Chapter 6 Results – Research Question 2

Broadly speaking, this Chapter will present and analyse the data in three ways. Firstly, descriptive statistics will be used to get a 'feel' for the data. Secondly, measures of reliability (Cronbach's alpha and principal components) will be shown to demonstrate the 'goodness' of the data (Cronbach, 1951; Van de Ven & Ferry, 1980). And thirdly, appropriate statistical manipulation (including bivariate, multivariate, and regression techniques) will be conducted in relation to hypothesis testing. Factorial validity will also be established by submitting the data to factor analysis. The source for all tables and figures will be the analysis of survey results.

This Chapter is structured around the second research question:

What relationship exists between education and training levels of top management teams, and strategic planning processes and systems in disability-based organisations?

As with Chapter 5, this Chapter will be restricted to presentation and analysis of the collected data, without drawing general conclusions or comparing results to those of other researchers which were discussed in Chapter 3 (Perry, 1995).

Each construct in the research question will be examined individually, prior to discussing the relationship between the constructs in the question. The results of the education and training construct data have been discussed in Chapter 5 and will not be repeated here.

Strategic planning will be discussed as an overall construct as well as the individual dimensions – internal orientation, external orientation, functional coverage, use of planning techniques, and involvement of key personnel.

The next Chapter, Chapter 7 will discuss the results of the third research question.

1 WHAT RELATIONSHIP EXISTS BETWEEN EDUCATION AND TRAINING LEVELS OF TOP MANAGEMENT TEAMS, AND STRATEGIC PLANNING PROCESSES AND SYSTEMS IN DISABILITY-BASED ORGANISATIONS?

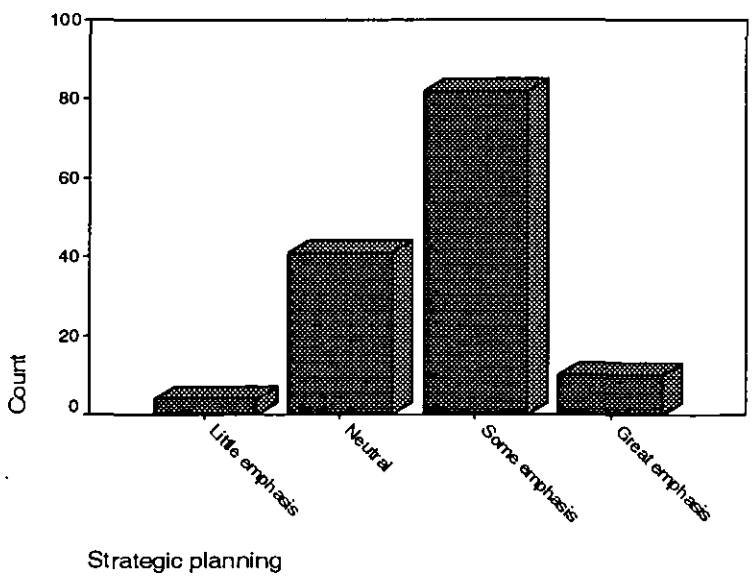
As with the previous research question, this second research question will be answered by firstly examining the individual constructs prior to determining the nature of the relationship. The descriptive statistics and those relating to the validity and reliability of the education and training construct will not be repeated here. However, those relating to the strategic planning construct will be discussed, as they have not been included in the previous research question.

1.1 Strategic planning processes and systems

This construct was measured with one instrument, that being Ramanujam & Venkatraman's (1987b) system capability approach to assessing organisational performance. Overall strategic planning characteristics for individual organisations was examined, broken down by organisational size, organisational location and organisational state. The five dimensions of strategic planning systems – internal orientation, external orientation, functional coverage, use of planning techniques, and involvement of key personnel, was also be examined, particularly as they related to the other constructs. Each dimension was measured using a 5-point Likert scale from 'No emphasis' to 'A great emphasis'. All results and tables using this construct were constructed from answers to questions in the survey.

The histogram below (Figure 40) shows an approximately normal distribution with a mean of 3.7 (out of 5).

Figure 40 ***Ramanujam & Venkatraman's (1987b) index of strategic planning systems***



Internal consistency of the index was assessed and judged using Cronbach's alpha (Cronbach, 1951; Van de Ven & Ferry, 1980). Factor scores were calculated for each of the planning system dimensions. The alpha score for the overall index was .8253, and the factor loadings were all above .50 (see Table 74 below) indicating that the factors measured states of strategic planning systems. These assessments provided adequate support for the reliability of the index.

Table 74 Ramanujam & Venkatraman (1987b) index of planning characteristics

Ramanujam & Venkatraman (1987b) index	Alpha score	Factor Loadings
Internal orientation:	.5476	
Client services		.673
Efficiency of operations processes		.548
Attracting and retaining high-quality employees		.626
Analysis of financial strengths and weaknesses		.531
External orientation:	.7816	
Analysis of general economic and business conditions		.587
Analysis of government and political issues		.571
Analysis of competitive trends		.598
Performance of market research		.629
Analysis of supplier trends		.611
Analysis of external client and customer preferences		.514
Analysis of technological trends		.563
Functional coverage:	.5490	
Marketing function		.591
Finance/accounting function		.518
Personnel function		.583
Operations function		.558
Use of planning techniques:	.5909	
Portfolio analysis techniques		.569
Financial models		.582
Forecasting and trend analysis		.577
Involvement of key personnel:	.6890	
Time spent by the CEO in strategic planning		.554
Involvement of line managers in strategic planning		.596
Involvement of Board members in strategic planning		.528
Involvement of all staff in strategic planning		.596

*All scales were 1-5 Likert scales: no emphasis to a great emphasis

Table 75 (below) shows that managers in extra large organisations (11 per cent of the sample) rated their organisations as being quite effective in terms of their strategic planning systems (mean of 3.91), with managers in medium sized organisations having a mean of 3.77. Managers from large organisations had a similar score (mean of 3.73). These differences were not statistically different.

Table 75 ***Overall strategic planning of organisations by size organisation (Organisations [n=137])***

Ramanujam & Venkatraman (1987b)	Small* (1-10) n=54	Medium (11-30) n=46	Large (31-100) n=22	Extra Large (>100) n=15
Mean	3.567	3.774	3.737	3.906
Standard Deviation	.640	.484	.499	.525

When strategic planning systems were evaluated by location of the organisation, managers adjudged Victorian rural agencies as having a mean of 3.769, a similar score to agencies in Victoria provincial cities (mean of 3.73). Melbourne Metropolitan area agencies possessed a mean of 3.69. Managers in the Hobart Metropolitan area rated their agencies (according to the Ramanujam & Venkatraman (1987b) index) as having a mean of 3.67 (see Table 76 below). A t-test did not reveal any statistical difference between the regions.

Table 76 ***Overall strategic planning of organisations by location (Organisations [n=137])***

Overall strategic planning systems	1* n=65	2 n=25	3 n=26	4 n=11	5 n=9	6 n=1
Mean	3.699	3.733	3.7698	3.5515	3.5886	3.673
Standard Deviation	.609	.460	.514	.675	.586	N/a

*1=Melbourne Metropolitan Area
2=Provincial City (Victoria)
3=Rural Victoria
4=Hobart Metropolitan Area
5=Provincial City (Tasmania)
6=Rural Tasmania

Table 77 (below) shows that Victorian managers rated their strategic planning systems as having a mean of 3.72 compared to a mean of 3.57 held by their Tasmanian counterparts. A t-test did not reveal any statistical difference between the States.

Table 77 ***Overall planning of organisations by State (Organisations [n=137])***

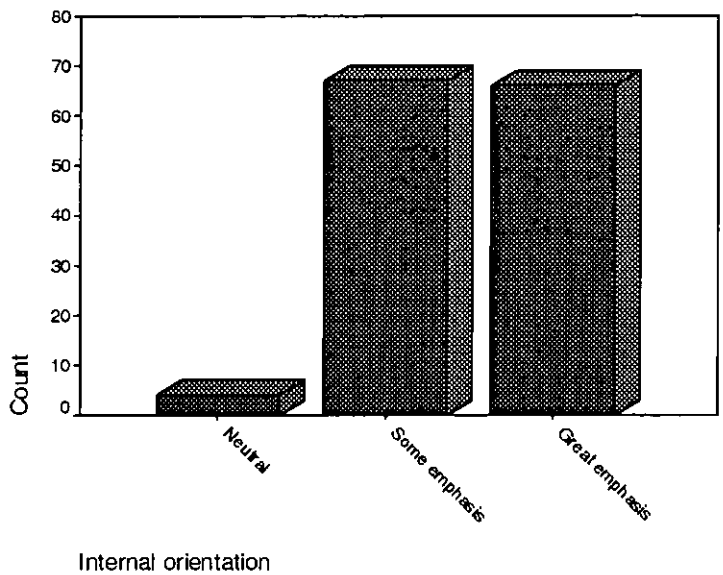
Overall strategic planning systems	Victoria (n=117)	Tasmania (n=20)
Mean	3.72	3.57
Standard Deviation	.557	.603

1.1.1 Internal orientation

The first dimension of strategic planning systems is internal orientation. This dimension was measured using a 5-point Likert scale from 'No emphasis' to 'A great emphasis'. All results and tables using this dimension were constructed from answers to questions in the survey instrument.

The histogram below (Figure 41) shows a skewed distribution with a mean of 4.31 (out of 5) which was the highest of all the strategic planning system dimensions.

Figure 41 ***Ramanujam & Venkatraman's (1987b) internal orientation dimension of strategic planning systems***



Internal consistency of the index was assessed and judged using Cronbach's alpha (Cronbach, 1951; Van de Ven & Ferry, 1980). Factor scores were calculated for each of the internal orientation dimensions. The alpha score for the overall index was .5476, and the factor loadings were all above .50 (see Table 78 below) indicating that the dimensions measured internal orientation dimensions of strategic planning systems. These assessments provided adequate support for the reliability of the index.

Table 78 ***Ramanujam & Venkatraman's (1987b) internal orientation dimension of strategic planning systems***

Ramanujam & Venkatraman (1987b) index	Alpha score	Factor Loadings
Internal orientation:	.5476	
Client services		.673
Efficiency of operations processes		.548
Attracting and retaining high-quality employees		.626
Analysis of financial strengths and weaknesses		.531

Table 79 (below) shows that managers in large organisations (16 per cent of the sample) rated their organisations as being very effective in terms of the internal orientation dimension of their strategic planning systems (mean of 4.41), with managers in medium sized organisations also very effective with a mean of 4.31. Small organisations had a mean of 4.28. These differences were not statistically different.

Table 79 ***Ramanujam & Venkatraman's (1987b) internal orientation dimension of strategic planning systems by size organisation [n=137]***

Ramanujam & Venkatraman (1987b)	Small* (1-10) n=54	Medium (11-30) n=46	Large (31-100) n=22	Extra Large (>100) n=15
Mean	4.285	4.3096	4.4087	4.23778
Standard Deviation	.5408	.4428	.394	.3976

When the internal orientation dimension of strategic planning systems was evaluated by location of the organisation, managers adjudged Victorian rural agencies as performing highly (mean of 4.39) as did agencies in the Melbourne Metropolitan area. Manager's ratings in Victorian provincial cities and in the Hobart Metropolitan area were also high in this dimension (means of 4.21 and 4.22 respectively). Agencies in Tasmanian rural areas (as judged by managers according to the Ramanujam & Venkatraman (1987b) index) had a mean of 3.95, as can be seen in Table 80 below. A t-test did not reveal any statistical difference between the regions.

Table 80 ***Ramanujam & Venkatraman's (1987b) internal orientation dimension of strategic planning systems by location (Organisations [n=137])***

Profitability	1* n=65	2 n=25	3 n=26	4 n=11	5 n=9	6 n=1
Mean	4.342	4.212	4.3966	4.2167	4.1944	3.95
Standard Deviation	.440	.384	.541	.437	.705	n/a

*1=Melbourne Metropolitan Area
2=Provincial City (Victoria)
3=Rural Victoria
4=Hobart Metropolitan Area
5=Provincial City (Tasmania)
6=Rural Tasmania

Table 81 (below) shows that Victorian managers generally rated the internal orientation dimension of their strategic planning systems quite highly (mean of 4.33) while their Tasmanian counterparts had a mean of 4.19. A t-test did not reveal any statistical difference between the States.

Table 81 ***Ramanujam & Venkatraman's (1987b) internal orientation dimension of strategic planning systems by State (Organisations [n=137])***

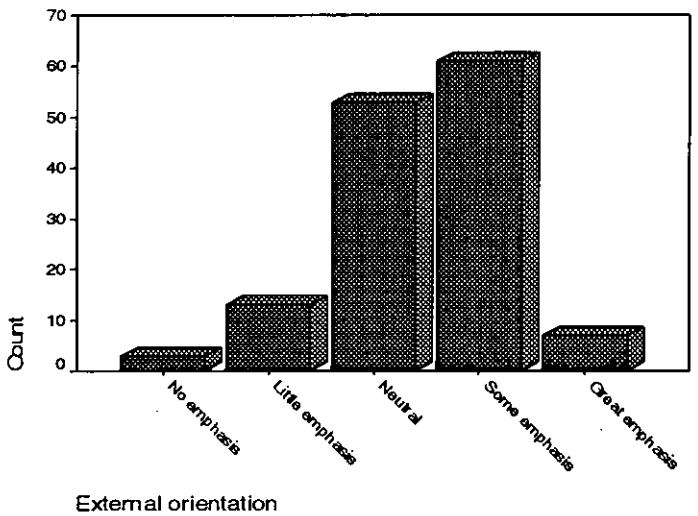
Profitability	Victoria (n=117)	Tasmania (n=20)
Mean	4.33	4.19
Standard Deviation	.455	.550

1.1.2 External orientation

The second dimension of strategic planning systems is external orientation. This dimension was measured using a 5-point Likert scale from 'No emphasis' to 'A great emphasis'. All results and tables using this dimension were constructed from answers to questions in the survey instrument.

The histogram below (Figure 42) shows a skewed distribution with a mean of 3.45 (out of 5).

Figure 42 ***Ramanujam & Venkatraman's (1987b) external orientation dimension of strategic planning systems***



Internal consistency of the index was assessed and judged using Cronbach's alpha (Cronbach, 1951; Van de Ven & Ferry, 1980). Factor scores were calculated for each of the internal orientation dimensions. The alpha score for the overall index was .7816, and the factor loadings were all above .50 (see Table 82 below) indicating that the dimensions measured external orientation dimensions of strategic planning systems. These assessments provided adequate support for the reliability of the index.

Table 82 ***Ramanujam & Venkatraman's (1987b) external orientation dimension of strategic planning systems***

Ramanujam & Venkatraman (1987b) index	Alpha score	Factor Loadings
External orientation	.7816	
Analysis of general economic and business conditions		.587
Analysis of government and political issues		.571
Analysis of competitive trends		.598
Performance of market research		.629
Analysis of supplier trends		.611
Analysis of external client and customer preferences		.514
Analysis of technological trends		.563

Table 83 (below) shows that managers in extra large organisations (11 per cent of the sample) rated their organisations as being quite effective in terms of the external orientation dimension of their strategic planning systems (mean of 3.70), with managers in medium sized organisations displaying a mean of 3.63. Large organisations had a mean on this dimension of 3.460. These differences were not statistically different.

Table 83 ***Ramanujam & Venkatraman's (1987b) external orientation dimension of strategic planning systems by size organisation (Organisations [n=137])***

Ramanujam & Venkatraman (1987b)	Small (1-10) n=54	Medium (11-30) n=46	Large (31-100) n=22	Extra Large (>100) n=15
Mean	3.225	3.632	3.460	3.701
Standard Deviation	.8476	.5554	.7895	.75381

When the external orientation dimension of strategic planning systems was evaluated by location of the organisation, managers adjudged Tasmanian rural agencies quite highly (mean of 3.91) as did agencies in Victorian rural areas. Agencies in Victorian provincial cities (mean of 3.56) and in the Melbourne Metropolitan area (3.42) were also high on this dimension. Agencies in Tasmanian provincial cities had a mean (as judged by managers according to the Ramanujam & Venkatraman (1987b) index) of 3.03 (see Table 84 below). A t-test did not reveal any statistical difference between the regions.

Table 84 ***Ramanujam & Venkatraman's (1987b) external orientation dimension of strategic planning systems by location (Organisations [n=137])***

Ramanujam & Venkatraman (1987b)	1* n=65	2 n=25	3 n=26	4 n=11	5 n=9	6 n=1
Mean	3.42	3.566	3.577	3.371	3.035	3.914
Standard Deviation	.7889	.7475	.6511	.8245	.8003	n/a

*1=Melbourne Metropolitan Area
2=Provincial City (Victoria)
3=Rural Victoria
4=Hobart Metropolitan Area
5=Provincial City (Tasmania)
6=Rural Tasmania

Table 85 (below) shows that Victorian managers rated the external orientation dimension of their strategic planning systems as having a mean of 3.49, with their Tasmanian counterparts having a mean of 3.24. A t-test did not reveal any statistical difference between the States.

Table 85 ***Ramanujam & Venkatraman's (1987b) external orientation dimension of strategic planning systems by State (Organisations [n=137])***

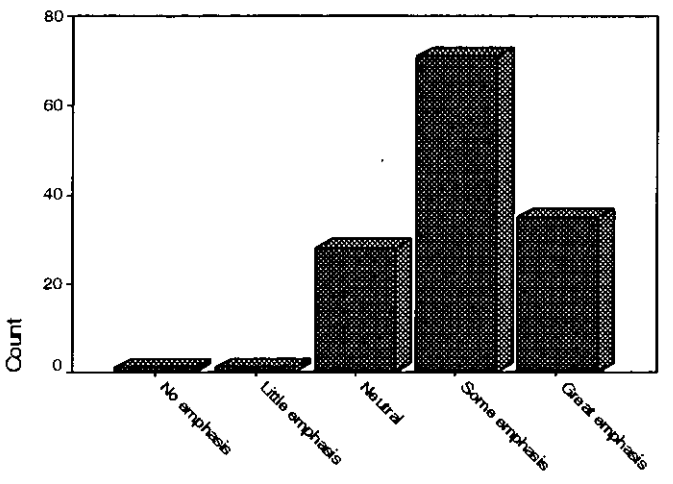
Ramanujam & Venkatraman (1987b)	Victoria (n=117)	Tasmania (n=20)
Mean	3.49	3.247
Standard Deviation	.748	.803

1.1.3 Functional integration

The third dimension of strategic planning systems is functional integration. This dimension was measured using a 5-point Likert scale 'No emphasis' to 'A great emphasis'. All results and tables using this dimension were constructed from answers to questions in the survey instrument.

The histogram below (Figure 43) shows a normal distribution with a mean of 3.96 (out of 5).

Figure 43 ***Ramanujam & Venkatraman's (1987b) functional integration dimension of strategic planning systems***



Internal consistency of the index was assessed and judged using Cronbach's alpha (Cronbach, 1951; Van de Ven & Ferry, 1980). Factor scores were calculated for each of the functional integration dimensions. The alpha score for the overall index was .5490, and the factor loadings were all above .50 (see Table 86 below) indicating that the dimensions measured functional integration dimensions of strategic planning systems. These assessments provided adequate support for the reliability of the index.

Table 86 ***Ramanujam & Venkatraman's (1987b) functional integration dimension of strategic planning systems***

Ramanujam & Venkatraman (1987b) index	Alpha score	Factor Loadings
Functional coverage:	.5490	
Marketing function		.591
Finance/accounting function		.518
Personnel function		.583
Operations function		.558

Table 87 (below) shows that managers in extra large organisations (11 per cent of the sample) rated their organisations as being quite effective in terms of the functional integration of their strategic planning systems (mean of 4.15), with managers in small organisations having a mean of 3.97. Large and medium sized organisations had means of 3.94 and 3.82 respectively. These differences were not statistically different.

Table 87 ***Ramanujam & Venkatraman's (1987b) functional integration dimension of strategic planning systems by size organisation (Organisations [n=137])***

Ramanujam & Venkatraman (1987b)	Small (1-10) n=54	Medium (11-30) n=46	Large (31-100) n=22	Extra Large (>100) n=15
Mean	3.977	3.943	3.825	4.159
Standard Deviation	.7514	.6061	.6678	.4997

When the functional integration dimension of strategic planning systems was evaluated by location of the organisation, managers adjudged agencies in Tasmanian provincial cities as having a mean of 4.26, a similar score to agencies in the Victorian rural areas. Agencies in Tasmanian rural areas were judged by managers (according to the Ramanujam & Venkatraman (1987b) index) as having a mean of 3.3 (see Table 88 below). A t-test did not reveal any statistical difference between the regions.

Table 88 ***Ramanujam & Venkatraman's (1987b) functional integration dimension of strategic planning systems by size organisation (Organisations [n=137])***

Ramanujam & Venkatraman (1987b)	1* n=65	2 n=25	3 n=26	4 n=11	5 n=9	6 n=1
Mean	3.936	3.8295	4.066	3.95	4.2685	3.3
Standard Deviation	.7252	.5635	.576	.672	.717	n/a

*1=Melbourne Metropolitan Area
2=Provincial City (Victoria)
3=Rural Victoria
4=Hobart Metropolitan Area
5=Provincial City (Tasmania)
6=Rural Tasmania

Table 89 (below) shows that Tasmanian managers rated the functional integration dimension of their strategic planning systems as having a mean of 4.06 compared to their Victorian counterparts' score of 3.94. A t-test did not reveal any statistical difference between the States.

Table 89 ***Ramanujam & Venkatraman's (1987b) functional integration dimension of strategic planning systems by State (Organisations [n=137])***

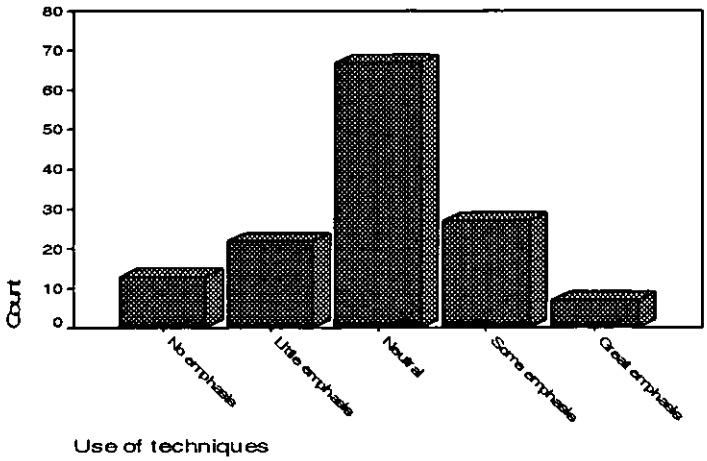
Ramanujam & Venkatraman (1987b)	Victoria (n=117)	Tasmania (n=20)
Mean	3.944	4.061
Standard Deviation	.662	.698

1.1.4 Use of techniques

The fourth dimension of strategic planning systems is use of techniques. This dimension was measured using a 5-point Likert scale 'No emphasis' to 'A great emphasis'. All results and tables using this dimension were constructed from answers to questions in the survey instrument.

The histogram below (Figure 44) shows a normal distribution with a mean of 2.87 (out of 5), the lowest of any of the dimensions.

Figure 44 ***Ramanujam & Venkatraman's (1987b) use of techniques dimension of strategic planning systems***



Internal consistency of the index was assessed and judged using Cronbach's alpha (Cronbach, 1951; Van de Ven & Ferry, 1980). Factor scores were calculated for each of the internal orientation dimensions. The alpha score for the overall index was .5909, and all of the factor loadings were above .50 (see Table 90 below) indicating that the dimensions adequately measured the use of techniques dimension of strategic planning systems. These assessments provide support for the reliability of the index.

Table 90 ***Ramanujam & Venkatraman's (1987b) use of techniques dimension of strategic planning systems***

Ramanujam & Venkatraman (1987b) index	Alpha score	Factor Loadings
Use of planning techniques:	.5909	
Portfolio analysis techniques		.569
Financial models		.582
Forecasting and trend analysis		.577

Table 91 (below) shows that managers in extra large organisations (11 per cent of the sample) rated their organisations as being quite effective in terms of the use of techniques in their strategic planning systems (mean of 3.04), with managers in large organisations having a similar score (mean of 3.02). Small organisations displayed a mean of 2.67. These differences were not statistically different.

Table 91 ***Ramanujam & Venkatraman's (1987b) use of techniques dimension of strategic planning systems by size organisation (Organisations [n=137])***

Ramanujam & Venkatraman (1987b)	Small (1-10) n=54	Medium (11-30) n=46	Large (31-100) n=22	Extra Large (>100) n=15
Mean	2.671	2.986	3.023	3.040
Standard Deviation	1.28	.7277	.81819	.9081

When the use of techniques dimension of strategic planning systems was evaluated by location of the organisation, managers adjudged Tasmanian rural agencies as having a mean of 3.13, a similar score to agencies in Victorian provincial cities and Victorian rural areas (means of 2.94 and 2.93 respectively). Agencies in the Melbourne Metropolitan area and Tasmanian provincial cities were also high in this dimension (means of 2.88 and 2.83 respectively), as can be seen from Table 92 below. A t-test did not reveal any statistical difference between the regions.

Table 92 ***Ramanujam & Venkatraman's (1987b) use of techniques dimension of strategic planning systems by location (Organisations [n=137])***

Ramanujam & Venkatraman (1987b)	1* n=65	2 n=25	3 n=26	4 n=11	5 n=9	6 n=1
Mean	2.8876	2.9458	2.9345	2.4565	2.833	3.13
Standard Deviation	1.064	.683	.974	1.22	1.42	N/a

*1=Melbourne Metropolitan Area
2=Provincial City (Victoria)
3=Rural Victoria
4=Hobart Metropolitan Area
5=Provincial City (Tasmania)
6=Rural Tasmania

Table 93 (below) shows that Victorian managers rated the use of techniques dimension of their strategic planning systems as having a mean of 2.91, compared to the Tasmanian mean of 2.65. A t-test did not reveal any statistical difference between the States.

Table 93 ***Ramanujam & Venkatraman's (1987b) use of techniques dimension of strategic planning systems by State (Organisations [n=137])***

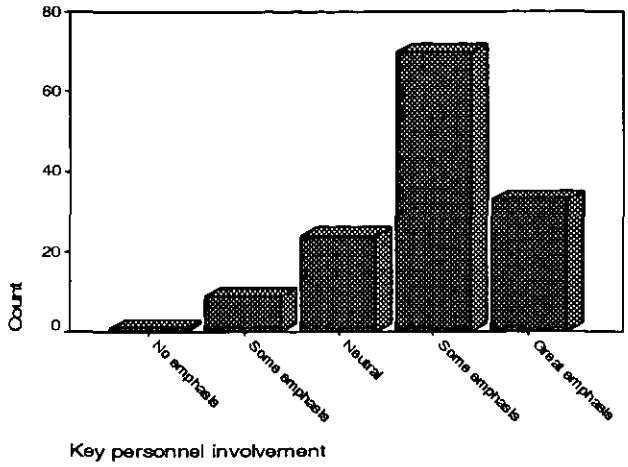
Ramanujam & Venkatraman (1987b)	Victoria (n=117)	Tasmania (n=20)
Mean	2.910	2.659
Standard Deviation	.969	1.265

1.1.5 Key personnel

The final dimension of strategic planning systems is use of key personnel. This dimension was measured using a 5-point Likert scale from 'No emphasis' to 'A great emphasis'. All results and tables using this dimension were constructed from answers to questions in the survey instrument.

The histogram below (Figure 45) shows a skewed distribution with a mean of 3.85 (out of 5).

Figure 45 ***Ramanujam & Venkatraman's (1987b) use of key personnel dimension of strategic planning systems***



Internal consistency of the index was assessed and judged using Cronbach's alpha (Cronbach, 1951; Van de Ven & Ferry, 1980). Factor scores were calculated for each of the internal orientation dimensions. The alpha score for the overall index was .6890, and all of the factor loadings were above .50 (see Table 94 below) indicating that the dimensions adequately measured the use of key personnel dimension of strategic planning systems. These assessments provided support for the reliability of the index.

Table 94 ***Ramanujam & Venkatraman's (1987b) use of key personnel dimension of strategic planning systems***

Ramanujam & Venkatraman (1987b) index	Alpha score	Factor Loadings
Involvement of key personnel:	.6890	
Time spent by the CEO in strategic planning		.554
Involvement of line managers in strategic planning		.596
Involvement of Board members in strategic planning		.528
Involvement of all staff in strategic planning		.596

Table 95 (below) shows that managers in extra large organisations (11 per cent of the sample) rated their organisations as being most effective in terms of the use of key personnel in their strategic planning systems (mean of 4.33), with managers in large organisations having a mean of 3.94. Small organisations had a mean score on this dimension of 3.68. These differences were not statistically different.

Table 95 ***Ramanujam & Venkatraman's (1987b) use of key personnel dimension of strategic planning systems by size organisation (Organisations [n=137])***

Ramanujam & Venkatraman (1987b)	Small (1-10) n=54	Medium (11-30) n=46	Large (31-100) n=22	Extra Large (>100) n=15
Mean	3.683	3.841	3.945	4.337
Standard Deviation	.87505	.79876	.70561	.56851

When the use of key personnel dimension of strategic planning systems was evaluated by location of the organisation, managers adjudged agencies in Victorian provincial cities as performing well (mean of 3.95) as did agencies in the Melbourne Metropolitan area. Agencies in Tasmanian provincial cities were also high (3.84) and agencies in rural areas of Tasmania and Victoria were judged equal on this dimension (see Table 96 below). A t-test did not reveal any statistical difference between the regions.

Table 96 ***Ramanujam & Venkatraman's (1987b) use of key personnel dimension of strategic planning systems by location (Organisations [n=137])***

Ramanujam & Venkatraman (1987b)	1* n=65	2 n=25	3 n=26	4 n=11	5 n=9	6 n=1
Mean	3.8861	3.9593	3.785	3.5378	3.843	3.75
Standard Deviation	.885	.684	.776	.7997	.7899	2.8867

*1=Melbourne Metropolitan Area
2=Provincial City (Victoria)
3=Rural Victoria
4=Hobart Metropolitan Area
5=Provincial City (Tasmania)
6=Rural Tasmania

Table 97 (below) shows that Victorian managers rated their use of key personnel in their strategic planning systems as having a mean of 3.87, compared to the Tasmanian mean of 3.68. A t-test did not reveal any statistical difference between the States.

Table 97 ***Ramanujam & Venkatraman's (1987b) use of key personnel dimension of strategic planning systems by State (Organisations [n=137])***

Ramanujam & Venkatraman (1987b)	Victoria (n=117)	Tasmania (n=20)
Mean	3.877	3.685
Standard Deviation	.8186	.7675

1.1.6 Summary

In this section, the strategic planning construct was measured using Ramanujam & Venkatraman's (1987b) system capability approach to assessing organisational performance, which incorporated five dimensions of strategic planning systems – internal orientation, external orientation, functional coverage, use of planning techniques, and involvement of key personnel. Each dimension was self assessed and measured using a 5-point Likert scale from 'No emphasis' to 'A great emphasis'.

Validity and reliability for the construct and each of the five dimensions was assessed and established by using Cronbach's alpha (Cronbach, 1951), and factor loadings.

With respect to the strategic planning construct, although not statistically significant in terms of agency size and location (but see section 1.2.1 of this Chapter next), the data revealed the following:

- extra large agencies were rated by managers as performing quite well in terms of their overall strategic planning systems;
- Rural Victorian organisations rated their agencies as performing quite well in terms of their overall strategic planning systems;
- Victorian and Tasmanian managers rated their organisations as performing quite well in terms of their overall strategic planning systems;
- large agencies were rated by managers as performing very well in terms of the internal orientation dimension of strategic planning systems;
- Rural Victorian managers rated their organisations as performing very well in terms of the internal orientation dimension of strategic planning systems;
- Victorian and Tasmanian managers rated their organisations as performing quite well in terms of the internal orientation dimension of strategic planning systems;
- Extra large agencies were rated by managers as performing well in terms of the external orientation dimension of strategic planning systems;
- Rural Tasmanian managers rated their organisations as performing quite well in terms of the external orientation dimension of strategic planning systems;
- Victorian and Tasmanian managers rated their organisations as performing well in terms of the external orientation dimension of strategic planning systems;
- Extra large agencies were rated by managers as performing very well in terms of the functional integration dimension of strategic planning systems;
- Tasmanian Provincial managers rated their organisations as performing very well in terms of the functional integration dimension of strategic planning systems;

- Tasmanian and Victorian managers rated their organisations as performing well in terms of the functional integration dimension of strategic planning systems;
- Extra large agencies were rated by managers as performing quite well in terms of the use of techniques dimension of strategic planning systems;
- Tasmanian Rural managers rated their organisations as performing quite well in terms of the use of techniques dimension of strategic planning systems;
- Victorian and Tasmanian managers rated their organisations as performing satisfactorily in terms of the use of techniques dimension of strategic planning systems;
- Extra large agencies were rated by managers as performing very well in terms of the use of key personnel dimension of strategic planning systems;
- Victorian Provincial managers rated their organisations as performing very well in terms of the use of key personnel dimension of strategic planning systems; and
- Victorian and Tasmanian managers rated their organisations as performing quite well in terms of the use of key personnel dimension of strategic planning systems.

The next section will examine the relationship between the education and training and strategic planning constructs as they apply to top management teams in disability-based organisations.

1.2 The Relationship between Education and Training of Top Management Teams and Strategic Planning

Now that the data relating to the two constructs, education and training and strategic planning, have been described and shown to be fundamentally valid and reliable, this section will describe the relationship between the two constructs.

The analysis will firstly examine the *overall* relationship between *education and training* levels of top management teams and the overall measure of strategic planning systems. This section will then examine the relationship between education and training levels of top management teams and the five dimensions of strategic planning systems. *Management-specific education and training* levels of top management teams and the five dimensions of strategic planning systems will then be analysed before concluding with a brief summary of the results of the data as they apply to the second research question which was:

What relationship exists between education and training levels of top management teams and strategic planning processes and systems in disability-based organisations?

1.2.1 Overall

The discussion here is in two sections. Part (a) used the *highest* level of education and training possessed by the management team from each organisation. Part (b) used the *average* level of education and training for each management team. Due to the nature of the data (previously mentioned), correlations between the education and training and organisational performance constructs were carried out using Spearman's rho, the results of which are shown in Appendix 11.

(a) Highest level of education and training

As previously stated, all the measures of strategic planning were measured on a 5 point Likert scale. The statistics in Table 98 (below) are therefore comparable, and show that agencies with a mean *highest* educational level of post graduate qualifications in their top management teams had mean dimension scores of 4.41, 3.57, 4.16, 3.12, and 4.05.

On the other hand, agencies with top management teams with a *highest* educational average of year 10-12 had mean dimension scores of 4.15, 3.70, 3.99, 2.63, and 4.29 respectively.

When the *highest* levels of education were aggregated into teams with at least undergraduate level compared to those with up to tertiary non degree, the results were as expected. The higher the level of qualification, the higher the performance on all criteria, with the exception of external orientation, where the difference in mean was .05.

However, the results of one-way between groups ANOVA with post-hoc comparisons showed that there is no evidence of a significant relationship between the levels of *highest* education and training in top teams and any of the dimensions of strategic planning.

Table 98 ***Descriptive statistics for highest education and training levels of top management teams by strategic planning systems dimensions (Organisations [n=137])***

Overall education and training levels of top management teams		Internal orient-ation	External orient-ation	Functional integration	Use of techniques	Key personnel involve-ment
Post graduate degree n=11	Mean St. Dev.	4.413 .383	3.571 .696	4.169 .522	3.128 .978	4.052 .666
Graduate certificate/diploma n=51	Mean St. Dev.	4.283 .451	3.389 .755	3.907 .696	2.862 .959	3.802 .805
Undergraduate degree n=40	Mean St. Dev.	4.276 .582	3.308 .773	3.777 .664	2.647 1.024	3.703 .996
Tertiary non degree n=29	Mean St. Dev.	4.413 .472	3.783 .912	4.305 .553	3.141 1.172	3.894 .688
Year 10-12 n=6	Mean St. Dev.	4.158 .413	3.709 .349	3.994 .749	2.6333 1.402	4.292 .431
Up to year 10 n=0	Mean St. Dev.	n/a	n/a	n/a	n/a	n/a

In relation to the correlations in Appendix 11, due to the variability of the data, particularly in the mid levels of qualifications, the favourable effects of post graduate qualifications on all dimensions of strategic planning were not reflected in the overall measures of association.

There were no significant correlations between *highest* education and training and strategic planning overall, or any of the dimensions of the strategic planning process. All of the correlations were negative with the exception of the functional integration and use of key personnel dimensions, but barely so.

All of the dimensions of strategic planning and planning overall were significantly related (at the .01 level of significance) with each other however.

On a State by State basis, there was little change and no significant correlations between either construct, as can be seen in Appendices 12-13. In Tasmania, there was no association between the use of key personnel and the internal orientation and external orientation dimensions, and five other measures of association were significant at the .05 level rather than the .01 level of significance.

(b) Average level of education and training

As previously stated, all the measures of strategic planning were measured on a 5 point Likert scale. The statistics in Table 99 (below) are therefore comparable, and show that agencies with an *average* of post graduate qualifications in their top management teams had mean dimension scores of 4.54, 3.71, 4.40, 3.55, and 4.34.

Table 99 ***Descriptive statistics for average education and training levels of top management teams by strategic planning systems dimensions (Organisations [n=137])***

Overall education and training levels of top management teams		Internal orientat-ion	External orientat-ion	Functional integration	Use of techniques	Key personnel involve-ment
Post graduate degree n=11	Mean St. Dev.	4.545 .4447	3.715 .785	4.401 .555	3.552 1.02	4.345 .5887
Graduate certificate/diploma n=51	Mean St. Dev.	4.258 .4678	3.395 .789	3.916 .7702	2.804 1.058	3.865 .7987
Undergraduate degree n=40	Mean St. Dev.	4.297 .5135	3.377 .702	3.824 .6069	2.708 .9559	3.623 .9566
Tertiary non degree n=29	Mean St. Dev.	4.352 .4281	3.500 .834	4.055 .5068	3.018 .8726	3.857 .6447
Year 10-12 n=6	Mean St. Dev.	4.158 .4128	3.709 .35	3.994 .7496	2.63 1.4016	4.292 .4306
Up to year 10 n=0	Mean St. Dev.	n/a	n/a	n/a	n/a	n/a

On the other hand, agencies with top management teams with an overall educational *average* of year 10-12 had mean dimension scores of 4.15, 3.70, 3.99, 2.63, and 4.29 respectively.

When the *average* levels of education were aggregated into teams with at least undergraduate level compared to those with up to tertiary non degree, the results were the reverse of those expected. The higher the level of *average* qualification, the lower the mean performance on all criteria.

The results of one-way between groups ANOVA with post-hoc comparisons showed however that there was no evidence of a significant relationship between the levels of *average* education and training in top teams and any of the dimensions of strategic planning.

In relation to the correlations in Appendix 11, due to the variability of the data, particularly in the mid levels of qualifications, the favourable effects of post graduate qualifications on all dimensions of strategic planning were not reflected in the overall measures of association.

There were no significant correlations between *average* education and training and strategic planning overall, or any of the dimensions of the strategic planning process. All of the correlations were positive with the exception of the external orientation dimension, but barely so.

On a State by State basis, in both Victoria and Tasmania there was little change from the overall situation, as can be seen in Appendices 12-13.

The next section will examine the *overall* education and training effects on the various measures of strategic planning (internal orientation, external orientation, functional integration, use of techniques, and key personnel involvement) in more detail.

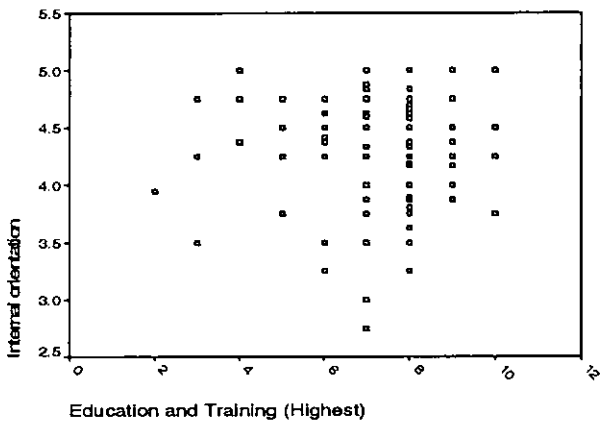
1.2.1.1 Overall education and training and internal orientation dimension of strategic planning

The results for this and the following bivariate relationships were analysed in two ways. The first set of correlations used the *highest* level of education and training possessed by the management team from each organisation. The second set used the *average* level of education and training for each management team.

(a) *highest* level of education and training

The scatterplot of the two variables is shown below in Figure 46. The figure generally shows a neutral slope, reflecting the Spearman's rho correlation of -.013. that was not significant.

Figure 46 ***Highest education and training and internal orientation dimension of strategic planning***



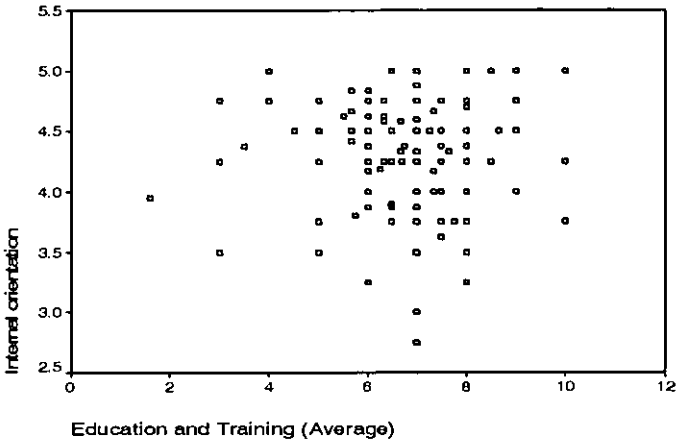
For the purposes of the following analysis, the variables were treated as being continuous, and bivariate regression analysis was undertaken as summarised in Appendix 14.

The results showed that overall specific education and training did not explain any of the variance in the internal orientation dimension of strategic planning.

(b) *average* level of education and training

The scatterplot of the two variables is shown below in Figure 47. The figure generally shows a neutral slope, reflecting the Spearman's rho correlation of .019 that was not significant.

Figure 47 ***Average education and training and internal orientation dimension of strategic planning***



For the purposes of the following analysis, the variables were treated as being continuous, and bivariate regression analysis was undertaken as summarised in Appendix 15.

The results showed that overall education and training did not explain any of the variance in the internal orientation dimension of strategic planning.

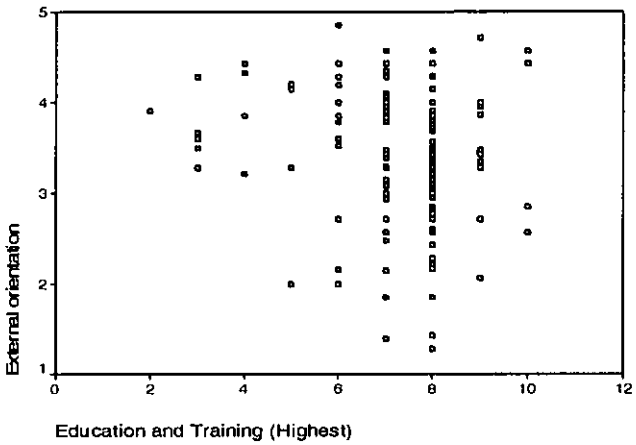
1.2.1.2 Overall education and training and external orientation dimension of strategic planning

The results for this and the following bivariate relationships were analysed in two ways. The first set of correlations used the *highest* level of education and training possessed by the management team from each organisation. The second set used the *average* level of education and training for each management team.

(a) *highest* level of education and training

The scatterplot of the two variables is shown below in Figure 48. The figure generally shows a neutral slope, reflecting the Spearman's rho correlation of -.089 that was not significant.

Figure 48 ***Highest education and training and external orientation dimension of strategic planning***



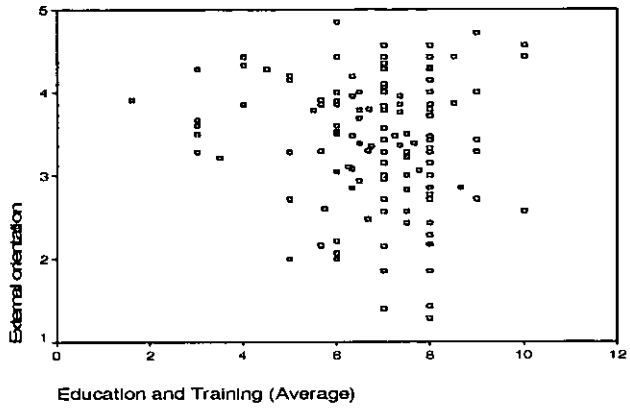
For the purposes of the following analysis, the variables were treated as being continuous, and bivariate regression analysis was undertaken as summarised in Appendix 14.

The results showed that overall education and training explained a minimal degree of the variance in the external orientation dimension of strategic planning (1 per cent).

(b) *average* level of education and training

The scatterplot of the two variables is shown below in Figure 49. The figure generally shows a neutral slope, reflecting the Spearman's rho correlation of -.003 which was not significant.

Figure 49 ***Average education and training and external orientation dimension of strategic planning***



For the purposes of the following analysis, the variables were treated as being continuous, and bivariate regression analysis was undertaken as summarised in Appendix 15.

The results showed that overall education and training explained a minimal degree of the variance in the external orientation dimension of strategic planning (.2 per cent).

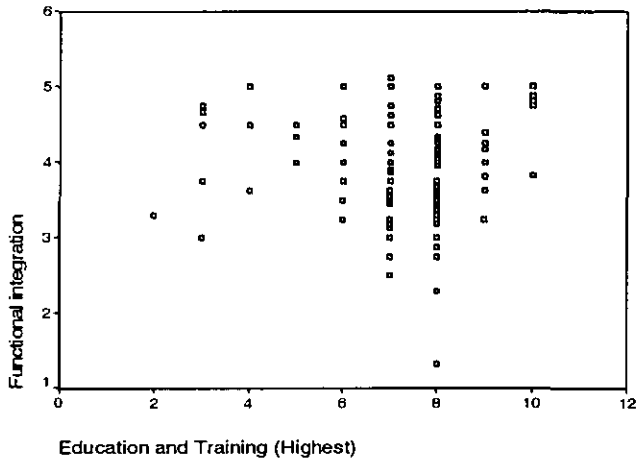
1.2.1.3 Overall education and training and functional integration dimension of strategic planning

The results for this and the following bivariate relationships were analysed in two ways. The first set of correlations used the *highest* level of education and training possessed by the management team from each organisation. The second set used the *average* level of education and training for each management team.

(a) *highest* level of education and training

The scatterplot of the two variables is shown below in Figure 50. The figure generally shows a neutral slope, reflecting the Spearman's rho correlation of .029 that was not significant.

Figure 50 ***Highest education and training and functional integration dimension of strategic planning***



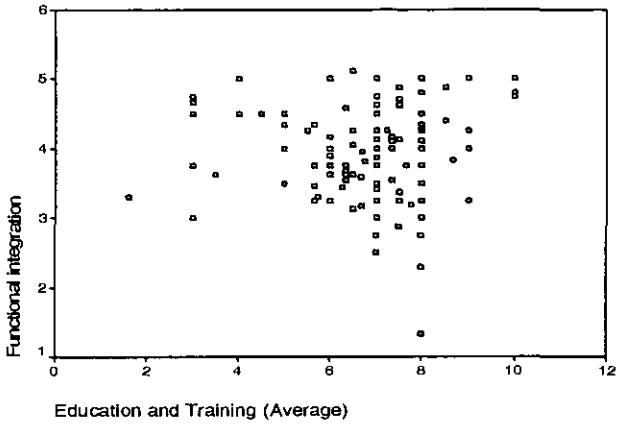
For the purposes of the following analysis, the variables were treated as being continuous, and bivariate regression analysis was undertaken as summarised in Appendix 14.

The results showed that overall education and training did not explain any of the variance in the functional integration measure of strategic planning.

(b) *average* level of education and training

The scatterplot of the two variables is shown below in Figure 51. The figure generally shows a neutral slope, reflecting the Spearman's rho correlation of .073 that was not significant.

Figure 51 ***Average education and training and functional integration dimension of strategic planning***



For the purposes of the following analysis, the variables were treated as being continuous, and bivariate regression analysis was undertaken as summarised in Appendix 15.

The results showed that overall education and training explained approximately .1 per cent of the variance in the functional integration measure of strategic planning, which was not significant as indicated by the p-value (.778).

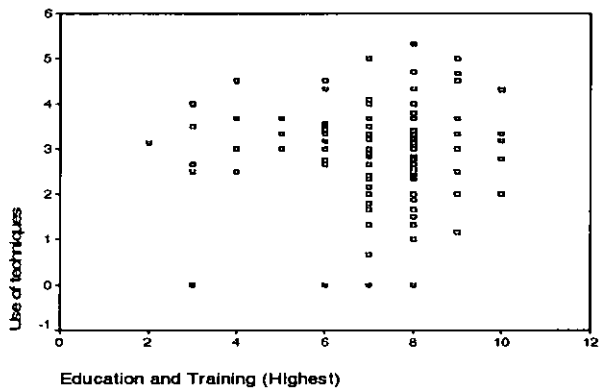
1.2.1.4 Overall education and training and use of techniques dimension of strategic planning

The results for this and the following bivariate relationships were analysed in two ways. The first set of correlations used the *highest* level of education and training possessed by the management team from each organisation. The second set used the *average* level of education and training for each management team.

(a) *highest* level of education and training

The scatterplot of the two variables is shown below in Figure 52. The figure generally shows a neutral slope, reflecting the Spearman's rho correlation of -.005 that was not significant.

Figure 52 ***Highest education and training and use of techniques dimension of strategic planning***



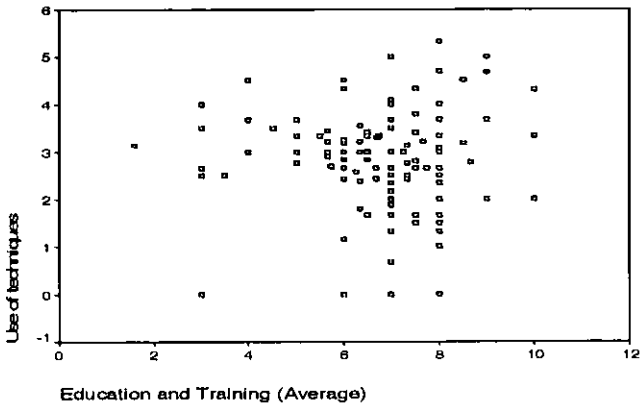
For the purposes of the following analysis, the variables were treated as being continuous, and bivariate regression analysis was undertaken as summarised in Appendix 14.

The results showed that education and training did not explain any of the variance in the use of techniques dimension of strategic planning.

(b) *average* level of education and training

The scatterplot of the two variables is shown below in Figure 53. The figure generally shows a neutral slope, reflecting the Spearman's rho correlation of .036 that was not significant.

Figure 53 ***Average education and training and use of techniques dimension of strategic planning***



For the purposes of the following analysis, the variables were treated as being continuous, and bivariate regression analysis was undertaken as summarised in Appendix 15.

The results showed that education and training explained approximately .1 per cent of the variance in the use of techniques dimension of strategic planning, which was not significant as indicated by the p-value (.719).

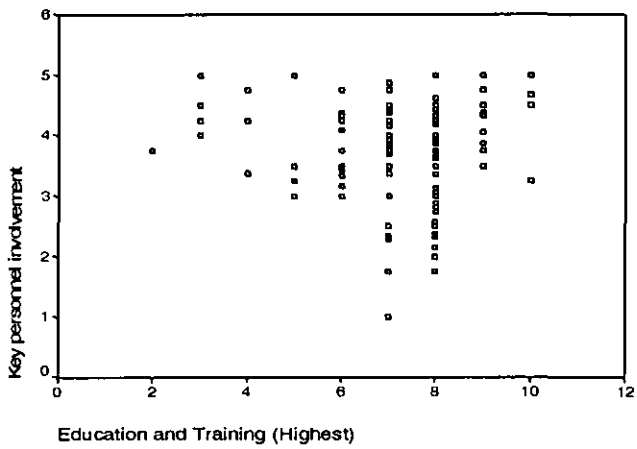
1.2.1.5 Overall education and training and use of key personnel dimension of strategic planning

The results for this and the following bivariate relationships were analysed in two ways. The first set of correlations used the *highest* level of education and training possessed by the management team from each organisation. The second set used the *average* level of education and training for each management team.

(a) *highest* level of education and training

The scatterplot of the two variables is shown below in Figure 54. The figure generally shows a neutral slope, reflecting the Spearman's rho correlation of .029 that was not significant.

Figure 54 ***Highest education and training and use of key personnel dimension of strategic planning***



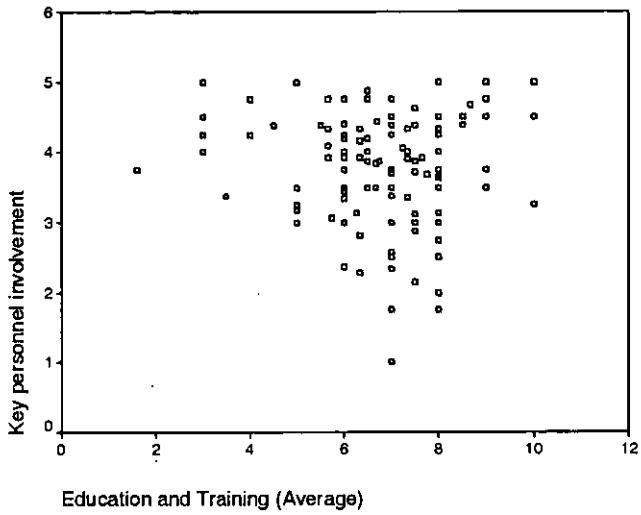
For the purposes of the following analysis, the variables were treated as being continuous, and bivariate regression analysis was undertaken as summarised in Appendix 14.

The results showed that education and training explained approximately .001 per cent of the variance in the use of techniques dimension of strategic planning, which was not significant as indicated by the p-value (.740).

(b) *average* level of education and training

The scatterplot of the two variables is shown below in Figure 55. The figure generally shows a neutral slope, reflecting the Spearman's rho correlation of .100 that was not significant.

Figure 55 ***Average education and training and use of key personnel dimension of strategic planning***



For the purposes of the following analysis, the variables were treated as being continuous, and bivariate regression analysis was undertaken as summarised in Appendix 15.

The results showed that overall education and training did not explain approximately any of the variance in the use of key personnel dimension of strategic planning.

1.2.1.6 Summary

This section examined the *overall* education and training effects on the various measures of strategic planning (internal orientation, external orientation, functional integration, use of techniques, and key personnel involvement) in more detail.

There was no evidence of a significant relationship between the levels of overall education and training in top teams and any of the dimensions of strategic planning. This was the case even when the data were compared by State.

The next section will examine the relationship between *management-specific* education and training and the strategic planning construct in relation to top management teams in disability-based organisations.

1.2.2 Management-specific education and training and strategic planning

The discussion here is in two sections. Part (a) used the *highest* level of management-specific education and training possessed by the management team from each organisation. Part (b) used the *average* level of management-specific education and training for each management team. Due to the nature of the data (previously mentioned), correlations between the education and training and organisational performance constructs were carried out using Spearman's rho, the results of which are shown in Appendix 11.

(a) Highest level of management-specific education and training

All the dimensions of strategic planning were measured on a 5 point Likert scale. The statistics in Table 100 (below) are therefore comparable, and show that agencies with an average of post graduate *highest* management-specific qualifications in their top management teams had mean dimension scores of 4.57, 3.78, 4.26, 3.32, and 4.27, compared to agencies with an average of tertiary non degree level *highest* management-specific qualifications. These latter agencies had mean dimension scores of 4.33, 3.41, 3.88, 2.80, and 3.69 respectively.

Further, when the above levels were compared to teams with *some* management-specific education and training compared to those with *none*, and at least undergraduate level compared to tertiary non degree and those with none at all, the results were as expected. The higher the level of qualification, the higher the performance on all criteria.

The results of one-way between groups ANOVA with post-hoc comparisons showed however that there was no evidence of a significant relationship between the levels of management-specific education and training in top teams and any of the dimensions of strategic planning.

Table 100 ***Descriptive statistics for management-specific highest education and training levels of top management teams by strategic planning systems dimensions (Organisations [n=137])***

Management-specific highest education and training levels in top management teams		Internal orient-ation	External orient-ation	Functional integration	Use of techniques	Key personnel involve-ment
Post graduate n=3	Mean St. Dev.	4.571 .444	3.783 .908	4.266 .461	3.328 1.129	4.277 .497
Graduate certificate/diploma n=9	Mean St. Dev.	4.296 .426	3.319 .689	3.878 .629	2.870 .678	3.805 .776
Undergraduate degree n=5	Mean St. Dev.	4.299 .395	3.752 .555	4.053 .510	2.840 .867	3.768 .804
Tertiary non degree n=41	Mean St. Dev.	4.332 .453	3.417 .757	3.881 .546	2.802 .915	3.696 .783

From Appendix 11, it can be seen there were no significant correlations between (*highest*) management-specific education and training and strategic planning overall, or any of the dimensions of the strategic planning process. All of the correlations were positive (but barely so) with the exception of the (*highest*) management-specific education and training and functional integration dimension.

However, as previously stated (section 1.2.1), all of the dimensions of strategic planning and planning overall were significantly related (at the .01 level of significance) with each other.

The favourable effects of (*highest*) post graduate management-specific qualifications on all dimensions of strategic planning were not reflected in the overall measures of association however, due to the variability of the data, particularly in the mid levels of qualifications.

On a State by State basis, in Victoria there was no change from the above findings, and no significant correlations between either construct, as can be seen in Appendices 12-13. Tasmania appeared to show much less association between (*highest*) management-specific education and training and use of key personnel and external orientation dimensions. The Tasmanian data also showed that six other measures of association were significant at the .05 level rather than the .01 level of significance, with a further four measures being dropped from significance. As with the first research question, the small sample size in Tasmania may have affected the results.

(b) Average level of management-specific education and training

As stated above, all the measures of strategic planning were measured on a 5 point Likert scale. The statistics in Table 101 (below) are therefore comparable, and show that agencies with a mean of post graduate *average* management-specific qualifications in their top management teams had mean dimension scores of 4.75, 4.38, 4.43, 4.21, and 4.66. On the other hand, agencies with top management teams with an overall educational average of year 10-12 had mean dimension scores of 4.42, 3.40, 3.91, 2.84, and 3.67 respectively.

When the above levels were aggregated into teams with *some* management-specific education and training compared to those with none, and at least undergraduate level compared to tertiary non degree and those with none at all, the results were as expected. The higher the level of qualification, the higher the performance on all criteria.

The results of one-way between groups ANOVA with post-hoc comparisons showed however that there was no evidence of a significant relationship between the levels of *average* management-specific education and training in top teams and any of the dimensions of strategic planning.

The favourable effects of post graduate management-specific qualifications on all dimensions of strategic planning were not reflected in the overall measures of association however, due to the variability of the data, particularly in the mid levels of qualifications.

Table 101 ***Descriptive statistics for management-specific average education and training levels of top management teams by strategic planning systems dimensions (Organisations [n=137])***

Management-specific average education and training levels of top management teams		Internal orient-ation	External orient-ation	Functional integration	Use of techniques	Key personnel involve-ment.
Post graduate n=3	Mean St. Dev.	4.75 .4330	4.381 .36	4.433 .3175	4.211 .5059	4.667 .2887
Graduate certificate/diploma n=9	Mean St. Dev.	4.4167 .5449	3.508 .993	4.2333 .7798	3.1148 .8893	4.1667 .9100
Undergraduate degree n=5	Mean St. Dev.	4.3571 .705	4.022 .378	4.2976 .672	3.1905 .748	4.375 .688
Tertiary non degree n=41	Mean St. Dev.	4.2032 .4548	3.321 .738	3.753 .5746	2.744 .9017	3.7108 .7007
Year 10-12 n=25	Mean St. Dev.	4.424 .3221	3.403 .544	3.9103 .4123	2.8469 .5987	3.6704 .7317
Up to year 10 n=54	Mean St. Dev.	n/a	n/a.	n/a	n/a	n/a

There were no significant correlations between *average* management-specific education and training and strategic planning overall, or any of the dimensions of the strategic planning process. All of the correlations were positive (but barely so) with the exception of the *average* management-specific education and training and functional integration dimension.

On a State by State basis as previously stated, in Victoria there was no change from the above findings, and no significant correlations between either construct, as can be seen in Appendices 12-13. Tasmania appeared to show much less association between (*average*) management-specific education and training and use of key personnel and external orientation dimensions.

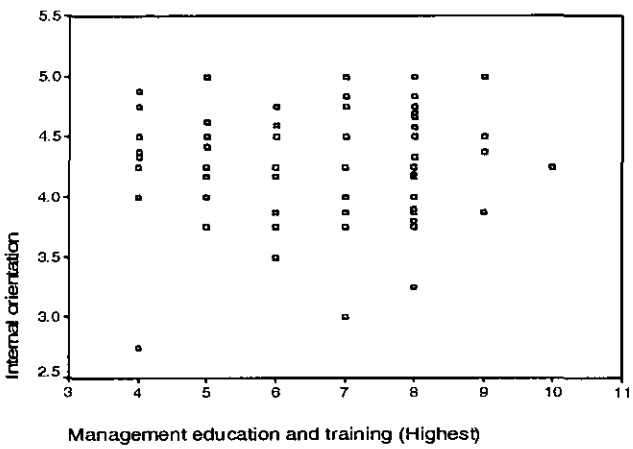
The next section will examine the *management-specific* education and training effects on the various measures of strategic planning (internal orientation, external orientation, functional integration, use of techniques, and key personnel involvement) in more detail.

1.2.2.1 Management-specific education and training levels of top teams and internal orientation dimension of strategic planning

As with the previous section, the results for this and the following bivariate relationships were analysed in two ways. The first set of correlations used the *highest* level of management-specific education and training possessed by the management team from each organisation. The second set used the *average* level of management-specific education and training for each management team.

(a) *highest* level of management-specific education and training
The scatterplot of the two variables is shown below in Figure 56. The figure generally shows a neutral slope, reflecting the Spearman's rho correlation of .038 that was not significant.

Figure 56 ***Management-specific highest education and training and internal orientation dimension of strategic planning***

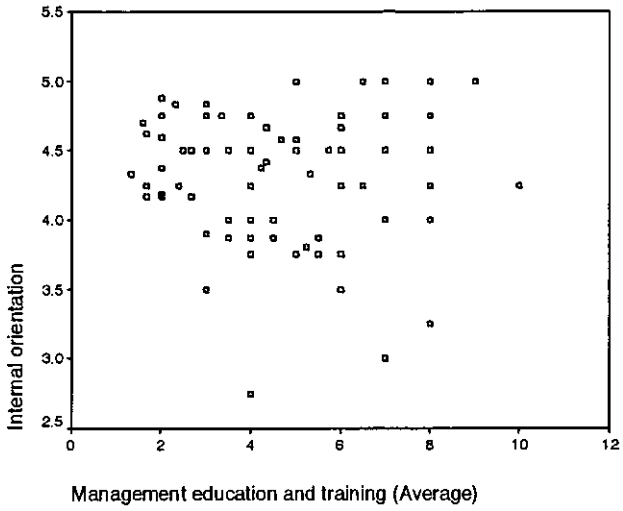


For the purposes of the following analysis, the variables were treated as being continuous, and bivariate regression analysis was undertaken as summarised in Appendix 16.

The results showed that management-specific education and training explained approximately .2 per cent of the variance in the use of techniques dimension of strategic planning, which was not significant as indicated by the p-value (.598).

(b) *average* level of management-specific education and training
The scatterplot of the two variables is shown below in Figure 57. The figure generally shows a neutral slope, reflecting the Spearman's rho correlation of .052 that was not significant.

Figure 57 ***Management-specific average education and training and internal orientation dimension of strategic planning***



For the purposes of the following analysis, the variables were treated as being continuous, and bivariate regression analysis was undertaken as summarised in Appendix 17.

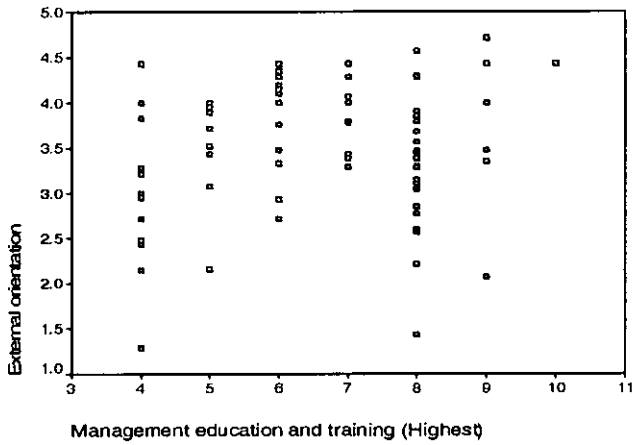
The results showed that management-specific education and training explained approximately .2 per cent of the variance in the internal orientation dimension of strategic planning, which was not significant as indicated by the p-value (.568).

1.2.2.2 Management-specific education and training levels of top teams and external orientation dimension of strategic planning

As with the previous section, the results for this and the following bivariate relationships were analysed in two ways. The first set of correlations used the *highest* level of management-specific education and training possessed by the management team from each organisation. The second set used the *average* level of management-specific education and training for each management team.

(a) *highest* level of management-specific education and training
The scatterplot of the two variables is shown below in Figure 58. The figure generally shows a neutral slope, reflecting the Spearman's rho correlation of .052 that was not significant.

Figure 58 ***Management-specific highest education and training and external orientation dimension of strategic planning***

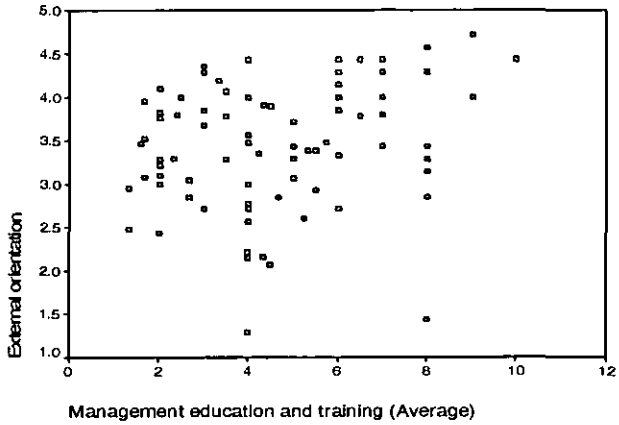


For the purposes of the following analysis, the variables were treated as being continuous, and bivariate regression analysis was undertaken as summarised in Appendix 16.

The results showed that management-specific education and training explained approximately .4 per cent of the variance in the use of techniques dimension of strategic planning, which was not significant as indicated by the p-value (.482).

(b) *average* level of management-specific education and training
The scatterplot of the two variables is shown below in Figure 59. The figure generally shows a neutral slope, reflecting the Spearman's rho correlation of .112 that was not significant.

Figure 59 ***Management-specific average education and training and external orientation dimension of strategic planning***



For the purposes of the following analysis, the variables were treated as being continuous, and bivariate regression analysis was undertaken as summarised in Appendix 17.

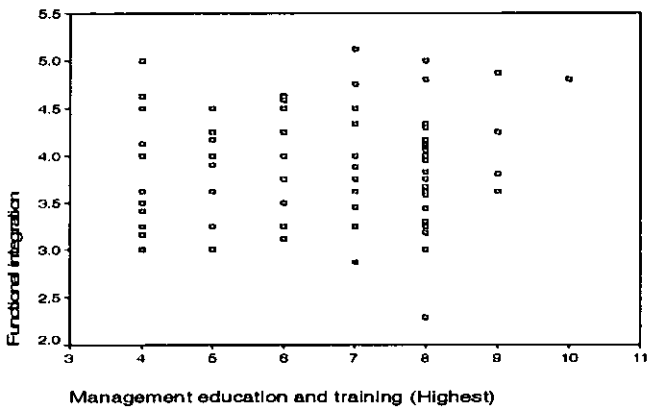
The results showed that management-specific education and training explained approximately 1.7 per cent of the variance in the external orientation dimension of strategic planning, which was not significant as indicated by the p-value (.129).

1.2.2.3 Management-specific education and training levels of top teams and functional integration dimension of strategic planning

As with the previous section, the results for this and the following bivariate relationships were analysed in two ways. The first set of correlations used the *highest* level of management-specific education and training possessed by the management team from each organisation. The second set used the *average* level of management-specific education and training for each management team.

(a) *highest* level of management-specific education and training
The scatterplot of the two variables is shown below in Figure 60. The figure generally shows a neutral slope, reflecting the Spearman's rho correlation of -.055 that was not significant.

Figure 60 ***Management-specific highest education and training and functional integration dimension of strategic planning***

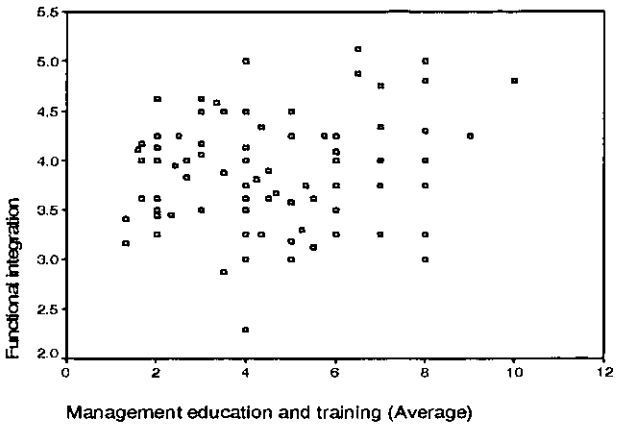


For the purposes of the following analysis, the variables were treated as being continuous, and bivariate regression analysis was undertaken as summarised in Appendix 16.

The results showed that management-specific education and training explained approximately .1 per cent of the variance in the use of techniques dimension of strategic planning, which was not significant as indicated by the p-value (.680).

(b) *average* level of management-specific education and training
The scatterplot of the two variables is shown below in Figure 61. The figure generally shows a neutral slope, reflecting the Spearman's rho correlation of -.027 which was not significant.

Figure 61 ***Management-specific average education and training and functional integration dimension of strategic planning***



For the purposes of the following analysis, the variables were treated as being continuous, and bivariate regression analysis was undertaken as summarised in Appendix 17.

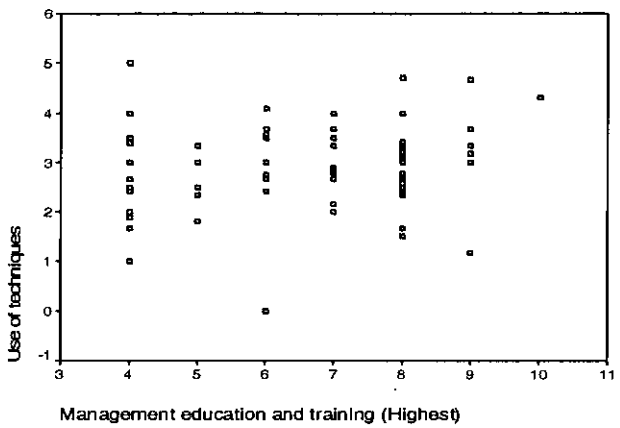
The results showed that management-specific education and training explained approximately .1 per cent of the variance in the functional orientation measure of strategic planning, which was not significant as indicated by the p-value (.674).

1.2.2.4 Management-specific education and training levels of top teams and use of techniques dimension of strategic planning

As with the previous section, the results for this and the following bivariate relationships were analysed in two ways. The first set of correlations used the *highest* level of management-specific education and training possessed by the management team from each organisation. The second set used the *average* level of management-specific education and training for each management team.

(a) *highest* level of management-specific education and training
The scatterplot of the two variables is shown below in Figure 62. The figure generally shows a neutral slope, reflecting the Spearman's rho correlation of .026 that was not significant.

Figure 62 ***Management-specific highest education and training and use of techniques dimension of strategic planning***

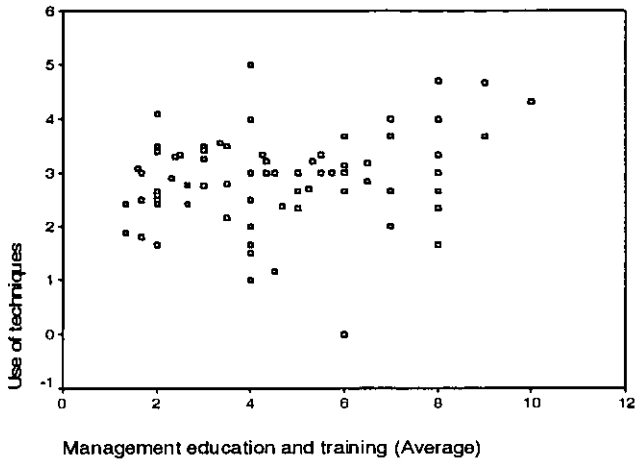


For the purposes of the following analysis, the variables were treated as being continuous, and bivariate regression analysis was undertaken as summarised in Appendix 16.

The results showed that management-specific education and training explained approximately .5 per cent of the variance in the use of techniques dimension of strategic planning, which was not significant as indicated by the p-value (.419).

(b) *average* level of management-specific education and training
The scatterplot of the two variables is shown below in Figure 63. The figure generally shows a neutral slope, reflecting the Spearman's rho correlation of .056 that was not significant.

Figure 63 ***Management-specific average education and training and use of techniques dimension of strategic planning***



For the purposes of the following analysis, the variables were treated as being continuous, and bivariate regression analysis was undertaken as summarised in Appendix 17.

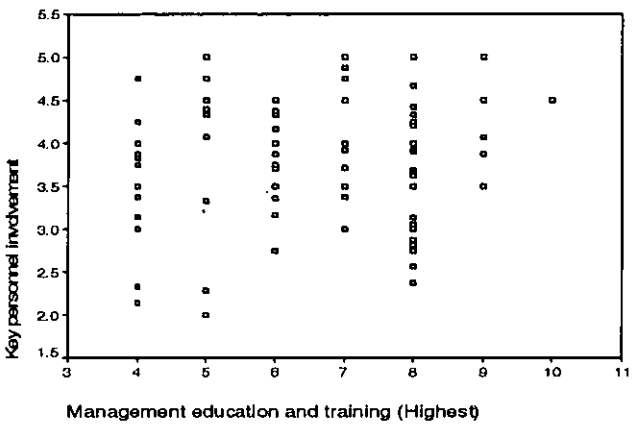
The results showed that management-specific education and training explained approximately 1.4 per cent of the variance in the use of techniques dimension of strategic planning, which was not significant as indicated by the p-value (.164).

1.2.2.5 Management-specific education and training levels of top teams and use of key personnel dimension of strategic planning

As with the previous section, the results for this relationship were analysed in two ways. The first set of correlations used the *highest* level of management-specific education and training possessed by the management team from each organisation. The second set used the *average* level of management-specific education and training for each management team.

(a) *highest* level of management-specific education and training
The scatterplot of the two variables is shown below in Figure 64. The figure generally shows a neutral slope, reflecting the Spearman's rho correlation of .006 that was not significant.

Figure 64 ***Management-specific highest education and training and use of key personnel dimension of strategic planning***

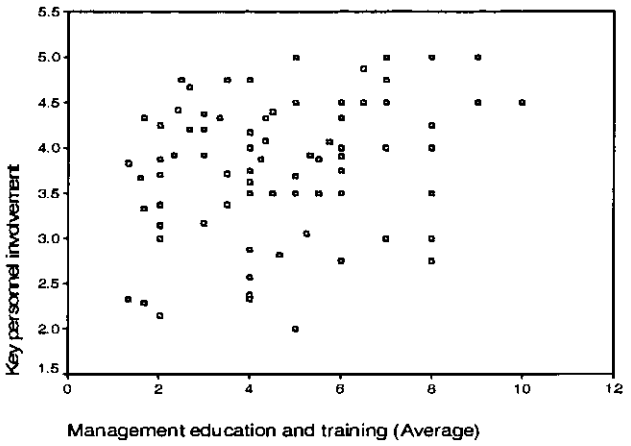


For the purposes of the following analysis, the variables were treated as being continuous, and bivariate regression analysis was undertaken as summarised in Appendix 16.

The results showed that management-specific education and training explained approximately .2 per cent of the variance in the use of key personnel dimension of strategic planning, which was not significant as indicated by the p-value (.643).

(b) *average* level of education and training
The scatterplot of the two variables is shown below in Figure 65. The figure generally shows a neutral slope, reflecting the Spearman's rho correlation of .073 that was not significant.

Figure 65 ***Management-specific average education and training and use of key personnel dimension of strategic planning***



For the purposes of the following analysis, the variables were treated as being continuous, and bivariate regression analysis was undertaken as summarised in Appendix 17.

The results showed that management-specific education and training explained approximately 1.7 per cent of the variance in the use of key personnel dimension of strategic planning, which was not significant as indicated by the p-value (.128).

1.2.2.6 Summary

This section examined the management-specific education and training effects on the various measures of strategic planning (internal orientation, external orientation, functional integration, use of techniques, and key personnel involvement) in more detail.

There was no evidence of a significant relationship between the levels of management-specific education and training in top teams and any of the dimensions of strategic planning. This was the case even when the data was compared by State.

The next section will examine the data relating to this second research question by using multiple regression techniques involving all the independent variables.

2 MULTIPLE REGRESSION

Three major regression models will be used in this section – standard or simultaneous regression, hierarchical regression and stepwise regression. These models differ in two ways: in the treatment of overlapping variability due to correlation of the independent variables; and in terms of the order of the entry of the independent variable into the equation (Coakes & Steed, 1999).

In the standard or simultaneous model, all independent variables enter the regression equation at once so as to examine the relationship between the whole set of predictors and the dependent variable.

In stepwise regression, the number of independent variables entered and the order of entry is determined by statistical criteria generated by the stepwise procedure. Method of entry can be forward, backward, or a combination of both.

In hierarchical multiple regression, the order of entry of the independent variables is determined by the researcher.

As with the previous sections in this chapter, the results were analysed in two ways. The first set of regressions used the *highest* level of education and training possessed by the management team from each organisation. The second set used the *average* level of education and training for each management team.

2.1 Standard or simultaneous regression

(a) *highest* level of education and training

Standard or simultaneous regression was used to determine that the independent variables of management education and training, education and training, size, and location together explained 4.3 per cent of the variance in strategic planning which was not significant. An examination of the p-values showed that only size was a significant predictor of strategic planning (p=.038).

Similarly, the independent variables of management education and training, education and training, size, and location together explained .7 per cent of the variance in internal orientation that was not significant. An examination of the p-values showed that none of the independent variables were significant predictors of internal orientation.

Further, the independent variables of management education and training, education and training, size, and location together explained 6.0 per cent of the variance in external orientation that was significant (p=.082). An examination of the p-values showed that size was a significant predictor of external orientation (p=.031), as was education and training (p=.078).

Also, the independent variables of management education and training, education and training, size, location and central life interests together explained 1.0 per cent of the variance in functional integration which is not significant. An examination of the p-values showed that none of the independent variables were significant predictors of functional integration.

The independent variables of management education and training, education and training, size, and location together explained 2.1 per cent of the variance in use of planning techniques which was not significant. An examination of the p-values showed that none of the independent variables were significant predictors of use of planning techniques.

Finally, the independent variables of management education and training, education and training, size, and location together explained 6.6 per cent of the variance in use of key personnel which was significant (p=.058). An examination of the p-values showed that only size was a significant predictor of use of key personnel, (p=.006).

(b) *average* level of education and training
Standard or simultaneous regression was used to determine that the independent variables of management education and training, education and training, size, and location together explained 4.3 per cent of the variance in strategic planning which was not significant. An examination of the p-values showed that none of the independent variables were significant predictors of strategic planning.

Similarly, the independent variables of management education and training, education and training, size, and location together explained .7 per cent of the variance in internal orientation that is not significant. An examination of the p-values showed that none of the independent variables were significant predictors of internal orientation.

Further, the independent variables of management education and training, education and training, size, and location together explained 5.1 per cent of the variance in external orientation that was not significant. An examination of the p-values showed that none of the independent variables were significant predictors of external orientation.

Also, the independent variables of management education and training, education and training, size, and location together explained 1.1 per cent of the variance in functional integration which was not significant. An examination of the p-values showed that none of the independent variables were significant predictors of functional integration.

The independent variables of management education and training, education and training, size, and location together explained 2.7 per cent of the variance in use of planning techniques which was not significant. An examination of

the p-values showed that none of the independent variables were significant predictors of use of planning techniques.

Finally, the independent variables of management education and training, education and training, size, and location together explained 6.2 per cent of the variance in use of key personnel which was not significant. An examination of the p-values showed that only size was a significant predictor of use of key personnel, (p=.022).

2.2 Stepwise regression

(a) *highest* level of education and training

Stepwise regression was used to determine that the only independent variable to be entered into the regression equation using strategic planning as the dependent variable was size which explained 3.4 per cent of the variability in strategic planning, (p=.030). The independent variables of location, education and training, and management education and training, failed to meet the selection criteria and were all excluded from the regression equation.

However, none of the independent variables were entered into the regression equation using internal orientation as the dependent variable. The independent variables of size, location, education and training, and management education and training all failed to meet the selection criteria and were all excluded from the regression equation.

Also, the only independent variable to be entered into the regression equation using external orientation, as the dependent variable was size which explained 3.7 per cent of the variability in external orientation, (p=.024). The independent variables of location, education and training, and management education and training, failed to meet the selection criteria and were all excluded from the regression equation.

The independent variables of management education and training, education and training, size, and location, failed to meet the selection criteria and were all excluded from the regression equation which used functional integration as the dependent variable.

The independent variables of management education and training, education and training, size, and location, failed to meet the selection criteria and were all excluded from the regression equation which used use of planning techniques as the dependent variable.

Finally, the only independent variable to be entered into the regression equation using use of key personnel, as the dependent variable was size which explained 5.4 per cent of the variability in use of key personnel, (p=.006). The independent variables of location, education and training, and management education and training, failed to meet the selection criteria and were all excluded from the regression equation.

(b) *average* level of education and training
Stepwise regression was used to determine that the only independent variable to be entered into the regression equation using strategic planning as the dependent variable was size which explained 3.4 per cent of the variability in strategic planning, (p=.03). The independent variables of location, education and training, and management education and training, failed to meet the selection criteria and were all excluded from the regression equation.

Further, the independent variables of management education and training, education and training, size , and location, failed to meet the selection criteria and were all excluded from the regression equation which used internal orientation as the dependent variable.

Also, the only independent variable to be entered into the regression equation using external orientation as the dependent variable was size which explained 3.7 per cent of the variability in external orientation, (p=.024). The independent variables of location, education and training, and management education and training, failed to meet the selection criteria and were all excluded from the regression equation.

The independent variables of management education and training, education and training, size, and location, failed to meet the selection criteria and were all excluded from the regression equation which used functional integration as the dependent variable.

The independent variables of management education and training, education and training, size, and location, failed to meet the selection criteria and were all excluded from the regression equation which used use of planning techniques as the dependent variable.

Finally, the only independent variable to be entered into the regression equation using use of key personnel as the dependent variable was size which explained 5.4 per cent of the variability in use of key personnel, (p=.006). The independent variables of location, education and training, and management education and training, failed to meet the selection criteria and were all excluded from the regression equation.

2.3 Hierarchical multiple regression

(a) *highest* level of education and training
Hierarchical multiple regression was used to determine that size made a significant unique contribution (p=.030) of 3.4 per cent of the variance in strategic planning, which retained its significance (p=.038) even when all the other (insignificant) independent variables were entered into the regression equation. Education and training, location and management education and training together contributed a further .9 per cent of explanation.

Similarly, the independent variable of location only contributed .6 per cent of the variance in internal orientation. Education and training did not add any

further explanatory power, and management education and training only added a further .1 per cent of explanation.

Also, the independent variable of size was a significant predictor (p=.024) and contributing 3.7 per cent of the variance in external orientation. Location did not add any further explanatory power. Education and training on its own contributed a further (significant) 2.3 per cent of explanation (p=.077), but management education and training added nothing further to the explanation. When the other independent variables were added, size and education and training retained their significance (p=.031 and .078 respectively).

The independent variable of location only contributed .7 per cent of the variance in functional integration. Education and training and location together contributed .8 per cent of the variance in functional integration, but management education and training added nothing further. Size was excluded from the analysis because one of the scores for functional integration was more than 3 standard deviations from the mean.

The independent variable of location only contributed .2 per cent of the variance in use of techniques. Education and training and location added nothing further, and management education and training added a further .4 per cent of explanation. Size was excluded from the analysis because one of the scores for use of techniques was more than 3 standard deviations from the mean.

Finally, the independent variable of size made a significant (p=.006) unique contribution of 5.4 per cent of the variance in use of key personnel which remained significant (p=.006) even when all the other variables were added to the regression equation. Education and training, location and management education and training added a further contribution of 1.2 per cent of explanation of the variance.

(b) *average* level of education and training
Hierarchical multiple regression was used to determine that size made a significant unique contribution (p=.03) of 3.4 per cent of the variance in strategic planning, which became insignificant when all the other independent variables were entered into the regression equation. Education and training, location and management education and training together contributed a further .9 per cent of explanation.

Similarly, the independent variable of location only contributed .6 per cent of the variance in internal orientation. Education and training did not add any further explanatory power, and management education and training only added a further .1 per cent of explanation.

Also, the independent variable of size was a significant predictor (p=.024) and contributed 3.7 per cent of the variance in external orientation. Location did not add any further explanatory power. Education and training on its own

contributed a further .4 per cent of explanation, and management education and training added a further 1.0 per cent of explanation. When the other independent variables were added, size was no longer a significant predictor.

The independent variable of location only contributed .7 per cent of the variance in functional integration. Education and training and location together contributed 1.0 per cent of the variance in functional integration, with management education and training adding a further .1 per cent of explanation. Size was excluded from the analysis because one of the scores for functional integration was more than 3 standard deviations from the mean.

The independent variable of location only contributed .2 per cent of the variance in use of techniques. Education and training and location added nothing further, and management education and training added a further 1.3 per cent of explanation. Size was excluded from the analysis because one of the scores for use of techniques was more than 3 standard deviations from the mean.

Finally, the independent variable of size made a significant (p=.006) unique contribution of 5.4 per cent of the variance in use of key personnel which remained significant (p=.022) even when the other variables were added to the regression equation. Education and training, location and management education and training added a further contribution of .8 per cent of explanation of the variance.

2.4 Regression summary

This section examined the relationship between education and training and strategic planning using three regression models. The major findings are as shown below.

(a) Standard or simultaneous regression

Education and training (*highest*), management education and training (*highest*), and size and location were significant predictors of external orientation and use of key personnel. Further, size was a significant predictor of strategic planning (but only in conjunction with the *highest* levels of education and training), external orientation planning (but only in conjunction with the *highest* levels of education and training), and use of key personnel.

None of the other independent variables were significant predictors of internal orientation, functional integration, or use of planning techniques.

(b) Stepwise regression

Size was a significant predictor of strategic planning, external orientation planning, and use of key personnel. None of the other independent variables were significant predictors of internal orientation, functional integration, or use of planning techniques.

(c) Hierarchical multiple regression
Education and training (*highest*) and size made significant unique contributions towards explaining the variance in external orientation, while size made a significant unique contribution towards explaining the variance in strategic planning (but only when the *highest* levels of education are considered), and use of key personnel.

3 SUMMARY

This Chapter was restricted to presentation and analysis of the collected data, without drawing general conclusions or comparing results to those of other researchers which were discussed in Chapter 3 (Perry, 1995). The Chapter presented and analysed the data in three ways. Firstly, descriptive statistics were used to get a 'feel' for the data. Secondly, measures of reliability (Cronbach's alpha and principal components) were used to demonstrate the 'goodness' of the data (Cronbach, 1951; Van de Ven & Ferry, 1980). Factorial validity was also established by submitting the data to factor analysis. And thirdly, appropriate statistical manipulation (including bivariate, multivariate, and regression techniques) was conducted in relation to hypothesis testing.

The Chapter examined the results of the data as they related to the second research question:

What relationship exists between education and training levels of top management teams, and strategic planning processes and systems in disability-based organisations?

The strategic planning construct was examined individually using Ramanujam & Venkatraman's (1987b) system capability approach to assessing organisational performance, which incorporated five dimensions of strategic planning systems – internal orientation, external orientation, functional coverage, use of planning techniques, and involvement of key personnel. Each dimension was self assessed and measured using a 5-point Likert scale from 'No emphasis' to 'A great emphasis'., prior to discussing the relationship between the constructs in the research question.

Validity and reliability for the construct and each of the five dimensions was assessed and established by using Cronbach's alpha (Cronbach, 1951), and factor loadings.

In respect of the strategic planning construct and although not statistically significant, extra large Rural Victorian agencies were rated by managers as performing quite well in terms of their overall strategic planning systems. Further, Victorian and Tasmanian managers generally rated their

organisations as performing quite well in terms of their overall strategic planning systems.

Again although not statistically significant, in terms of the internal orientation dimension of strategic planning systems, large Rural Victorian agencies were rated by managers as performing very well, while Victorian and Tasmanian managers generally rated their organisations as performing very well.

In respect of the external orientation dimension of strategic planning systems, extra large agencies were rated by managers as performing well, and Rural Tasmanian managers rated their organisations as performing quite well in this respect. Victorian and Tasmanian managers generally rated their organisations as performing well in terms of this dimension. These differences were not statistically significant.

Extra large agencies were rated by managers as performing very well in terms of the functional integration dimension of strategic planning systems, while Tasmanian Provincial managers also rated their organisations as performing very well in this regard. Tasmanian and Victorian managers generally rated their organisations as performing well. These differences were not statistically significant.

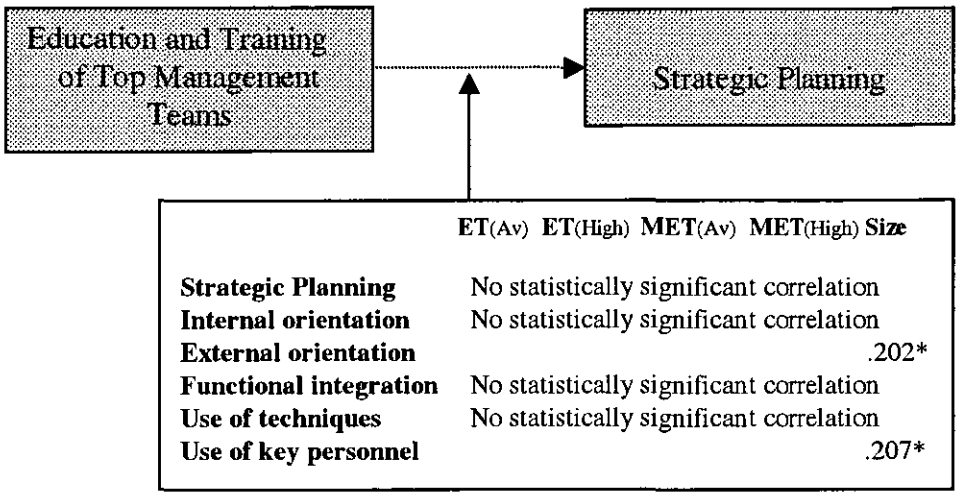
Although not statistically significant, in relation to the use of techniques dimension of strategic planning systems, extra large agencies were rated by managers as performing quite well, as were Tasmanian Rural agencies. Generally however, Victorian and Tasmanian managers rated their organisations as performing satisfactorily in this respect.

The last dimension, use of key personnel dimension of strategic planning systems, was rated by managers in extra large agencies as being performed very well. Victorian Provincial managers rated their agencies as performing quite well on this dimension, although this difference was not statistically significant. Victorian and Tasmanian managers generally rated their organisations as performing quite well on this dimension, and the slight differences between States were not statistically significant.

The overall results of the data analysis as they relate to the second research question are shown in Figure 66 below. As can be seen, there were no statistically significant correlations between the education and training levels of top management teams in disability based agencies and their respective organisations on any of the five dimensions of strategic planning used in this research. The only statistically significant correlations were between organisational size and the external orientation and use of key personnel dimensions (at the .05 level of significance). However, some evidence was found from the regression analyses that education and training levels explained some of the variation in the external orientation dimension of strategic planning.

Generally the correlations between organisational size and strategic planning were supported by the various regression analyses.

Figure 66 ***Relationship (Spearman's rho correlation) between education and training levels of top management teams and strategic planning***



	ET(Av)	ET(High)	MET(Av)	MET(High)	Size
Strategic Planning	No statistically significant correlation				
Internal orientation	No statistically significant correlation				
External orientation					.202*
Functional integration	No statistically significant correlation				
Use of techniques	No statistically significant correlation				
Use of key personnel					.207*

* Correlation is significant at the .05 level (2-tailed)

The next Chapter, Chapter 7 will examine the data relating to the third and final research question.