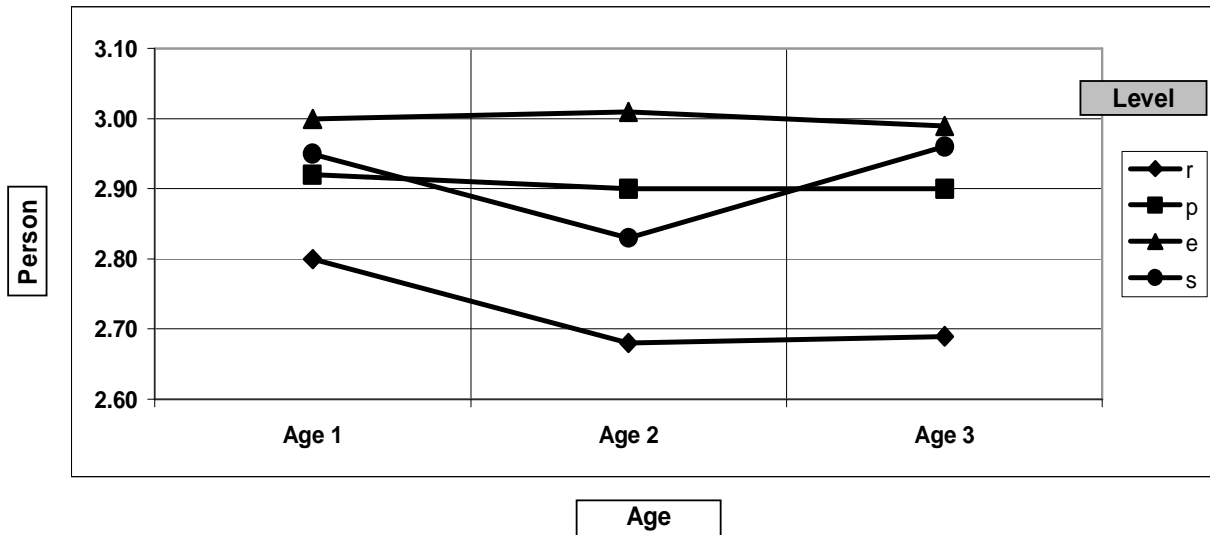
- The age group 41 – 50 years received the lowest ratings, while the age group 25 – 40 received the highest ratings;
- The supervisors (r) gave the lowest ratings of all the rater groups.



3.9 Scale 10: Business Acumen

Person x Age

Person	Age		
	Age 1	Age 2	Age 3
r	2.80	2.68	2.69
p	2.92	2.90	2.90
e	3.00	3.01	2.99
s	2.95	2.83	2.96



Age :		
1	=	25 – 40 years
2	=	41 – 50 years
3	=	51 and older

Person :		
r	=	Supervisor
p	=	Peers
e	=	Subordinate
s	=	Self

Are the profiles parallel?

- No, because Wilks Lamda = 0.93, F (6.492) = 2.81, p = 0.01;
- The levels are not parallel because the self-ratings of age group two are lower than the self-ratings of the other age groups.



Are the levels equal?

- Yes, because $F(2.248) = 2.89$ $p = 0.06$;
- The levels are equal because the scores between the different age groups do not differ significantly.

Are the profiles flat?

- No, because Hotteling = 0.05 , $F(3.246) = 3.96$, $p = 0.01$;
- The profiles are not flat because the ratings within age group two and three differ significantly.

Trends and Patterns

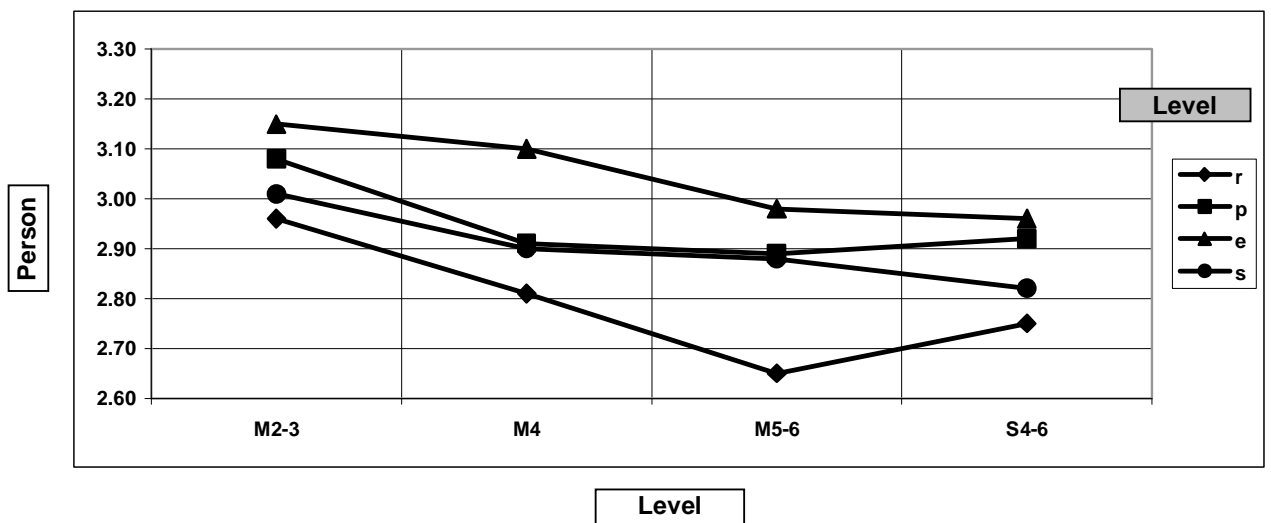
- The age group one (25 – 40 years) received the highest ratings;
- The supervisors group (r) gave the lowest ratings while the subordinates (e) group gave the highest ratings.



3.10 Scale 10: Business Acumen

Person x Level

Person	Level			
	M2-3	M4	M5-6	S4-6
r	2.96	2.81	2.65	2.75
p	3.08	2.91	2.89	2.92
e	3.15	3.10	2.98	2.96
s	3.01	2.90	2.88	2.82



Level :
M2-3 = Top Management
M4 = Senior Managers
M5-6 = Middle and Junior Managers
S4-6 = Specialists

Person :
r = Supervisor
p = Peers
e = Subordinate
s = Self

Are the profiles parallel?

- Yes, because Wilks Lamda = 0.94, $F(9.598) = 1.84$, $p = 0.06$;
- The profiles are parallel because the ratings of the different rater groups and levels do not differ significantly.

Are the levels equal?

- No, because $F(3.248) = 4.04$ $p = 0.00$;



- The levels are not equal because the scores between the different management levels differ.

Are the profiles flat?

- No, because Hotelling = 0.05, $F(3.246) = 3.96$, $p = 0.01$;
- The profiles are not flat because the scores within the M5-6 management level differ significantly.

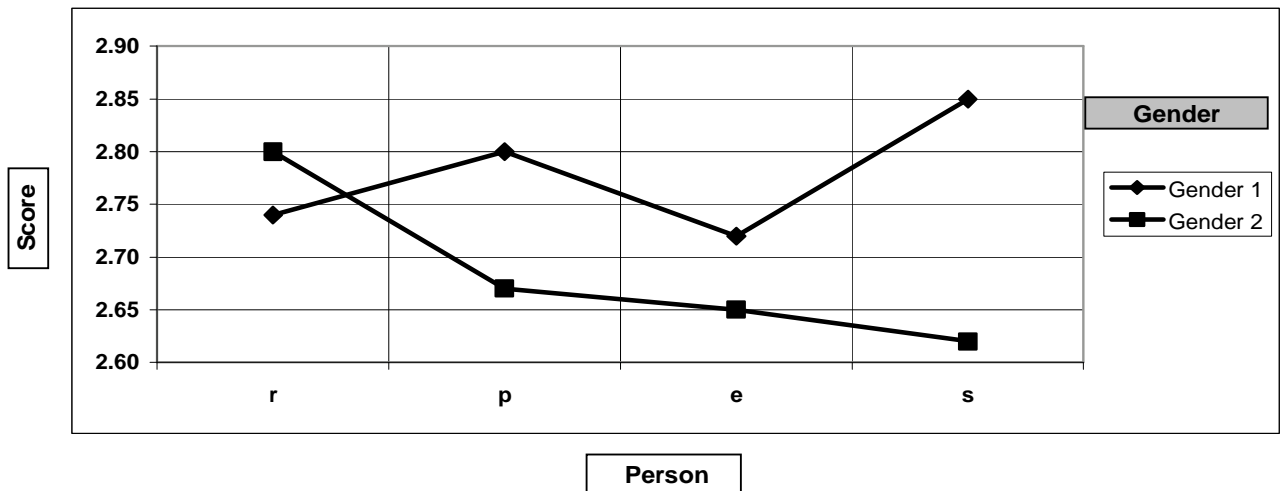
Trends and Patterns

- The supervisors (r) tend to give the lowest rating, while the subordinates (e) gave the highest ratings;
- The middle management level (M5-6) received the lowest ratings from all the rater groups;
- The top management level (M2-3) received the highest ratings from all the rater groups.

3.11 Scale 13: People Development

Person x Gender

Person	Gender			
	r	p	e	s
Gender 1	2.74	2.8	2.72	2.85
Gender 2	2.8	2.67	2.65	2.62



Person :	
r	= Supervisor
p	= Peers
e	= Subordinate
s	= Self

Gender :	
1	= Male
2	= Female

Are the profiles parallel?

- No, because Wilks Lamda = 0.9634, $F(3.239) = 3.03$, $p = 0.03$;
- The profiles are not parallel because the ratings given by the supervisor rater group (r) differ from the ratings of the other rater groups.

Are the levels equal?

- No, because $F(1.241) = 3.83$, $p = 0.05$;
- The levels are not equal because the scores of the gender groups differ significantly.



Are the profiles flat?

- Yes, because Hotteling = 0.0249, $F(3.239) = 1.99$, $p = 0.12$;
- The profiles are flat because the scores within the different gender groups do not differ significantly.

Trends and Patterns

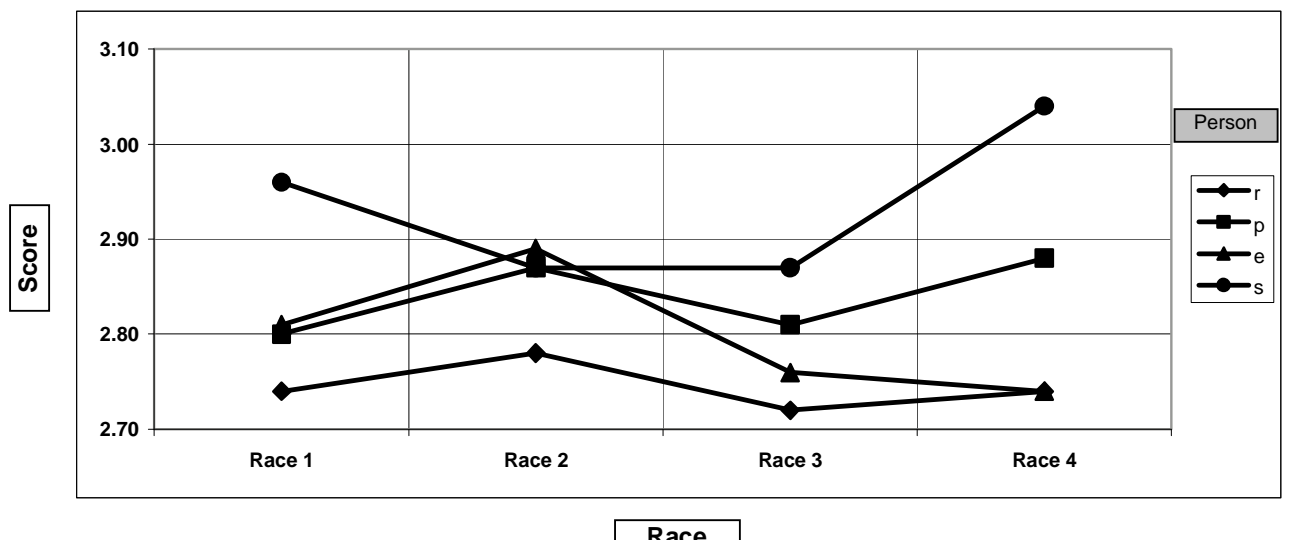
- The supervisors (r) gave gender two (females) a higher rating than gender one (males), while all the other rater groups gave gender two (females) a lower rating than gender one (males);
- The self-rating of gender two (females) is lower than that of gender one (males).



3.12 Scale 14: Performance Achievement

Person x Race

Person	Race			
	Race 1	Race 2	Race 3	Race 4
r	2.74	2.78	2.72	2.74
p	2.8	2.87	2.81	2.88
e	2.81	2.89	2.76	2.74
s	2.96	2.87	2.87	3.04



Race :	
1	White
2	African
3	Coloured
4	= Asian

Person :		
r	=	Supervisor
p	=	Peers
e	=	Subordinate
s	=	Self

Are the profiles parallel?

- No, because Wilks Lamda = 0.93, $F(9.598) = 1.93$, $p = 0.05$;
- The profiles are not parallel because the ratings given by the subordinates (e) differ from the ratings of the other rater groups.

Are the levels equal?

- Yes, because $F(3.248) = 2.33$, $p = 0.47$;



- The levels are equal because the scores of the different race groups do not differ significantly.

Are the profiles flat?

- Yes, because Hotelling = 0.01, F (3.246) = 0.65, p = 0.58;
- The profiles are flat because the scores within the different race groups do not differ significantly.

Trends and Patterns

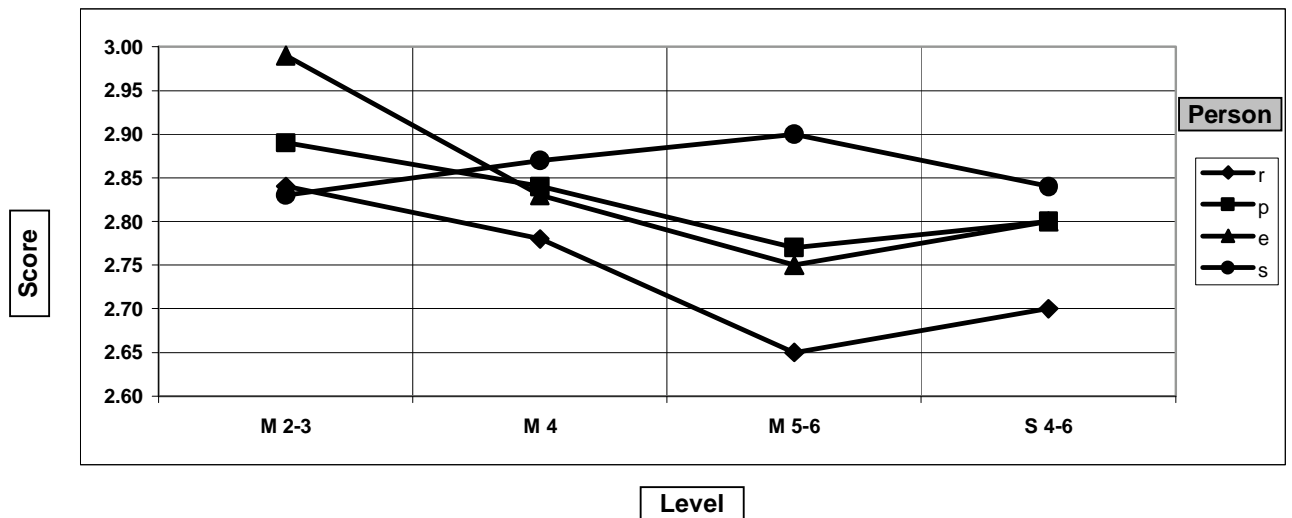
- The self-rating for all the race groups were higher than their ratings by other rater groups, except for race two (Whites), who was rated the highest by their subordinates;
- The supervisors (r) gave the lowest ratings.



3.13 Scale 15: Empowerment

Person x Level

Person	Level			
	M 2-3	M 4	M 5-6	S 4-6
r	2.84	2.78	2.65	2.7
p	2.89	2.84	2.77	2.8
e	2.99	2.83	2.75	2.8
s	2.83	2.87	2.9	2.84



Level :	
M2-3	= Top Management
M4	= Senior Managers
M5-6	= Middle and Junior Managers
S4-6	= Specialists

Person :	
r	= Supervisor
p	= Peers
e	= Subordinate
s	= Self

Are the profiles parallel?

- No, because Wilks Lamda = 0.94, F (9.603) = 1.88, p = 0.05;
- The profiles are not parallel because the self-ratings of the M5-6 management level are significantly higher than the ratings they received from the other groups.



Are the levels equal?

- Yes, because $F(3.25) = 2.51$ $p = 0.06$;
- The profiles are equal because the scores between the different management levels do not differ significantly.

Are the profiles flat?

- Yes, because Hotelling = 0.01, $F(3.248) = 0.99$, $p = 0.40$;
- The profiles are flat because the scores within the different race groups do not differ significantly.

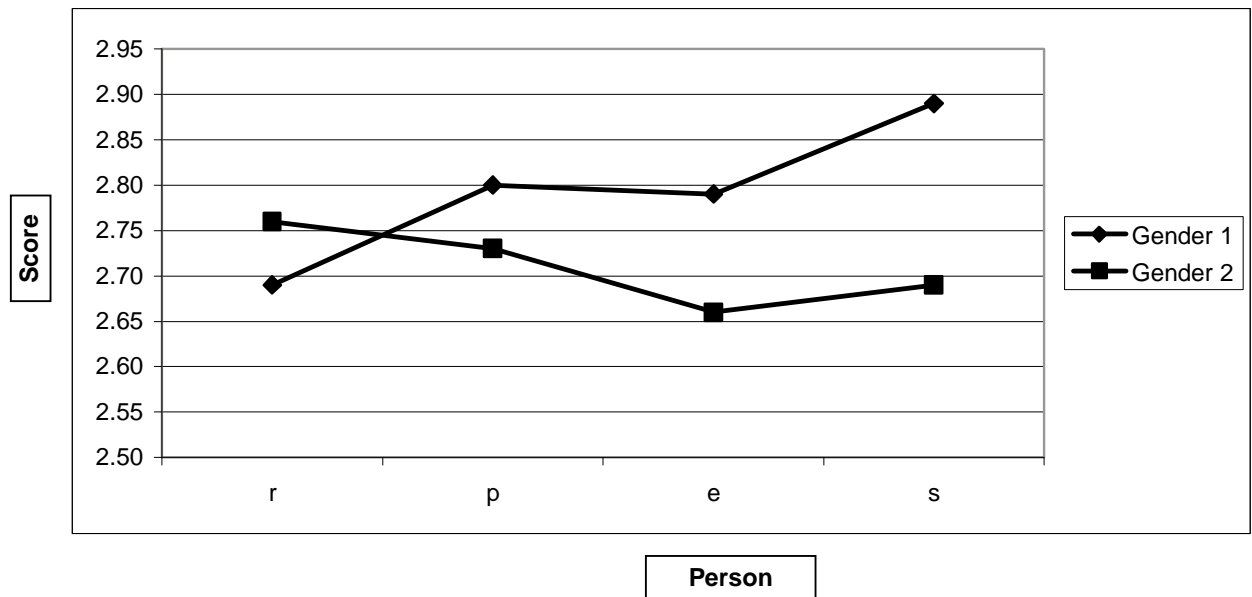
Trends and Patterns

- The middle management M5-6 level received the lowest ratings, but their self-ratings are the highest of all the levels;
- The supervisors (r) gave the lowest ratings of all the rater groups.

3.14 Scale 15: Empowerment

Person x Gender

Gender	Person			
	r	p	e	s
Gender 1	2.69	2.80	2.79	2.89
Gender 2	2.76	2.73	2.66	2.69



Person :	
r	= Supervisor
p	= Peers
e	= Subordinate
s	= Self

Gender :	
1	= Male
2	= Female

Are the profiles parallel?

- No, because Wilks Lamda = 0.97, F (3.248) = 2.73, p = 0.04;
- No, because the supervisors (r) gave lower ratings to gender group one (males) than to gender group two (females), while all the other groups rated gender group one (males) higher than gender group two (females).



Are the levels equal?

- Yes, because $F(1.250) = 4.60$ $p = 0.03$;
- The levels are not equal because the ratings between the gender groups differ significantly.

Are the profiles flat?

- Yes, because Hotelling = 0.01, $F(3.248) = 0.99$, $p = 0.40$;
- The profiles are flat which means that the ratings within the gender groups do not differ significantly.

Trends and Patterns

- The supervisors(r) rated gender group two (females) higher than gender group one (males);
- The self-ratings of gender group two is lower than the self-ratings of gender group one.

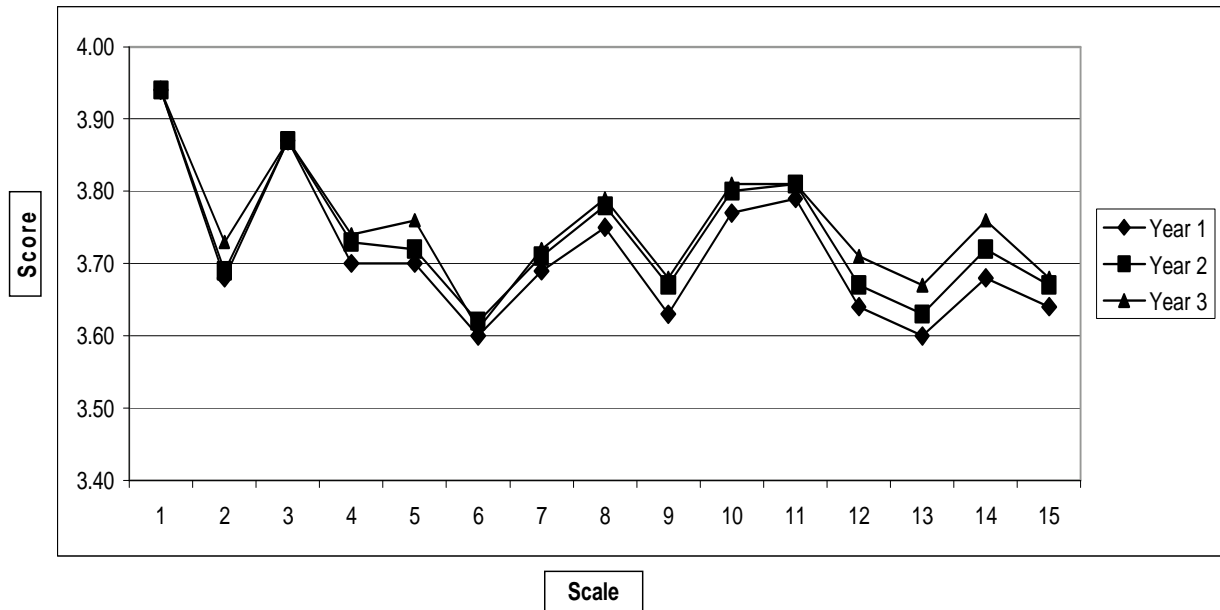
Overall results

The average rating per annum for every scale in the questionnaire has also been calculated per year to give an indication of overall trends and patterns.

The average rating per scale per year is graphically represented below:



	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Year 1	3.94	3.68	3.87	3.70	3.70	3.60	3.69	3.75	3.63	3.77	3.79	3.64	3.60	3.68	3.64
Year 2	3.94	3.69	3.87	3.73	3.72	3.62	3.71	3.78	3.67	3.80	3.81	3.67	3.63	3.72	3.67
Year 3	3.94	3.73	3.87	3.74	3.76	3.61	3.72	3.79	3.68	3.81	3.81	3.71	3.67	3.76	3.68



4. SUMMARY OF TRENDS AND PATTERNS IDENTIFIED IN THE RESEARCH

Scale 1 – Integrity (Person x Level)

- The ratings for top management (M2–3) and senior managers (M4) are consistently higher than the other levels. An interesting trend is that the self-ratings of the managers (M5-6) are higher than all the other levels;
- Middle managers and specialists are rated lower by their supervisors, peers and subordinates than senior and top management.

Scale 5 – Purpose Building (Level x Year)

- The top management level (M2-3) received the highest ratings in year one, two and three. The specialist level (S4-6) received the lowest ratings in year one and three. In year two, the middle management level (M5-6) received the lowest ratings.



Scale 7 – Information Capacity (Level x Person)

- The top management (M2-3) level was rated the highest by all the rater-groups;
- The middle management (M5-6) group received the lowest ratings.

Scale 7 – Information Capacity (Year x Gender)

- The male group received the highest ratings in year one, two and three;
- The ratings of the female group improved in year three, whilst the ratings of the male group remained the same.

Scale 8 – Conceptual Ability (Level x Year)

- The top management (M2-3) level received the highest ratings while the middle management (M5-6) level received the lowest ratings;
- The ratings for all the management levels increased in year two and declined in year three, except for the middle management level whose ratings increased in year two and three.

Scale 8 – Conceptual Ability (Person x Age)

- The age group 51 years and older was rated the lowest by all the rater groups and their self-rating was also the lowest;
- The age group 41 – 50 was rated the highest by all the rater groups and their self-rating was also the highest;
- The peer rater group (p) gave the lowest ratings.

Scale 9 – Visionary Thinking (Race x Year)

- Race group two (Africans) received the highest ratings in years one, two and three, while race group three (Coloureds) received the lowest ratings in years one, two and three;
- The rating for all the race groups increased in year two and decreased in year three, except for race group two (Whites) whose rating increased in years two and three.



Scale 9 – Visionary Thinking (Person x Age)

- The age group 41 – 50 years received the lowest ratings, while the age group 25 – 40 received the highest ratings;
- The supervisors (r) gave the lowest ratings of all the rater groups.

Scale 10 – Business Acumen (Person x Age)

- The age group one (25 – 40 years) received the highest ratings;
- The supervisors (r) gave the lowest ratings while the subordinates (e) gave the highest ratings.

Scale 10 – Business Acumen (Person x Level)

- The supervisors (r) gave the lowest rating, while the subordinates (e) gave the highest ratings;
- The middle management group (M5 – 6) received the lowest ratings from all the rater groups;
- The top management group (M2 – 3) received the highest ratings from all the rater groups.

Scale 13 – People Development (Person x Gender)

- The supervisors (r) gave gender two (females) higher ratings than gender one (males), while all the other rater groups gave gender two (females) a lower rating than gender one (males);
- The self-ratings of gender two (females) was lower than that of gender one (males).

Scale 14 – Performance Achievement (Person x Race)

- The self-rating for all the race groups were higher than their ratings by other rater groups, except for race two (Whites), who was rated the highest by their subordinates;
- The supervisors (r) gave the lowest ratings.



Scale 15 –Empowerment (Person x Level)

- The middle management (M5 – 6) level received the lowest ratings, but their self-ratings are the highest of all the levels;
- The supervisors (r) gave the lowest ratings of all the rater groups.

Scale 15 –Empowerment (Person x Gender)

- The supervisors (r) rated gender group two (females) higher than gender group one (males), while all the other rater groups rated gender group one (males) higher than gender group two (females);
- The self-ratings of gender group two are also lower than the self-ratings of gender group one.

Average rating per scale per year

- There is an improvement in the ratings on all the scales year-on-year, except for motivational capacity, integrity and self-responsibility;
- The scales showing the most improvement is adaptability, purpose building, cross-functional teamwork, people development and performance achievement.

5. INTERPRETATION OF RESEARCH RESULTS

The main trends that were identified in the analysis of the 360° LAQ results are the following:

- No statistically significant results were obtained in the detailed analysis on scale 2 (Adaptability), scale 3 (Self-responsibility), scale 4 (Leadership Communication), scale 6 (Motivational Capacity), scale 11 (Diversity Learning) and scale 12 (Cross-functional Teamwork). This indicates that there were no statistically significant differences in the ratings on these scales. All groups were therefore rated equally good or bad in terms of the competencies measured on these scales;
- The top management level (M2-3) consistently received the highest rating from all the management levels;



- The supervisors (r) consistently gave the lowest ratings of all the rater groups. This may indicate that they were more critical than the other rater groups;
- Middle managers (M5-6) received significantly lower ratings than the other management levels in terms of integrity, purpose building, information capacity, conceptual ability, business acumen and empowerment;
- Female leaders received significantly lower ratings than male leaders in terms of information capacity, people development and empowerment. Although females were rated higher than their male counterparts by their supervisors, all the other rater groups rated female leaders lower than male leaders on these competencies. The self-ratings of female leaders were also significantly lower than the self-rating of male leaders. This may indicate that female leaders are not well accepted by their peers and subordinates;
- Leaders in the age group 25 – 40 years received the highest ratings of all the age groups on business acumen and visionary thinking;
- Leaders in the age group 41 – 50 years were rated the highest by all the rater groups on conceptual ability but received the lowest ratings of all the age groups on visionary thinking;
- African (Black) leaders were rated significantly higher on visionary thinking in all three years, than leaders from other race groups;
- The average rating for each of the scales shows a year-on-year improvement, except for motivational capacity. Since no statistically significant results were obtained for this scale in the detailed profile analysis, it may indicate that all groups were rated equally bad on this scale and it can therefore be regarded as a general development area for the leaders of the organization where the research was conducted.



6. UTILISATION OF THE 360° LEADERSHIP ASSESSMENT RESULTS IN THE HOLISTIC MODEL FOR LEADERSHIP DEVELOPMENT.

The trends and patterns identified in this research can be utilized in the Holistic Model for Leadership Development to determine the type and content of focused training interventions and programmes which are needed by specific groups to facilitate ongoing leadership development.

6.1 ASSESSMENT RESULTS OF DIFFERENT LEADERSHIP GROUPS

The main trends that were identified in the analysis of the 360° LAQ results are the following:

- Top Management (M2-3) received higher ratings than the other management levels;
- Middle managers (M5-6) received significantly lower ratings than the other management levels in terms of integrity, purpose building, information capacity, conceptual ability, business acumen and empowerment;
- Female leaders received significantly lower ratings than male leaders in terms of information capacity, people development and empowerment. Although females were rated higher than their male counterparts by their supervisors, all the other rater groups rated female leaders lower than male leaders on these competencies. The self-ratings of female leaders were also significantly lower than the self-ratings of male leaders;
- Leaders in the age group 25-40 years received the highest ratings on business acumen and visionary thinking;
- Leaders in the age group 41-50 years were rated the highest by all the rater groups on conceptual ability but received the lowest ratings of all the age groups on visionary thinking;
- African (Black) leaders were rated significantly higher on visionary thinking in year one, two and three than leaders from other race groups.

6.2 INTERPRETATION OF ASSESSMENT RESULTS AND RECOMMENDATIONS

The interpretation of the assessment results is based on the statistical analyses as described in this Chapter as well as the feedback from eight focus groups with one hundred managers who participated in the 360° assessment. The focus groups consisted of between ten and fifteen managers at different management levels as well as different race-, age- and gender groups. The focus groups was facilitated by a Human Resource Specialist. The trends and patterns identified through the statistical analyses of the assessment results were shared with the focus group by the facilitator and group members were then requested to discuss possible reasons and solutions for each of the identified trends¹.

The following recommendations were formulated, based on the analysis of the research results and the feedback from the focus groups:

- Top Management (M2-3)

The top management level (M2-3) consistently received the highest rating from all the management levels. The feedback from the focus groups indicates this may be due to the high regard for positional power in the organization. Some of the feedback also indicated that there is still a fear amongst some participants regarding the confidentiality of the assessment information.

It is recommended that a lot of emphasis be placed on the confidentiality of assessment during the communication prior to the start of the next 360° assessment and feedback process. The ways in which the confidentiality of the 360° assessment results are protected must be clearly explained to all leaders.

- Middle Managers (M5-6)

According to the statistical analyses of the research results, middle managers (M5-6) received significantly lower ratings than the other management levels in terms of integrity, purpose building, information capacity, conceptual ability, business acumen and empowerment.



The feedback from the focus groups indicated that most middle managers had a technical background and do not have “natural” people skills or business acumen. Most of them were technical specialists before being promoted to a management level. The focus group participants who were on a middle management level indicated that they preferred skills based and action learning type of development.

Based on the analyses of the assessment results as well as the feedback from the focus groups, it is recommended that a development programme for all middle managers be implemented with special focus on the development of integrity, purpose building, information capacity, conceptual ability, business acumen and empowerment.

The programme for middle management should include elements of the skills based approach to leadership development, e.g. lectures, case studies and role-plays as well as elements of the action learning approach such as business impact project teams to solve actual business problems, as discussed in Chapter 2.

- Female leaders

According to the statistical analysis of the research results, female leaders received significantly lower ratings than male leaders in terms of information capacity, people development and empowerment. Although females were rated higher than their male counterparts by their supervisors, all the other rater groups rated female leaders lower than male leaders on these competencies. The self-ratings of female leaders were also significantly lower than the self-ratings of male leaders.

Most female leaders in the organization where the research was conducted had been in a management position for less than three years since the organization had only recently started to appoint females in management positions. The feedback from the focus groups indicated that although female leaders received good support from their supervisors, their peers and subordinates often showed resistance to accepting a female in a management position, since this had always been a male dominated culture owing to the technical nature of the business. Most female leaders also have a sales and marketing or human



resources background without a technical qualification, which makes it even more difficult for them to be accepted as business leaders. Female leaders who participated in the focus groups indicated that they often felt inferior to their male counterparts owing to their lack of technical and business knowledge. They also indicated that they preferred the skills development and feedback approach to leadership development. They also indicated that they could benefit from mentorship and coaching to enhance their business knowledge and skills. Since they were trying so hard to prove themselves and get the job done, they often found it difficult to empower and develop those reporting to them. Since there were only a few women in management positions, they often felt alone with very little or no support.

Based on the assessment results and the feedback from the focus groups, it is recommended that a customised and focused development programme for female leaders be implemented to enhance their business knowledge as well as their ability to gather and share information as well as to empower and develop employees in a technical business environment.

The female leaders in the focus groups indicated that the programme for female leaders should preferably be a combination of the skills based and feedback approach to leadership development. It should also preferably include mentorship, i.e. each female leader participating in the programme should be given a mentor to act as a role-model and a coach to assist with the practical implementation of newly acquired knowledge and skills in the work situation such as the empowerment and development of others, as discussed in Chapter 2. A mentor will also provide them with the necessary support as well as practical advice on how to deal with resistance from team members.

- Leaders in the age group 25 – 40 years.

According to the statistical analyses of the research results, leaders in the age group 25-40 years received the highest ratings on business acumen and visionary thinking.

According to the feedback from the focus groups, the majority of leaders in this age group have only been in a management position for less than five years. Since they had not



been in a management position for an extended period, they are regarded by many of the focus group participants as open-minded and future focused with a good understanding of the future business challenges.

Since business acumen and visionary thinking seem to be particularly strong in this age group, they should capitalize on their strengths and not only focus on their development areas. This means that leaders must take something that they do well and become more visible in their approach to it. They may teach it to someone else or, when appropriate, do it more often (Chappelow, 1998).

Based on the above, it is recommended that leaders in this age group participate in a visionary thinking and scenario planning workshop with leaders from the other age groups. In this way their strengths can become more visible to others and they can also transfer their skills to the other leaders during the group exercises. The workshop should preferably be based on the action learning approach to leadership development as discussed in Chapter 2 because in action learning, leaders learn with and from each other (Mumford, 1995).

- Leaders in the age group 41-50 years.

According to the statistical analyses of the research results, leaders in the age group 41-50 years were rated the highest by all rater groups on conceptual ability but received the lowest ratings of all the age groups on visionary thinking.

Most leaders in this age group had been in a management position for more than 5 years. According to the feedback from the focus groups, leaders in this age group had much knowledge and experience, but they tended to be less open to new ideas and less future focused than younger leaders.

It is recommended that the leaders in this age group attend the visionary thinking and scenario planning workshops together with leaders in the age group 25-40 years as recommended in the previous point. In this way, they can learn from each other. The older leaders can share their knowledge and experience with the younger leaders while

the younger leaders can share their new ideas and futuristic thinking with the older leaders since all these factors are important in visionary thinking and scenario planning.

- African Leaders

According to the statistical analyses of the research results, African (Black) leaders were rated significantly higher on visionary thinking in year one, two and three than leaders from other race groups.

Most African leaders in the research are in the age group 25-40 years and it is therefore not surprising that they received a high rating on visionary thinking. According to feedback from the focus groups, they received a high rating on this competency for the same reasons as did the leaders in the age group 25-40 years.

The same recommendation applies to African leaders that apply to leaders in the age group 25-40 years.


6.3 OVERALL COMPANY ASSESSMENT RESULTS

The overall company results are based on the average rating for each competency (see Table 6.1).

Table 6.1 : Average rating per year of each leadership competency

Overall Company Report

Competencies	Year 1	Year 2	Year 3
Integrity	3.94	3.94	3.94
Adaptability	3.68	3.69	3.73
Self-responsibility	3.87	3.87	3.87
Leadership Communication	3.70	3.73	3.74
Purpose Building	3.70	3.72	3.76
Motivational Capacity	3.60	3.62	3.61
Information Capacity	3.69	3.71	3.72
Conceptual Ability	3.75	3.78	3.79
Visionary Thinking	3.63	3.67	3.68
Business Acumen	3.77	3.80	3.81
Diversity Learning	3.79	3.81	3.81
Cross-functional Teamwork	3.64	3.67	3.71
People Development	3.60	3.63	3.67
Performance Achievement	3.68	3.72	3.76
Empowerment	3.64	3.67	3.68

 The competencies in the shaded blocks are regarded as development areas for the company since they received an overall rating of less than 3.65.

The company overall results indicate an improvement in most of the competencies, except for integrity and self-responsibility, which remained unchanged. Motivational capacity is the only competency where there has been an improvement in year two and a decline in year three.

The competencies on which leaders received the lowest ratings are motivational capacity, people development, visionary thinking and empowerment.

Although there was no improvement in terms of integrity and self-responsibility, it must be taken into consideration that the average scores for these two competencies are also the highest of all those reflected in Table 6.1. Motivational capacity is the only competency where there was an improvement in year two and a decline in year three. It is also the competency with the lowest average score, which indicates that motivational capacity may be an organization-wide area of development in terms of leadership capabilities.

The overall trend of the company-wide 360° Leadership Assessment results clearly indicates an improvement in twelve of the fifteen competencies, since the implementation of the 360° Leadership Assessment Questionnaire.

6.4 INTERPRETATION OF OVERALL COMPANY ASSESSMENT RESULTS AND RECOMMENDATIONS.

The overall company results are based on the average rating per competency and can be used to determine company-wide weaknesses/development areas. The overall company results can be utilised to determine what company-wide interventions are required to develop the overall leadership capability of the company.

The fact that motivational capacity received the lowest rating in terms of the overall company results, but has not been indicated as an area of development in the analyses of the group ratings in terms of age, level, gender, race or rater group as discussed in Chapter 4, may indicate that it is a general development area across all groups of leaders and not only a development area of a particular group, e.g. female leaders. Further research may, however, be required to establish whether this is true or not, since it falls outside the scope of this research as described in Chapter 1.

The overall company results were shared with executives and teams and their feedback was requested on the possible reasons for the identified trends as well as recommendations for improvement.



The following possible reasons were identified by the executives and their teams:

- The majority of managers in the company had a technical background and qualifications. They therefore tended to place a higher value on technical skills than people skills such as motivational capacity;
- Most managers were appointed in management positions because of their high technical expertise and not because of their people skills;
- Managers were measured only on their actual business results in performance management, but not on their leadership behaviour;
- No measurement of employee satisfaction and engagement existed to indicate the impact of leadership behaviour on employee satisfaction and engagement.

The following recommendations were made by executives and their teams:

- In order to optimise the impact of the 360° assessment and feedback, it was recommended that 360° Leadership Assessment be linked not only to training and development as is currently the case, but also integrated with the performance management, succession planning and reward systems. If managers know that they will be rewarded according to the progress they make towards reaching their development goals, they will be even more motivated to translate their feedback into action;
- It was recommended that special attention be paid to assess the people skills of job applicants for management positions before their being appointed in order to ensure that they meet the minimum requirements set by the company;
- Since motivational capacity seems to be a persistent development area of leaders in the organization under research, it was recommended that special attention be paid to the development of this competency in all new leadership development interventions offered by the company.



7. RECOMMENDATIONS FOR FURTHER ENHANCEMENTS AND RESEARCH

Further research will have to be done after the implementation of the recommended interventions, to determine their impact on the enhancement of the leadership capabilities of the company.

One of the objectives of the Holistic Model for Leadership Development is to have an impact on the level of self-awareness of leaders as well as bring about a change in perspective as discussed in Chapter 2. The 360° Leadership Assessment Questionnaire (LAQ) that was used in this research does not measure self-awareness or perspective change. The Holistic Model for Leadership Development can therefore be enhanced by adding an assessment instrument to measure self-awareness and perspective change.

The Holistic Model for Leadership Development can be integrated with other HR systems and processes to enhance the impact and effectiveness of the model by for instance linking the leadership competencies to outputs as part of the performance management process.

Further research can be done to determine the return on investment (ROI) for the organisation of the implementation of the Holistic Model for Leadership Development since it has already been proven in this research that the implementation of the model had a positive impact on the development of the leadership capability of the organization.

8. SUMMARY AND CONCLUSION

The intention of this research was not to control all the possible factors that may have had an impact on the behaviour of leaders since the research design has been non-experimental and longitudinal in nature. The main purpose of this research has been to measure changes in leadership behaviour as part of a holistic model for leadership development.



The purpose of this research has also not been to prove or support any existing theory or hypothesis. The purpose of this research has been exploratory – to measure and monitor changes in leadership behaviour over time in order to utilise the information to identify suitable development actions as part of a holistic model for leadership development as well as to determine if the implementation of a holistic model for leadership development will lead to an improvement of the overall leadership capability of the organization.

In this study, leadership behaviour has been measured and monitored over a period of three years by means of a 360° Leadership Assessment Questionnaire (LAQ) as part of a Holistic Model for Leadership Development. The objective of this research was to measure and monitor leadership behaviour and to analyse the assessment results. Based on a study of the analyses of the assessment results, statistically significant trends and patterns were identified for different groups in terms of gender, race, age, job level and rater groups. The results of the analyses were then interpreted to determine what focused development experiences and interventions are required for specific groups, e.g. middle managers, female leaders, etc. as part of a Holistic Model for Leadership Development.

The overall assessment results for the company were also analysed by calculating the average rating for each competency every year as reflected in Table 6.1. These results were used to determine what company-wide development interventions are required to enhance the overall leadership capability of the company as part of the Holistic Model for Leadership Development.

The overall trend of the company-wide 360° Leadership Assessment results clearly indicates an improvement in twelve of the fifteen competencies since the implementation of the 360° Leadership Assessment Questionnaire as part of the Holistic Model for Leadership Development. Based on this, it can be concluded that the implementation of the Holistic Model for Leadership Development contributed to an improvement of the leadership capability of the organisation over an extended period of time.

Measuring and monitoring leadership behaviour at individual and company level over time provides individual leaders with valuable feedback on how their efforts to change and



improve their leadership behaviour are being perceived by others, as well as what else they have to focus on to improve their leadership capabilities.

Drath (1998, p.431) summarises the purpose and contribution of this research in the context of a holistic model and process for leadership development very well when writing:

Leadership development as a profession is being aced to play a vital role in bringing forth a new idea of leadership and in supporting the new idea as it emerges. Some current practices, especially those seeking to combine leadership development with ongoing work and those seeking to create a framework for practising leadership development more systemically in organizations, are already pointing the way toward promising new directions.