



THE UNIVERSITY OF  
**WAIKATO**  
*Te Whare Wānanga o Waikato*

Research Commons

<http://researchcommons.waikato.ac.nz/>

## Research Commons at the University of Waikato

### Copyright Statement:

The digital copy of this thesis is protected by the Copyright Act 1994 (New Zealand).

The thesis may be consulted by you, provided you comply with the provisions of the Act and the following conditions of use:

- Any use you make of these documents or images must be for research or private study purposes only, and you may not make them available to any other person.
- Authors control the copyright of their thesis. You will recognise the author's right to be identified as the author of the thesis, and due acknowledgement will be made to the author where appropriate.
- You will obtain the author's permission before publishing any material from the thesis.

**Activity-based measurement extending attribute-based measurement of  
learning organisations**

A thesis

submitted **in fulfilment**

of the requirements for the degree

of

**Doctor of Philosophy**

at

**The University of Waikato**

by

**Gustav Wilkinson**



THE UNIVERSITY OF  
**WAIKATO**  
*Te Whare Wānanga o Waikato*

2013

## Abstract

This thesis describes the development and testing of the Learning Organisation Quick Scan (LOQS), an activity-based methodology, incorporating qualitative elements, that extends previous attribute-based quantitative attempts at measurement.

This research study offers a number of contributions to new knowledge, the principal one being the development of a qualitative methodology for measuring the extent to which an organisation can be classified as a learning organisation. Previous quantitative methods of measurement used attributes of a learning organisation as the framework for measurement. Attributes alone were found to be insufficient to function as a framework for assessing an organisation qualitatively and, as a result, the attributes of a learning organisation were broken down further into activities that a learning organisation could be expected to engage in. These activities represent an additional contribution to new knowledge and are the enabling mechanisms by which organisations can be measured. Furthermore, LOQS activities not only allow an organisation to see how well it measures up against the learning organisation ideal, but the methodology also has the potential for providing a prescriptive direction for change, simply by reflecting upon the LOQS activities it does not engage in.

In short, the LOQS starts on a Monday and finishes on a Friday. It is fast. During this time, data collection, data analysis and data presentation are all completed. The outputs are graphed and are presented in a format that is easy to understand and can lead to further action if the participant organisation so chooses.

The development of the LOQS was achieved through a multiple iterative case study methodology, a process very similar to prototyping in software engineering whereby an initial prototype is designed and tested (in a first case). Reflections from this first case, combined with feedback from the executive team of the first participant organisation, led to modifications of the prototype which was then tested in a second case. This process was repeated in a third iteration. Saturation was reached and the final prototype was deemed ready for a fourth iteration, which was the final test. This fourth test confirmed the prototype as a working methodology. This method of development is presented as an additional contribution.

In the process of developing the LOQS, two further findings emerged, one being the discovery of two additional attributes of a learning organisation not previously mentioned in the literature, the second being the grouping of the learning organisation attributes and activities into four dimensions. These dimensions enabled scores to be plotted and presented back to the organisation in a fashion that proved easy to understand. These additional attributes along with their activities are offered as a further contribution to new knowledge.

Measuring four organisations as learning organisations within the same industry sector has never before been attempted. Testing the prototype LOQS with four participant organisations led to discoveries about those organisations and as they all came from the same industry sector, new insights into the industry became possible, leading to the discovery of characteristics of this industry sector. These characteristics are presented as the final contribution from this research study.

# Acknowledgements

When completing a project of this nature, there are always a number of people that need to be thanked and recognised for their part in its completion – for a project of this magnitude can never be done alone.

To the person who I am honoured and privileged to be able call my wife, Helena Wilkinson, a person of boundless energy, enthusiasm, encouragement and love...I thank you – without you and your unwavering support, this project would have withered and died long ago.

To my two sons, Jake and Sam Wilkinson – thank you for sharing me and my time with this project...and for doing so without hesitation or complaint

To my Supervisors: Professor Bob McQueen, Dr Peter Sun and Professor Paul Childerhouse – your support both practical and moral has been to a degree that I consider to be well above and beyond the call of duty...my sincerest, deepest and most heartfelt thanks to you. I could not have done it without you. In fact, “thanks” doesn’t even begin to cover it.

To my parents, Inga and Bill Wilkinson – thank you for your moral, practical and financial support throughout these years.

To John Scott and John Buchanan from the Management Systems department of the University of Waikato for first introducing me to the concepts of the learning organisation in such an incredibly captivating fashion...and again to John Scott for starting off as my Chief Supervisor before his retirement.

To Shane Edwards from Te Wananga o Aotearoa – thank you for encouraging me to get off my butt and get started. You initiated this whole process.

To Klaus Reiter, my boss at the Waikato Institute of Technology School of Information Technology for his unwavering support and allowing me the time off to finish this thesis; and my team at Wintec who covered for me when I was absent from work.

And lastly, I would like to thank all the electricity lines companies who participated in this research, both managers and employees, for making us feel welcome, providing us with everything we needed and generally putting up with a bunch of academics, in hard hats, poking their noses into your business. I can’t name you, but you know who you are – without you, the lights just wouldn’t stay on!

**In memory of William (Bill) Brent Wilkinson  
5<sup>th</sup> May 1933 – 5<sup>th</sup> June 2011**

# Table of Contents

ABSTRACT.....	.....
ACKNOWLEDGEMENTS.....	..... II
TABLE OF CONTENTS .....	..... III
TABLE OF FIGURES.....	..... VII
TABLE OF TABLES.....	..... VIII
<b>1. INTRODUCTION .....</b>	<b>..... 1</b>
1.1. THE TOPIC OF THIS RESEARCH STUDY.....	..... 1
1.2. LEARNING ORGANISATIONS.....	..... 1
1.3. THIS THESIS .....	..... 2
<b>2. LITERATURE REVIEW.....</b>	<b>..... 4</b>
2.1. WHAT IS A LEARNING ORGANISATION .....	..... 4
2.1.1. <i>The living company</i> .....	..... 4
2.1.2. <i>The learning organisation: an evolutionary step</i> .....	..... 5
2.1.3. <i>The Fifth Discipline and the subsequent demand for publications</i> .....	..... 7
2.1.4. <i>The five disciplines</i> .....	..... 8
2.2. DIFFERING CAMPS OF OPINION ON LEARNING ORGANISATIONS.....	..... 10
2.2.1. <i>LO as a solution in volatile times</i> .....	..... 10
2.2.2. <i>Definitions of a learning organisation</i> .....	..... 11
2.2.3. <i>The visionary/sceptic dichotomy</i> .....	..... 14
2.3. ATTRIBUTES OF A LEARNING ORGANISATION .....	..... 16
2.3.1. <i>Enabling practices conducive to developing learning organisations</i> .....	..... 17
2.3.2. <i>Barriers which limit the development of learning organisations</i> .....	..... 27
2.4. MEASUREMENT OF LEARNING ORGANISATIONS.....	..... 29
2.4.1. <i>Is measurement possible?</i> .....	..... 29
2.4.2. <i>Previous attempts at measurement</i> .....	..... 30
2.5. OTHER MANAGEMENT SYSTEMS.....	..... 34
2.5.1. <i>TQM</i> .....	..... 35
2.5.2. <i>Six Sigma</i> .....	..... 35
2.5.3. <i>Lean</i> .....	..... 36
2.5.4. <i>BPR</i> .....	..... 37
2.6. AUDITING/MEASUREMENT .....	..... 37
2.7. QUICK SCAN AUDIT METHODOLOGY .....	..... 38
2.7.1. <i>Component parts</i> .....	..... 39
2.7.2. <i>The team</i> .....	..... 41
2.7.3. <i>Advantage and weaknesses as a measuring system</i> .....	..... 41
2.8. LITERATURE REVIEW SUMMARY - THE RESEARCH GAP .....	..... 42
2.8.1. <i>The concept of the learning organisation</i> .....	..... 42
2.8.2. <i>Measurement and audit</i> .....	..... 42
2.8.3. <i>Attributes of a learning organisation</i> .....	..... 43
2.8.4. <i>Representing the research gaps</i> .....	..... 43
<b>3. METHODOLOGY .....</b>	<b>..... 46</b>
3.1. AN UPFRONT SUMMARY OF THE ADOPTED METHODOLOGY.....	..... 47
3.2. DIFFERING VIEWS ON THE NATURE OF REALITY .....	..... 49
3.3. DATA GATHERING AND ANALYSIS METHODS.....	..... 50
3.3.1. <i>Data gathering methods</i> .....	..... 51
3.3.2. <i>Data analysis methods</i> .....	..... 52
3.4. DEVELOPMENT METHODOLOGY .....	..... 57
3.5. THE ROLE OF THE LOQS TEAM .....	..... 64

3.6.	VALIDITY AND RELIABILITY.....	65
3.6.1.	<i>Validity and reliability in qualitative research.....</i>	65
3.7.	THE ELECTRICITY INDUSTRY IN NEW ZEALAND.....	70
3.7.1.	<i>Generation .....</i>	70
3.7.2.	<i>Transmission .....</i>	71
3.7.3.	<i>Distribution .....</i>	71
3.7.4.	<i>Retail.....</i>	71
3.7.5.	<i>The NZEM.....</i>	71
3.8.	TIMETABLES.....	72
3.9.	ETHICS.....	72
3.10.	SUMMARY.....	72
<b>4.</b>	<b>DEVELOPMENT AND TESTING OF THE LOQS METHODOLOGY .....</b>	<b>74</b>
4.1.	DEVELOPMENT OF THE INITIAL PROTOTYPE.....	74
4.1.1.	<i>Arranging learning organisation attributes into dimensions.....</i>	74
4.1.2.	<i>What was adopted from the Quick Scan Audit Methodology.....</i>	77
4.1.3.	<i>The initial LOQS prototype .....</i>	79
4.1.4.	<i>Summary.....</i>	83
4.2.	APPLYING THE METHODOLOGY TO LINECO1 – THE FIRST CASE .....	84
4.2.1.	<i>Planned timetable for case 1 .....</i>	85
4.2.2.	<i>What the LOQS revealed about LineCo1 .....</i>	88
4.2.3.	<i>Offsite analysis of the data .....</i>	97
4.2.4.	<i>Feedback to LineCo1 .....</i>	109
4.2.5.	<i>Reflections on the LOQS at LineCo1 .....</i>	112
4.3.	THE SECOND CASE – LINECO2 .....	113
4.3.1.	<i>Changes to the LOQS and preparation for Case 2.....</i>	113
4.3.2.	<i>Planned timetable for Case 2 .....</i>	117
4.3.3.	<i>What the LOQS revealed about LineCo2.....</i>	119
4.3.4.	<i>Offsite analysis of the data .....</i>	134
4.3.5.	<i>Feedback to LineCo2 .....</i>	143
4.3.6.	<i>Reflections on the LOQS at LineCo2 .....</i>	145
4.4.	THE THIRD CASE – LINECO3.....	148
4.4.1.	<i>Changes to the LOQS and preparation for Case 3.....</i>	149
4.4.2.	<i>Planned Timetable for Case 3 .....</i>	155
4.4.3.	<i>What the LOQS revealed about LineCo3.....</i>	158
4.4.4.	<i>Offsite Analysis of the data .....</i>	170
4.4.5.	<i>Feedback to LineCo3 .....</i>	178
4.4.6.	<i>Reflections on the LOQS at LineCo3 .....</i>	179
4.5.	THE FINAL TEST OF THE LOQS – LINECO4 .....	183
4.5.1.	<i>Changes to the LOQS and preparation for Case 4.....</i>	183
4.5.2.	<i>Planned Timetable for Case 4 .....</i>	186
4.5.3.	<i>What the LOQS revealed from LineCo4.....</i>	189
4.5.4.	<i>Offsite analysis of the data .....</i>	210
4.5.5.	<i>Feedback to LineCo4 .....</i>	218
4.5.6.	<i>Reflections on the LOQS at LineCo4 .....</i>	222
4.6.	SUMMARY AND FURTHER REFLECTIONS FROM THE FOUR CASES .....	223
4.6.1.	<i>Case 1.....</i>	223
4.6.2.	<i>Case 2.....</i>	225
4.6.3.	<i>Case 3.....</i>	226
4.6.4.	<i>Case 4.....</i>	227
4.6.5.	<i>The use of observation as a data gathering method .....</i>	228
4.6.6.	<i>The use of activity-based measurement to extend attribute-based measurement.....</i>	228
4.6.7.	<i>Overall progression of the cases .....</i>	229
<b>5.</b>	<b>FINDINGS.....</b>	<b>230</b>
5.1.	ACTIVITIES AS AN EXTENSION TO MEASUREMENT OF LO (FINDING 1) .....	230
5.2.	THE LOQS METHODOLOGY – ACTIVITY BASED MEASUREMENT OF LO (FINDING 2) .....	231

5.3.	A NEW GROUPING OF LO ATTRIBUTES AND ACTIVITIES INTO FOUR DIMENSIONS (FINDING 3)	235
5.4.	ADDITIONAL LO ATTRIBUTES (FINDING 4)	236
5.5.	THE METHOD USED FOR THE DEVELOPMENT OF THE LOQS (FINDING 5)	237
5.6.	AN ANALYSIS OF THE PARTICIPANT ORGANISATIONS (FINDING 6)	238
5.6.1.	<i>A brief recap of what a learning organisation is</i>	239
5.6.2.	<i>LineCo1</i>	239
5.6.3.	<i>LineCo2</i>	240
5.6.4.	<i>LineCo3</i>	241
5.6.5.	<i>LineCo4</i>	242
5.6.6.	<i>Insights into the electricity lines industry from the four cases</i>	243
5.7.	SUMMARY OF FINDINGS	244
<b>6.</b>	<b>DISCUSSION</b>	<b>246</b>
6.1.	ACTIVITIES AS AN EXTENSION TO MEASUREMENT OF LO	246
6.2.	THE LOQS METHODOLOGY – ACTIVITY BASED MEASUREMENT OF LO	247
6.3.	A NEW GROUPING OF LO ATTRIBUTES AND ACTIVITIES INTO FOUR DIMENSIONS	249
6.4.	ADDITIONAL LO ATTRIBUTES	251
6.5.	THE METHOD USED FOR THE DEVELOPMENT OF THE LOQS	252
6.6.	AN ANALYSIS OF THE PARTICIPANT ORGANISATIONS	252
6.7.	SUMMARY OF DISCUSSION CHAPTER	256
<b>7.</b>	<b>CONCLUSIONS</b>	<b>257</b>
7.1.	ACTIVITIES AS AN EXTENSION TO MEASUREMENT OF LO	257
7.1.1.	<i>Limitations</i>	257
7.1.2.	<i>Direction for further research</i>	257
7.2.	THE LOQS METHODOLOGY – ACTIVITY BASED MEASUREMENT OF LO	257
7.2.1.	<i>Limitations</i>	258
7.2.2.	<i>Direction for further research</i>	258
7.3.	A NEW GROUPING OF LO ATTRIBUTES AND ACTIVITIES INTO FOUR DIMENSIONS	259
7.3.1.	<i>Limitations</i>	259
7.3.2.	<i>Direction for further research</i>	259
7.4.	ADDITIONAL LO ATTRIBUTES	259
7.4.1.	<i>Limitations</i>	259
7.4.2.	<i>Direction for further research</i>	259
7.5.	THE METHOD USED FOR DEVELOPING THE LOQS	259
7.5.1.	<i>Limitations</i>	260
7.5.2.	<i>Direction for further research</i>	260
7.6.	ANALYSIS OF THE PARTICIPANT ORGANISATIONS	260
7.6.1.	<i>Limitations</i>	261
7.6.2.	<i>Direction for further research</i>	261
7.7.	SUMMARY OF CONCLUSIONS	261
	<b>REFERENCES</b>	<b>263</b>
	<b>APPENDIX 1 – THE SURVEY QUESTIONNAIRE USED IN CASE 4</b>	<b>270</b>
	<b>APPENDIX 2 – THE STRUCTURED INTERVIEW PLAN FOR MANAGERS</b>	<b>283</b>
	<b>APPENDIX 3 – THE STRUCTURED INTERVIEW PLAN FOR EMPLOYEES</b>	<b>290</b>
	<b>APPENDIX 4 – ATTRIBUTES DISTILLED FROM THE LITERATURE</b>	<b>294</b>
	<b>APPENDIX 5 – AMENDED LOQS ACTIVITIES BY DIMENSIONS</b>	<b>301</b>
	<b>APPENDIX 6 – ATTRIBUTES AND ACTIVITIES BY DIMENSIONS</b>	<b>305</b>
	<b>APPENDIX 7 – MINI-CHECKLISTS</b>	<b>313</b>
	APPENDIX 7A – SURVEY MINI-CHECKLIST	314
	APPENDIX 7B – MANAGEMENT INTERVIEW MINI-CHECKLIST	319
	APPENDIX 7C – EMPLOYEE INTERVIEW MINI-CHECKLIST	323
	APPENDIX 7D – DOCUMENT ANALYSIS MINI-CHECKLIST	326

APPENDIX 7E – MEETING OBSERVATION MINI-CHECKLIST.....	328
APPENDIX 7F – FIELDWORK OBSERVATION MINI-CHECKLIST .....	329
<b>APPENDIX 8 – GRAPHICAL REPRESENTATION OF SURVEY RESPONSES (LINECO3) .....</b>	<b>330</b>
<b>APPENDIX 9 – GRAPHICAL REPRESENTATION OF SURVEY RESPONSES (LINECO4) .....</b>	<b>338</b>

# Table of Figures

FIGURE 1: RESULTS OF CITATION SEARCH FOR THE FIFTH DISCIPLINE BY PETER SENGE. SOURCE: AUTHOR .....	7
FIGURE 2: THE DIFFERING CAMPS OF OPINION ON LEARNING ORGANISATIONS. SOURCE: AUTHOR.....	16
FIGURE 3: THE QSAM PROCESS. SOURCE: BOEHME ET AL., (2008) AND CHILDERHOUSE & TOWILL, (2011).....	40
FIGURE 4: THE RESEARCH GAP. SOURCE: AUTHOR.....	44
FIGURE 5: MATRIX OF RESEARCH PARADIGMS. SOURCE: (BURRELL & MORGAN, 1979).....	49
FIGURE 6: ITERATIVE CASE STUDY METHODOLOGY USED IN THIS RESEARCH. SOURCE: AUTHOR.....	64
FIGURE 7: EXAMPLE OF POSSIBLE DATA GATHERING TECHNIQUES BY LOQS ATTRIBUTES. SOURCE: AUTHOR .....	80
FIGURE 8: LINECo1'S VISION, MISSION AND VALUES. SOURCE: LINECo1 .....	90
FIGURE 9: THE OVERALL MOOD OF LINECo1 FROM THE SURVEY RESPONSES. SOURCE: AUTHOR.....	98
FIGURE 10: GRAPH SHOWING LINECo1'S OVERALL SURVEY RESULTS FOR QUESTION 9. SOURCE: AUTHOR .....	99
FIGURE 11: GRAPH SHOWING LINECo1'S OVERALL SURVEY RESULTS FOR QUESTION 24. SOURCE: AUTHOR .....	99
FIGURE 12: GRAPH SHOWING LINECo1'S OVERALL SURVEY RESULTS FOR QUESTION 30. SOURCE: AUTHOR .....	100
FIGURE 13: GRAPH SHOWING LINECo1'S OVERALL SURVEY RESULTS FOR QUESTION 31. SOURCE: AUTHOR .....	100
FIGURE 14: GRAPH SHOWING LINECo1'S OVERALL SURVEY RESULTS FOR QUESTION 33. SOURCE: AUTHOR .....	101
FIGURE 15: GRAPH SHOWING LINECo1'S OVERALL SURVEY RESULTS FOR QUESTION 47. SOURCE: AUTHOR .....	101
FIGURE 16: GRAPH SHOWING LINECo1'S OVERALL SURVEY RESULTS FOR QUESTION 14. SOURCE: AUTHOR .....	102
FIGURE 17: GRAPH SHOWING LINECo1'S OVERALL SURVEY RESULTS FOR QUESTION 16. SOURCE: AUTHOR .....	102
FIGURE 18: GRAPH SHOWING LINECo1'S OVERALL SURVEY RESULTS FOR QUESTION 21. SOURCE: AUTHOR .....	103
FIGURE 19: GRAPH SHOWING LINECo1'S OVERALL SURVEY RESULTS FOR QUESTION 50. SOURCE: AUTHOR .....	103
FIGURE 20: CAUSE & EFFECT DIAGRAM FOR LINECo1. SOURCE: AUTHOR .....	105
FIGURE 21: LINECo1'S LOQS PENTAGON. SOURCE: AUTHOR.....	109
FIGURE 22: THE DIVIDE BETWEEN MANAGEMENT AND EMPLOYEES AT LINECo1. SOURCE: AUTHOR.....	110
FIGURE 23: THE MOOD OF THE ORGANISATION (LINECo2) FROM THE SURVEY RESULTS...SOURCE: AUTHOR .....	135
FIGURE 24: GRAPH SHOWING LINECo2'S OVERALL SURVEY RESULTS FOR QUESTION 54. SOURCE: AUTHOR .....	136
FIGURE 25: GRAPH SHOWING LINECo2'S OVERALL SURVEY RESULTS FOR QUESTION 9. SOURCE: AUTHOR .....	136
FIGURE 26: GRAPH SHOWING LINECo2'S OVERALL SURVEY RESULTS FOR QUESTION 24. SOURCE: AUTHOR .....	137
FIGURE 27: GRAPH SHOWING LINECo2'S OVERALL SURVEY RESULTS FOR QUESTION 30. SOURCE: AUTHOR .....	137
FIGURE 28: GRAPH SHOWING LINECo2'S OVERALL SURVEY RESULTS FOR QUESTION 31. SOURCE: AUTHOR .....	138
FIGURE 29: GRAPH SHOWING LINECo2'S OVERALL SURVEY RESULTS FOR QUESTION 33. SOURCE: AUTHOR .....	138
FIGURE 30: GRAPH SHOWING LINECo2'S OVERALL SURVEY RESULTS FOR QUESTION 55. SOURCE: AUTHOR .....	139
FIGURE 31: GRAPH SHOWING LINECo2'S OVERALL SURVEY RESULTS FOR QUESTION 23. SOURCE: AUTHOR .....	139
FIGURE 32: GRAPH SHOWING LINECo2'S OVERALL SURVEY RESULTS FOR QUESTION 21. SOURCE: AUTHOR .....	140
FIGURE 33: GRAPH SHOWING LINECo2'S OVERALL SURVEY RESULTS FOR QUESTION 50. SOURCE: AUTHOR .....	140
FIGURE 34: CAUSE AND EFFECT DIAGRAM FOR LINECo2. SOURCE: AUTHOR .....	141
FIGURE 35: THE LOQS PENTAGON FOR LINECo2. SOURCE: AUTHOR.....	143
FIGURE 36: THE MOOD OF THE ORGANISATION (LINECo3) FROM THE SURVEY RESULTS. SOURCE: AUTHOR.....	171
FIGURE 37: GRAPH SHOWING LINECo3'S OVERALL SURVEY RESULTS FOR QUESTION 44. SOURCE: AUTHOR .....	173
FIGURE 38: GRAPH SHOWING LINECo3'S SURVEY RESULTS FOR QUESTION 44 BY BUSINESS UNIT. SOURCE: AUTHOR .....	173
FIGURE 39: GRAPH SHOWING LINECo3'S SURVEY RESULTS FOR QUESTION 44 BY LENGTH OF EMPLOYMENT. SOURCE: AUTHOR.....	173
FIGURE 40: CAUSE AND EFFECT DIAGRAM FOR LINECo3. SOURCE: AUTHOR .....	175
FIGURE 41: THE LOQS PENTAGON FOR LINECo3. SOURCE: AUTHOR.....	177
FIGURE 42: EXAMPLE OF SUCCESSION PLANNING TOOL IN USE AT LINECo4. SOURCE: AUTHOR.....	190
FIGURE 43: THE MOOD OF THE ORGANISATION (LINECo4) FROM THE SURVEY RESULTS. SOURCE: AUTHOR.....	211
FIGURE 44: GRAPH SHOWING LINECo4'S OVERALL SURVEY RESULTS FOR QUESTION 44. SOURCE: AUTHOR .....	212
FIGURE 45: GRAPH SHOWING LINECo4'S SURVEY RESULTS FOR QUESTION 44 BY BUSINESS UNIT. SOURCE: AUTHOR .....	212
FIGURE 46: GRAPH SHOWING LINECo4'S SURVEY RESULTS FOR QUESTION 44 BY LENGTH OF EMPLOYMENT. SOURCE: AUTHOR.....	212
FIGURE 47: CAUSE AND EFFECT DIAGRAM FOR LINECo4. SOURCE: AUTHOR .....	215
FIGURE 48: THE LOQS DIAMOND FOR LINECo4. SOURCE: AUTHOR .....	218
FIGURE 49: THE LOQS DIAMOND FOR LINECo4 WITH ALL OTHER PARTICIPANT ORGANISATIONS PLOTTED FOR COMPARISON. SOURCE: AUTHOR .....	220
FIGURE 50: THE EVOLUTION OF THE LOQS METHODOLOGY WITH EACH CASE. SOURCE: AUTHOR.....	224
FIGURE 51: THE FINAL LOQS PROCESS. SOURCE: AUTHOR. ....	232
FIGURE 52: FOUNDATION COMPONENTS THAT ALLOWED LOQS TO WORK. SOURCE: AUTHOR .....	235

# Table of Tables

TABLE 1: ENVIRONMENTAL TRIGGERS FOR CHANGES IN MANAGEMENT PHILOSOPHY. SOURCE: JAMALI ET AL. (2009) .....	5
TABLE 2: THE FOUR STAGES IN ORGANISATIONAL MANAGEMENT PHILOSOPHY. SOURCE: MCGILL & SLOCUM (1993) .....	6
TABLE 3: A SUMMARY OF LEARNING ORGANISATION ATTRIBUTES. SOURCE: AUTHOR .....	27
TABLE 4: A SUMMARY OF BARRIERS THAT INHIBIT THE DEVELOPMENT OF LEARNING ORGANISATIONS. SOURCE: AUTHOR .....	29
TABLE 5: PREVIOUS ATTEMPTS AT MEASURING LEARNING ORGANISATIONS. SOURCE: AUTHOR.....	30
TABLE 6: SIMILARITIES AND DIFFERENCES BETWEEN TQM, SIX SIGMA AND LEAN. SOURCE: ADAPTED FROM ANDERSSON ET AL. (2006).....	37
TABLE 7: COUNTRIES AND ORGANISATION SECTORS THAT HAVE APPLIED QSAM. SOURCE: BOEHME ET AL. (2008).....	39
TABLE 8: THE STRENGTHS AND WEAKNESSES OF QUANTITATIVE RESEARCH. SOURCE: JOHNSON & ONWUEGBUZIE (2004).....	53
TABLE 9: THE STRENGTHS AND WEAKNESSES OF QUALITATIVE RESEARCH. SOURCE: JOHNSON & ONWUEGBUZIE (2004) .....	55
TABLE 10: STATISTICAL METHODS OF ANALYSING QUANTITATIVE DATA. SOURCE: ADAPTED FROM HUSSEY & HUSSEY (1979).....	55
TABLE 11: CHOICE OF CASE STUDY TYPE. SOURCE: ADAPTED FROM VOSS ET AL. (2002) .....	59
TABLE 12: MATCHING RESEARCH PURPOSE WITH METHODOLOGY. SOURCE: VOSS ET AL. (2002).....	60
TABLE 13: PROCESS OF BUILDING THEORY FROM CASE STUDY RESEARCH. SOURCE: EISENHARDT (1989). .....	61
TABLE 14: ASSESSMENT OF CRITERIA OF VALIDITY. SOURCE: ADAPTED FROM WHITTMORE ET AL. (2001) .....	67
TABLE 15: STRATEGIES USED TO PROMOTE QUALITATIVE RESEARCH VALIDITY. ADAPTED FROM (JOHNSON, 1997).....	70
TABLE 16: TABLE 14: MILESTONES AND ENVISAGED TIMEFRAMES FOR THIS RESEARCH. SOURCE: AUTHOR.....	72
TABLE 17: ELEMENTS OF QSAM RETAINED FOR THE LOQS. SOURCE: AUTHOR.....	79
TABLE 18: SCORING SYSTEM DEVELOPED FOR LOQS QUESTIONNAIRE RESPONSES. SOURCE: AUTHOR .....	81
TABLE 19: EXAMPLE OF DOCUMENTS THAT WOULD BE TARGETED FOR ANALYSIS WHEN TESTING THE LOQS PROTOTYPE. SOURCE: AUTHOR .....	82
TABLE 20: ENVISAGED ADMINISTRATIVE TASKS FACTORED IN AS PART OF THE PROTOTYPE. SOURCE: AUTHOR .....	83
TABLE 21: ENVISAGED FORMAT OF THE FEEDBACK PRESENTATION TO THE ENTIRE WORKFORCE. SOURCE: AUTHOR .....	87
TABLE 22: ENVISAGED FORMAT OF THE FEEDBACK PRESENTATION TO THE EXECUTIVE TEAM. SOURCE: AUTHOR .....	88
TABLE 23: FEEDBACK FROM THE EXECUTIVE TEAM AT LINECo1 WITH REGARD TO THE LOQS PROCESS. SOURCE: AUTHOR .....	112
TABLE 24: EXAMPLE OF THE INTERVIEW PLAN FORM INCORPORATING AN ELEMENT OF SELF-SCORING DEVELOPED FOR LINECo2. SOURCE: AUTHOR .....	115
TABLE 25: DOCUMENT ANALYSIS PLAN FOR LINECo2. SOURCE: AUTHOR .....	117
TABLE 26: ENVISAGED FORMAT OF THE FEEDBACK PRESENTATION TO THE EXECUTIVE TEAM AT LINECo2. SOURCE: AUTHOR .....	119
TABLE 27: RESULTS OF INTERVIEW SELF-SCORING RESULTS BY MANAGEMENT TEAM OF LINECo2. SOURCE: AUTHOR .....	126
TABLE 28: FEEDBACK FROM THE EXECUTIVE TEAM AT LINECo2 ON THE LOQS PROCESS. SOURCE: AUTHOR.....	145
TABLE 29: THE MANAGEMENT INTERVIEW CHECKLIST AS DEVELOPED FOR LINECo3. SOURCE: AUTHOR .....	151
TABLE 30: EXAMPLE OF PART OF THE INTERVIEW PLAN FORM INCORPORATING AN ELEMENT OF SELF-SCORING DEVELOPED FOR LINECo3. SOURCE: AUTHOR.....	153
TABLE 31: DOCUMENT ANALYSIS PLAN FOR LINECo3. SOURCE: AUTHOR .....	155
TABLE 32: ENVISAGED FINAL PRESENTATION PLAN FOR LINECo3. SOURCE: AUTHOR .....	157
TABLE 33: SURVEY RESPONSE HIGHLIGHTS FROM LINECo3. SOURCE: AUTHOR.....	174
TABLE 34: FEEDBACK FROM THE EXECUTIVE TEAM AT LINECo3 ON THE LOQS PROCESS. SOURCE: AUTHOR.....	179
TABLE 35: DOCUMENT ANALYSIS PLAN FOR LINECo4. SOURCE: AUTHOR .....	185
TABLE 36: ENVISAGED FINAL PRESENTATION PLAN FOR LINECo4. SOURCE: AUTHOR .....	188
TABLE 37: RESULTS OF INTERVIEW SELF-SCORING RESULTS BY MANAGEMENT TEAM OF LINECo4. SOURCE: AUTHOR .....	197
TABLE 38: RESULTS OF INTERVIEW SELF-SCORING RESULTS BY RANDOMLY SELECTED EMPLOYEES OF LINECo4. SOURCE: AUTHOR.....	201
TABLE 39: SURVEY RESPONSE HIGHLIGHTS FROM LINECo4. SOURCE: AUTHOR .....	213
TABLE 40: FEEDBACK FROM LINECo4 ABOUT THE LOQS. SOURCE: AUTHOR .....	221

# 1. Introduction

## 1.1. *The topic of this research study*

The aim of this research is to extend previous quantitative methodologies of measuring learning organisations by developing and testing a methodology for measuring the extent to which an organisation can be classified as a learning organisation, incorporating both qualitative and quantitative elements. Previous attempts at measurement have relied solely on surveys as their source of data and have been criticised as being self-reporting instruments. It is hoped that a more qualitative methodology utilising data gathered on-site at participant organisations by means of a multitude of different methods, will improve upon previous attempts at measurement by providing a richer and more robust picture of an organisation's actual status in comparison to the learning organisation ideal.

Having lived and worked in three different countries as a practising manager, I developed an interest in different management styles and practices, both in the clinical and corporate world. I also became fascinated by the differences in management culture that seemed to exist when comparing Sweden, the UK and New Zealand. This is what prompted me to pursue further postgraduate studies in management on a part-time basis, while also working full-time.

## 1.2. *Learning organisations*

Post graduate studies led to a stimulating world of literature including Arie de Geus's work on Living Companies. De Geus was perplexed by the fact that the average age of a Fortune 500 company was a mere 30-40 years, even though there are examples of companies that are many hundreds of years old. De Geus sought to find out what these long-lasting companies did differently.

Also fascinating was the work of Chris Argyris in the areas of organisational learning and organisational defensive routines caused by poor management practice, leading to 'Barriers to Learning.' Then came the book: *The Fifth Discipline: The Art & Practice of The Learning Organisation* by Peter Senge. It was a very seductive book as it introduced the possibility that there was a better way, and gave sound reasons as to why an organisation should strive to become a learning organisation. It described, in detail, the disciplines required to become a learning organisation but it did not explain how an organisation could set about transforming itself into one. If a CEO has read the Fifth Discipline over the weekend, what does he do on Monday morning to start the change?

Ensuing books by Peter Senge, known as the "Fieldbook" series attempted to address this question by publishing a number of activities and exercises that could be used to increase employees', managers' and teams' competencies in the five disciplines. They also contained case studies of organisations that, supposedly, had made, or partially made, this transition. But critics accused these works of still being far too vague.

The one question that kept repeating in my head was: how does an organisation know if it is a learning organisation? My first attempt to address this question was by doing research for a Master's dissertation which involved attempting to develop a quantitative methodology to measure schools as learning organisations using survey questionnaires. At the end of this

study, I was left with a significant degree of doubt as to whether surveys alone were sufficient to capture the detail necessary to assess an organisation as a learning organisation.

Further studies revealed that there were, indeed, many differing camps of opinion over learning organisations and that a visionary/sceptic dichotomy existed about the subject. On the visionary side, opinions ranged from considering learning organisations as an undeniable fact where research should focus on learning as much as possible about these organisations. The other side of the visionary camp regarded the learning organisation as a utopia that could be striven for but never reached and where the journey of striving to become a learning organisation was more important than arriving at the destination. On the sceptic side, opinions ranged from regarding learning organisations as a negative ideology; simply one more example of management rhetoric designed to exploit employees. The other side of the sceptic camp held the learning organisation concept to be so fundamentally flawed as to be irrelevant. The author went from being a learning organisation evangelist to being more than a little sceptical.

Previous attempts at measuring learning organisations had all relied on surveys to collect data and the question that remained in my mind at the start of this study was: could a qualitative method do a better job? This question, in my mind, reflects a significant gap in the literature and if a better, more robust method of measuring a learning organisation could be developed, it would have the potential to answer many questions in this area that have so far remained unanswered. The visionary/sceptic dichotomy may eventually disappear if a learning organisation can be shown to exist in reality.

Peter Senge's inaugural work spawned thousands of articles on learning organisations, some of them really interesting. Many of these published articles suggested that there were thousands of academics who knew how an organisation should be run and yet, when I engaged practising managers in conversation, very few of them seemed to know what a learning organisation was – most of them guessed that it must have something to do with the education industry. The only managers who seemed to know what a learning organisation was were those who had completed an MBA course, and most of those seemed extremely cynical as to whether the concept had any grounding in reality. If a robust method of measurement were to be developed that could conclusively prove that a learning organisation, as a goal, is possible, then further research could determine whether there really is a benefit to an organisation of reaching such a goal. The concept of the learning organisation would then emerge from the abstract and become something concrete. It was this and many other questions like it that gave rise to this research study.

### **1.3. *This thesis***

From here, this thesis continues with a rigorous literature review, focusing first on what a learning organisation is and how the concept came about. The currency of the topic of learning organisations is evident from the continuing demand for publications in this area.

The literature review then examines differing opinions on the subject and the nature of these disagreements and the history behind them. The review then synthesises what previously published literature has established are attributes of a learning organisation; it examines calls for measurement and asks the question of whether it is really possible to measure a learning organisation. It then looks at previous attempts at measurement and examines, in some detail,

the unique features of these methodologies. It looks at other management systems such as Total Quality Management (TQM), Six Sigma, Lean and Business Process Re-engineering (BPR) and discusses audit and measurement. The literature review then introduces the Quick Scan Audit Methodology as one which uses teams of multiple researchers using multiple data gathering methods to measure the health of a supply chain and suggests this methodology as one that may be modified to measure a learning organisation in a qualitative fashion. This chapter finishes by summarising the review of the literature and discusses the research gap that this study proposes to fill.

Chapter 3 describes the methodology chosen for this research study and examines issues of validity, reliability and objectivity. It also examines, in detail, the different data gathering and analysis methods available to researchers. This chapter then introduces the electricity lines industry, chosen as the industry from which participant organisations, hopefully, will agree to be test cases for the Learning Organisation Quick Scan (LOQS) methodology. The chapter finishes by describing the proposed role of the LOQS team.

Chapter 4 describes the arrangement of all the attributes of a learning organisation into dimensions, giving a descriptive overview of those dimensions, suggesting these attributes as a framework for the LOQS measurement methodology. It then describes the development of the first prototype LOQS to be tested in the first case. Chapter 4 continues by giving a detailed account of the first test of the LOQS, describing what was found, what went right, what went wrong, the lessons learned and the modifications needed in preparation for the second case. Reflections from the first case led to the important realisation that attributes of a learning organisation alone were not sufficient to function as the framework for measurement. Each attribute needed to be split further into activities expected of a learning organisation and these activities would form an improved framework against which each of the subsequent cases were compared. Chapter 4 goes on to describe the planning, execution, outcomes and conclusions drawn from the next two case studies, showing how saturation was eventually achieved, determining that the prototype was ready for its final test. This final test is also described and revealed that the prototype could be regarded as a working methodology. The chapter concludes by showing how the LOQS evolved as a result of reflections following each of these testing iterations.

Chapter 5 presents the findings from this research study and Chapter 6 presents a discussion of those findings in relation to previously published literature. The final chapter, chapter 7, is the conclusions chapter where claims of contribution to new knowledge are made. The weaknesses of the research study and areas for suggested further study are also discussed.

## 2. Literature review

This chapter represents a review of the literature, introducing the learning organisation as a step in the evolution of management theory. It continues by examining the differing camps of opinion on learning organisations and the reasons behind their existence. The literature review then distils previous work carried out in defining enabling and disabling attributes of a learning organisation and looks at the possibility of using these attributes as a foundation for measurement. Other management systems are compared and the use of audit as a precursor to change is examined. An argument for the continued use of the term 'measurement', in relation to assessing organisations as learning organisations, is put forward and an auditing system as a candidate for adaptation into a learning organisation measurement system is introduced. The chapter ends with the revelation of a gap in the research and a proposal to fill this gap is put forward.

### 2.1. What is a learning organisation

This section introduces the learning organisation, the antecedents to it as a management philosophy and how management philosophy has evolved due to a host of changing global environmental factors. The continuing demand for publishable work from research in this area is established and Senge's work on the disciplines of a learning organisation is examined.

#### 2.1.1. The living company

Arie de Geus is one of a small number of people accredited with introducing the concept of the learning organisation, later popularised by Peter Senge.

Prior to this, March & Simon (1958) introduced the concept of organisational learning just over 50 years ago. The concept of the learning organisation, however, is relatively recent and the difference between the two concepts was summarised by Sun & Scott (2003): "*Organisational Learning deals with the question of how individuals in the organization learn whereas Learning Organisations reflect an optimisation of Organisational Learning in order to move the organisation towards a desired state* (Sun & Scott, 2003b)."

Arie de Geus was perplexed by the fact that the average life expectancy of a Fortune 500 company is a mere 30 – 40 years. Yet there are companies in existence today that are several hundred years old, an example of which is Stora Enso, formally known as Stora Kopparberg, a Swedish company which sold its first share in 1288. Nowhere in nature are there such discrepancies between maximum and average life expectancies. (De Geus, 1997a).

Arie de Geus initiated a study in order to ascertain whether there were any common attributes that could be observed in these "older" organisations that could explain this phenomenon. There were, and De Geus (1997a) managed to identify a number of almost human-like characteristics, critical for corporate longevity and managing for a long and prosperous organisational life. His study distinguished between "Living Companies," the purpose of which is to fulfil their potential and to perpetuate themselves as on-going communities, and "Economic Companies" (machines), which are in business solely to produce wealth for a small group of individuals. A comparison of the living entity and the machine mind-sets can be summed up in the following statements by De Geus (1997a):

- A machine can be owned by somebody, but a living being cannot be owned.
- A machine exists for the purpose conceived by its builders; living beings create their own purpose.
- Machines are controlled by their operators; living beings can be influenced, but not controlled.
- A machine can only be changed if somebody changes it; living beings evolve naturally.
- A machine has an identity given to it by its builders; a living being has a sense of its own identity and personality.
- A machine will run down until it is rebuilt; a living being will regenerate itself.

Regarding a company as a machine implies that its members are little more than resources that can be used and discarded, whereas seeing a company as a living being leads to regarding its members as “human work communities.” Regarding a company as a machine means that it can only learn as a sum of the learning of its individual components; living companies can learn as an entity.

De Geus showed clearly that ‘Living Companies’ manage for survival; ‘Economic Companies’ manage for profit. Long-lived companies have four important traits in common. They are sensitive to their environment in order to learn and adapt; cohesive, with a strong sense of identity; tolerant of unconventional thinking and experimentation; and conservative in financial policy to retain the resources that allow for flexibility (De Geus, 1997a). The ‘Living Company’ is capable of evolving harmoniously (De Geus, 1997b). Peter Senge later extended this and other work, in order to produce a descriptive set of skills necessary for moving an organisation from being an ‘Economic Company’ to becoming a ‘Living Company’, or a ‘learning organisation’.

### 2.1.2. The learning organisation: an evolutionary step

The advent of globalisation, intensifying competition, the proliferation of international global agreements and standards, the ascendancy of knowledge workers and changing lifestyles and expectations are examples of factors identified by Jamali, Sidani, and Zouein (2009) that drive the need for the evolution of management strategies (Jamali et al., 2009). These factors are typically grouped into four distinct categories as shown in Table 1 below:

Political	Economic	Socio-cultural	Technological
Local laws	Competitors	Demographic trends	Information technology
International laws	Suppliers	Lifestyles	Internet
Wars	Exchange rates	Quality, mobility of labour	New production processes
Trade union activities	Wages	Gender issues	Process computerisation
Trade agreements	Economic policies	Mobility	Transport technology
Government ideologies	Financial policies	Environmental and ethical concerns	Changes in transportation

Table 1: Environmental triggers for changes in management philosophy. Source: Jamali et al. (2009)

McGill and Slocum Jr (1993) regarded the learning organisation as the latest evolutionary step in management philosophy; one that started with De Geus' 'Economic Company' which McGill and Slocum Jr (1993) termed 'The Knowing Organisation'. They identified three distinct antecedents to the learning organisation and these are presented in Table 2 shown below:

	<b>Knowing</b>	<b>Understanding</b>	<b>Thinking</b>	<b>Learning</b>
<b>Philosophy</b>	Dedication to the one best way: - Predictable - Controlled - Efficient	Dedication to strong cultural values which guide strategy and action. Belief in the "ruling myth" (core values of the organisation)	A view of business as a series of problems: if it is broken, fix it fast	Examining, enhancing and improving every business experience, including how we experience
<b>Management Practices</b>	Maintain control through rules and regulations	Clarify, communicate and reinforce the company culture	Identify and isolate problems, collect data and implement solutions	Encourage experiments, facilitate examination, promote constructive dissent, model learning, acknowledge failures
<b>Employees</b>	Follow the rules and don't ask why	Use corporate values as guides to behaviour	Enthusiastically embrace and enact programmed solutions	Gather and use information, dissent constructively
<b>Customers</b>	Must believe the company knows best	Believe company values ensure a positive experience	Are considered a problem to be solved	Are a part of a teaching/learning relationship with open and continuous dialogue
<b>Change</b>	Incremental, must be a fine tuning of "the best way"	Only within the "ruling myth"	Implemented through problem solving programmes which are seen as panaceas	Part of the continuous process of experience: examine, hypothesise, experiment and experience

**Table 2: The four stages in organisational management philosophy. Source: McGill & Slocum (1993)**

The knowing organisation was characterised by a command and control style of management that enforced conformity, routine behaviours and risk avoidance, changing only through small incremental improvements to already existing processes, products, services or technologies. The understanding organisation represented a different management philosophy which came about through the realisation that there was a need to find alternatives to established routines but relied on strongly articulated core company values to ensure control and guide any necessary change. The last antecedent to learning organisations was the thinking organisation, the executives of which were trained to analyse and fix problems as they occurred through reactive management programmes and initiatives (McGill & Slocum Jr, 1993). Senge's criticism of the thinking organisation's approach was that it could foster employee cynicism over CEO proclamations or programmes rolled out from corporate headquarters that could distract from real efforts to change (Senge et al., 1999).

The orientation of Businesses, therefore, have slowly evolved away from efficiency, cost reduction, centralised decision making and stable operations to focus on value

creation, quality, responsiveness, and innovation... all of which are traits corresponding to the learning organisation paradigm (Jamali et al., 2009).

### 2.1.3. The Fifth Discipline and the subsequent demand for publications

Peter Senge is widely accredited with popularising the concepts of the learning organisation through his book “The Fifth Discipline: The Art and Practice of the Learning Organisation”, first published in 1990 (Senge, 1990), which, by the year 2000, had already sold in excess of 300,000 copies (Jackson, 2000), moving him from relative obscurity in academia “...to assume full-blown management guru status...” (Jackson, 2000). Senge’s work had a clear impact upon the number of subsequent publications in the field of learning organisations. This impact can be demonstrated by performing a quick citation analysis of Senge, searching for published articles citing “The Fifth Discipline” using the Social Science Citation Index.

As of the time of writing, a search of this kind revealed 17,124 citations in 1,188 published articles distributed by year as follows:

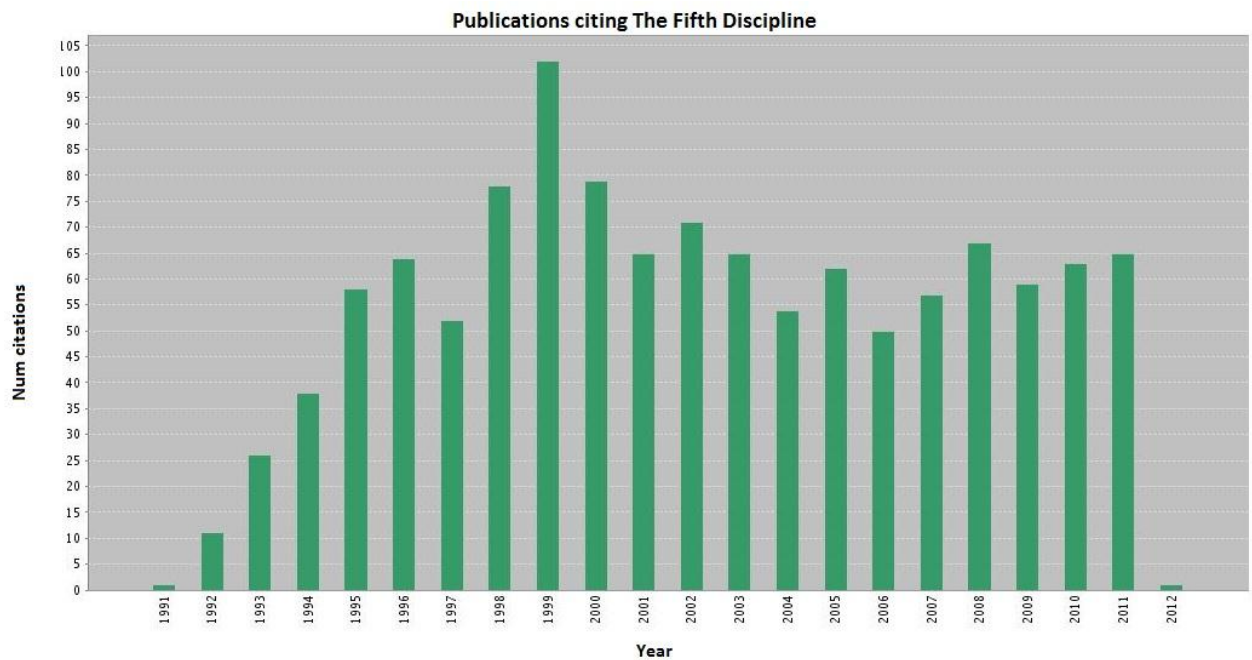


Figure 1: Results of citation search for The Fifth Discipline by Peter Senge. Source: Author

The graph in Figure 1 shows a 22-year history of demand for research in this area. The graph also shows that the number of publications peaked in 1999 but has remained fairly steady since then. The demand for publishable work from research in this area has not abated and interest in work involving learning organisations remains high with some journals. Two, ‘The Learning Organization’ and ‘Management Learning’ are more or less fully dedicated to the subject areas of organisations and learning organisations (Örtenblad, 2002).

The European Federation of Management Development reported in their Survey Summary Service in 2006 that the topic of the learning organisation in that year ranked

as the second most enduring idea about strategy and business out of ten ideas most likely to last at least another ten years (De Villiers, 2008).

#### **2.1.4. The five disciplines**

Senge (1990) defined learning organisations as “*organisations where people continually expand their capacity to create the results they truly desire, where new patterns of thinking are nurtured, where collective aspirations are set free, and people are continually learning how to learn together*” (p.3). Senge explained that the organisations that will truly excel in the future will be those organisations that discover how to tap into other people’s commitment and capacity to learn at all levels.

The idea behind the notion that organisations can learn is not new and was the result of nearly 70 years of work in physics, biology, cybernetics and psychology, the organisational sciences and the practices of management. The concept of organisational learning and learning organisations was originally founded upon the understanding that organisation flows from and through information: “*...information is the life-blood of an organisation and learning governs its circulation and value (Mirvis, 1996).*”

It was in 1950 that the biologist Ludwig von Bertalanffy first articulated a general systems theory in physics and biology which was then further developed to depict all of life as organised in a series of increasingly complex and differentiated ‘wholes’ all connected in nature through a latticework of interdependencies (Mirvis, 1996). These ideas were further applied to physical, mechanical, social and mental phenomena which drove the development of a dynamic model of the interrelated workings of the universe (Mirvis, 1996). This model led to organisations being regarded as a complex set of systems:

- Social systems
- Information processing systems
- Interpretive systems
- Enquiring systems
- Learning systems

...and it was viewing organisations in this way that became the foundation and inspiration for Senge’s work (Mirvis, 1996).

In his book, Senge identified seven mind-sets which he referred to as learning disabilities. Learning disabilities function to directly inhibit organisational learning. A mind shift, or ‘metanoia’, is required in order to overcome them. This mind shift can come about through mastering a number of disciplines or attributes pertaining to individuals, groups or the entire organisation (Senge, 1990).

These disciplines (known as Senge’s Five Disciplines), as described in his book, are:

#### ***Personal Mastery***

Personal mastery is defined as the discipline of continually clarifying and deepening our personal vision, of focusing our energies and of seeing reality objectively (Senge, 1990). The difference between our personal visions and an honest reflection of our current realities gives rise to a creative tension, often

depicted as an elastic band between where our lives are at and where we would like them to be...drawing the two towards each other.

### ***Mental Models***

Mental models are described as deeply ingrained assumptions, attitudes and beliefs that influence how we understand the world and how we take action (Senge, 1990). Understanding how our mental models cause leaps of inference is seen by Senge as a vital skill to master.

### ***Shared Vision***

Shared vision is defined as developing shared images of the vision we seek to create, and the principles and guiding actions by which we hope to get there (Senge, 1990). Shared vision requires elements of co-creation from representatives of all parts of an organisation.

### ***Team Learning***

Team learning is the discipline of developing the capacity of a team to create the results its members truly desire (Senge, 1990).

### ***Systems Thinking***

‘Systems thinking’ is a discipline where people learn to better understand interdependency and change, enabling them to deal more effectively with the forces that shape the consequences of their actions (Senge, 1990). It is based on a growing body of theory about the behaviour of feedback and complexity – the innate tendencies of a system that lead to growth or stability over time. Systems thinking is a powerful practice for finding the leverage needed to get the most constructive change.

Systems thinking is often referred to as an integrative discipline drawing together the other four disciplines (Rowley & Gibbs, 2008) or as the glue that binds all the other disciplines together (Sun & Scott, 2003a).

Systems thinking had its origins in biology in the late 1960’s and was later developed into common systems theories for all sciences, from science on single cells to the social sciences with the goal of creating a universally understood set of standard of scientific principles that could be applied to all objects (Palaima & Skaržauskiene, 2010). “...it is a means which helps to understand any system in a complex manner, where everything is interrelated and, thus, one element of the system cannot be affected separately without affecting other elements...” (Palaima & Skaržauskiene, 2010).

Senge (1990) promoted systems thinking as an essential skill for understanding the complex relationships between cause and effect and emphasised the often significant distances between cause and effect in space and time as delays in the systems archetype diagrams that featured in his book. Senge (1990) referred to systems archetypes as “nature’s templates”, or “the patterns that control events” (Senge, 1990). Palaima & Skaržauskiene (2010) claimed to be able to show a direct link between systems thinking competencies and higher leadership performances (Palaima & Skaržauskiene, 2010).

Grievés (2008), on the other hand, argued that such competencies have nothing but superficial plausibility as they rely on studying interrelationships using feedback loops to map causality and to represent delays between changes that occur and the causes of those changes. Difficulties start to occur when trying to establish causality as it takes a long time to recognise relationships and, the longer the time, the less certain anyone can be about any intervening variables that may obscure causal relationships (Grievés, 2008).

The next section examines the different camps of opinion regarding Senge and his work.

## **2.2. Differing camps of opinion on learning organisations**

This section starts by demonstrating a degree of consensus that learning organisations are better placed to traverse an increasingly turbulent global business environment but then shows how little agreement exists as to what is meant by a learning organisation. The confusion caused by the growing number of definitions is examined. The resulting differences in opinion of researchers on the learning organisation concept are then discussed.

### **2.2.1. LO as a solution in volatile times**

If one were to examine a handful of articles positive to the concept of the learning organisation, a number of common themes emerge:

*“Organisations are operating in a global, fiercely competitive, and turbulent environment that requires the ability to adapt, change, and improve in order to develop competitive advantage” (Weldy & Gillis, 2010).*

*“One reason frequently put forth for the growing popularity of the learning organisation paradigm is the suitability of the learning organisation model for today’s global business environment” (Jamali & Sidani, 2008).*

*“In today’s turbulent times, every organisation is afforded a rich competitive experience, but few organisations profit from it; those that do are learning organisations” (McGill & Slocum Jr, 1993).*

*“Twenty-first century organisations are facing an unprecedented wave of change and a business environment characterised by flux, velocity, turbulence, uncertainty and volatility” (Jamali et al., 2009).*

*“...The literature today is inundated by authors presenting the learning organisation approach as the new challenge for managers in an increasingly turbulent global business environment” (De Villiers, 2008).*

*“Rapidly changing technology, globalisation, uncertainty, unpredictability, volatility, surprise, turbulence and discontinuity are indeed commonly popularised in the literature as some of the major environmental challenges facing organisations in the new century” (Jamali, Khoury, & Sahyoun, 2006).*

*“Organisations are operating in increasingly dynamic environments characterised by rapid change and uncertainty” (Rowley & Gibbs, 2008).*

As can be seen from the quotes above, the common themes that surface time and time again focus on volatile, rapidly changing market conditions and learning organisations as a solution to maintaining a competitive advantage. Learning organisations are *'vital to success'* or ...learning organisations lead to a *'turn-around in achievement'* (Griego, Geroy, & Wright, 2000). If organisations do not continuously develop their capacity and capability to learn, *"...they are doomed to suffer from such adverse tendencies as market myopia, groupthink, reinventing the wheel and repeating the same mistakes (De Villiers, 2008)."*

It would seem that rapidly changing market conditions have been a fact for over 20 years and it is interesting to note that learning organisations do not seem to have evolved or emerged as an organisational template for traversing turbulent times. A question that arises is, how can authors be so sure that the learning organisation represents such a solution?

### **2.2.2. Definitions of a learning organisation**

One of the chief complaints about the learning organisation is the vagueness of the concept and the lack of consensus over how it is defined (Friedman, Lipshitz, & Popper, 2005; Jamali et al., 2009). A closer look at examples of how learning organisations have been defined follows:

The concept of the learning organisation was first published by Pedler, Boydell, and Burgoyne (1989) who defined the Learning Company as: *"a company which facilitates the learning of all of its members and continuously transforms itself."* (p.2)

In the following year, Senge (1990) published his now famous definition: *"an organisation where people continually expand their capacity to create the results they truly desire, where new patterns of thinking are nurtured, where collective aspirations are set free, and people are continually learning how to learn together."* (p.3)

Garvin (1993) modified the definition to reflect his view that learning organisations need to change their behaviours as a result of learning: *"A learning organization is an organization skilled at creating, acquiring, and transferring knowledge, and at modifying its behaviour to reflect new knowledge and insights."* (p.80)

Nevis, DiBella, and Gould (1995) defined organisational learning as the capacity or processes within an organisation to maintain or improve performance based on experience and maintained that learning is a systems-level phenomenon because it stays within the organisation, even if individuals change. Consequently, they modified their definition of a learning organisation to reflect this idea: *"An organization that has woven a continuous and enhanced capacity to learn, adapt and change. Its values, policies, practices, systems and structures support and accelerate learning for all employees."* (p.75)

Kilmann (1996) explained that while appreciating the inspirational quality of Senge's definition, Garvin (1993) drew attention to its vagueness and suggested that we must be much more specific about what organizational learning means, how to manage it and how to measure it. Kilmann, therefore, provided the following definition: *"A learning organisation describes, controls, and improves the process by which knowledge is*

*created, acquired, distributed, interpreted, stored, retrieved and used for the purpose of achieving long-term organisational success.*” (p.208)

Similarly, Gephart and Marsick (1996) also saw the need for detail in their definition. They wanted to highlight the fact that all organisations learn, but not always for the better. The additional detail in their definition was included to make explicit how learning is utilised for the better: *“A learning organization is an organization that has an enhanced capacity to learn, adapt, and change. It is an organization in which learning processes are analysed, monitored, developed, managed, and aligned with improvement and innovation goals. Its vision, strategy, leaders, values, structures, systems, processes, and practices all work to foster people's learning and development and to accelerate systems-level learning.”* (p.36)

Draft and Marcic (1998) focused on problem solving and continuous experimentation as factors that contribute to organisational growth. Their definition: *“The learning organization can be defined as one in which everyone is engaged in identifying and solving problems, enabling the organization to continuously experiment, change, and improve, thus increasing its capacity to grow, learn, and achieve its purpose.”* (p.12)

Dowd (1999), on the other hand, felt the need to drastically simplified the definition in order to better suit an article written for a more introductory level readership: *“A group of people dedicated to learning and improving forever.”* (p.45)

Popper and Lipshitz (2000) developed the notion of Organisational Learning Mechanisms: OLMs are institutionalised structural and procedural arrangements that allow organisations to learn by direct experience, that is, to collect, analyse, store, disseminate, and use systematically information that is relevant to their and their members' performance. They enhanced their learning organisation definition to reflect their work: *“Learning organizations are organizations that embed institutionalized learning mechanisms into a learning culture.”* (p.192)

Griego et al. (2000) looked at predictive practices that would enable organisations to achieve learning organisation success. Their definition assumes that constant improvement is possible and that it occurs because of intelligently planned growth: *“An organization that constantly improves results based on increased performance made possible because it is growing more adroit.”* (p.5)

For a while, organisational learning and learning organisations were treated as different concepts. Snell (2002) attempted to change this in his definition, an appealing one because it highlights and articulates the relationship between these concepts. A learning organisation surely is one that maximises organisational learning: *“A learning organization is an organisation that expresses normative commitment to organizational learning, and is good at it.”* (p.550)

Lewis (2002) article focused on organisational culture and he included some of those components identified in his article into a modified definition of OL: *“An organization in which employees are continually acquiring and sharing new knowledge and are willing to apply that knowledge in making decisions or performing their work.”* (p.282)

Sun and Scott (2003a) changed their definition to show that learning organisations must use learning to propel themselves forwards: *“A learning organisation is an*

*organisation where learning takes place that moves the organisation towards a desired state.” (p.204)*

A. Armstrong and Foley (2003) also focused on cultural facets and processes that support a learning environment. Their definition reflects this: *“A learning organization has appropriate cultural facets (visions, values, assumptions and behaviours) that support a learning environment; processes that foster people’s learning and development by identifying their learning needs and facilitating learning; and structural facets that enable learning activities to be supported and implemented in the workplace.” (p.75)*

James (2003) gave close attention to transformational leadership in her article: *“An LO is more than adaptive; it is transformational. Thus, it engages everyone in the exploration, exploitation, and transfer of knowledge, increasing the collective learning throughout the organization and the capacity to create its future.” (p.47)*

Moilanen (2005) wrote of the learning organisation as one that eliminates structural obstacles of learning, creates enabling structures and takes care of assessing its learning and development. It invests in leadership to assist individuals in finding purpose, in eliminating personal obstacles and in facilitating structures for personal learning, as well as getting feedback and benefit from learning outcomes. Her definition: *“A learning organization is a consciously managed organization with learning as a vital component in its values, visions and goals as well as in its everyday operations and their assessment.” (p.71)*

Maqsood and Walker (2007) made much of knowledge management as a key factor in becoming a learning organisation. It seems strange, however, that their definition did not seem to reflect this explicitly: *“Organisations that develop the capabilities to foster learning.” (p.129)*

Even Senge’s book, *The Fifth Discipline*, is extraordinarily vague in explaining exactly what a learning organisation is (Friedman et al., 2005), as can be seen from the summary by Örténblad (2007): The learning organisation according to Senge, is an organisation... “

- *That creates its own future*
- *Where people create the results they desire, new patterns of thinking are nurtured, collective aspiration is set free and people learn how to learn*
- *That learns generatively*
- *That comprises five disciplines*
- *That practices systems thinking*
- *Where everyone learns*
- *That is flexible, receptive/adaptive to change*
- *With a learning environment*
- *That has realised certain prototypes*
- *In which leaders have new roles*
- *With empowered employees*
- *Where people pass on their learning and energise others to be teachers”*

This description lacks the detail required to get a concrete picture of what a learning organisation would look like in practice (Örtenblad, 2007).

Many authors have complained about the ambiguity of the learning organisation concept and have suggested that the five disciplines provide very little guidance concerning the concrete steps needed to start the process of creating a learning organisation (Kilmann, 1996; Rowley & Gibbs, 2008). Furthermore, they argue that this ambiguity is helpful neither to practitioners nor to scholars (Rowley & Gibbs, 2008).

Together with a number of his colleagues, Senge did attempt to respond to criticisms of this nature by publishing the Fieldbook series. Reviews of these books were mixed, with the general consensus being that they were still not practical enough (Jackson, 2000).

One of the consequences of ambiguity is that it gives managers an opportunity for the idea of the learning organisation to be implemented symbolically, without having to implement it in practice: “...that is, by telling that an idea has been implemented where in fact it has not. Managers can say their organisations are learning organisations for legitimate reasons without taking any measures in practice- i.e. there are small or no costs, but they gain a good reputation (Örtenblad, 2007).”

Örtenblad criticised the vagueness of what is meant by a learning organisation when he talked about his smorgasbord model. He pointed out that managers now and in the past seem to want to pick and choose the parts from the learning organisation smorgasbord that suit them. According to Örtenblad, they can, in effect, say almost anything and get away with it, whilst finding validation from Senge’s book (Örtenblad, 2007).

In other words: “...some observers suggested that the so-called learning organisation is a management Rorschach Test because one can see whatever one wants to see in this concept (Friedman et al., 2005).” Many authors have called for a consensus on a clear and unambiguous single definition of a learning organisation (Friedman et al., 2005; Jamali et al., 2009). Without it, confidence in and even the very existence of the learning organisation is in jeopardy (Örtenblad, 2007).

### **2.2.3. The visionary/sceptic dichotomy**

Authors such as G. S. Taylor, Templeton, and Baker (2010) see the large number of definitions as problematic and blame the ‘mystification’ of the learning organisation upon the continual re-defining of the learning organisation by contributing authors. New definitions seem to add increasing complexity but add little to conceptual clarity (Friedman et al., 2005). Many blame this mystification for splitting the field into two distinct camps: visionaries and sceptics.

Closer examination of the literature reveals that these two camps can be further subdivided. The visionary camp seems to consist of those who see the learning organisation as a fact, with the main challenge being to locate or identify such organisations so that more can be learned from them: “...the financial benefits of becoming a learning organisation are just beginning to emerge. Still, it is clear that

*many leading companies – Motorola, Ford Motor, and FedEx, to name a few – have made systems level learning an explicit part of their business strategies. They recognise the importance of being a learning organisation to enhance their flexibility and their capacity to adapt and change in turbulent times (Gephart & Marsick, 1996).”*

The other side of the visionary camp see learning organisations as a utopia that can be striven for but never reached and where the journey is more important than the destination: “...it is also the long-term and dynamic nature of this evolutionary crafting and moulding process that has invited various scholars to refer to learning organisations as a journey, rather than a destination, a dynamic quest rather than a concrete outcome, a tentative road map, still indistinct and abstract and a metaphor which must be interpreted by each organisation to suit its particular context (Jamali et al., 2009).”

Similarly, the sceptic camp can be subdivided into those that see the learning organisation concept as negative ideology – a new workplace nightmare for employees in which they are exploited in even more devious ways and locked into psychic prisons to carry their organisations to competitive success or simply to serve the devious interests of those in power (Driver, 2002): “...this leads us to the conclusion that those who propagate the principles of the learning organisation risk opening the latest phase of a long history of metaphors which have been used manipulatively by managers with a long pedigree of instrumental interest in social science as a means of solving industrial problems (Coopey, 1995).” Armstrong (2000) described the emphasis on the learning organisation as an attempt at motivating the employee and famously described it as a variety of the Hawthorne Effect (anomalous results from experiments that show productivity increases as the result of interest being shown towards workers, but stops when they are out of focus): “...while in the short run, employees may feel complimented, the prevalence of insecure job markets, contract and part-time work, outsourcing, and downsizing is hardly conducive to feelings of empowerment for most workers (H. Armstrong, 2000).”

Lastly, the other side of the sceptic camp regards the concept of the learning organisation as fundamentally flawed and, they argue, irrelevant as they dispute the existence of a practical underpinning framework for a learning organisation that all can agree to (Grieves, 2008). They see the term ‘learning’ and ‘organisation’ as contradictory terms with ‘organisation’ implying stability, order and structure, whilst ‘learning’ implies disorganisation, variety and change. They see another contradiction revolving around the notion that if it were possible to create a blueprint for designing a learning organisation, it would contradict the principle of continual transformation. (Grieves, 2008). Consequentially, some advocate abandoning the ideal of the learning organisation since: “...it is committed to the fallacy of scientific discourse by pretending to be objectively neutral. It is weak in demonstrating the type of knowledge it seeks to pursue and it is unable to provide rules for its discourse which should clarify what types of problems it seeks to explore in the organisation world and what type of methodology it requires for doing so (Grieves, 2008).”

Figure 2 below sums up the differing camps of opinion on learning organisations:

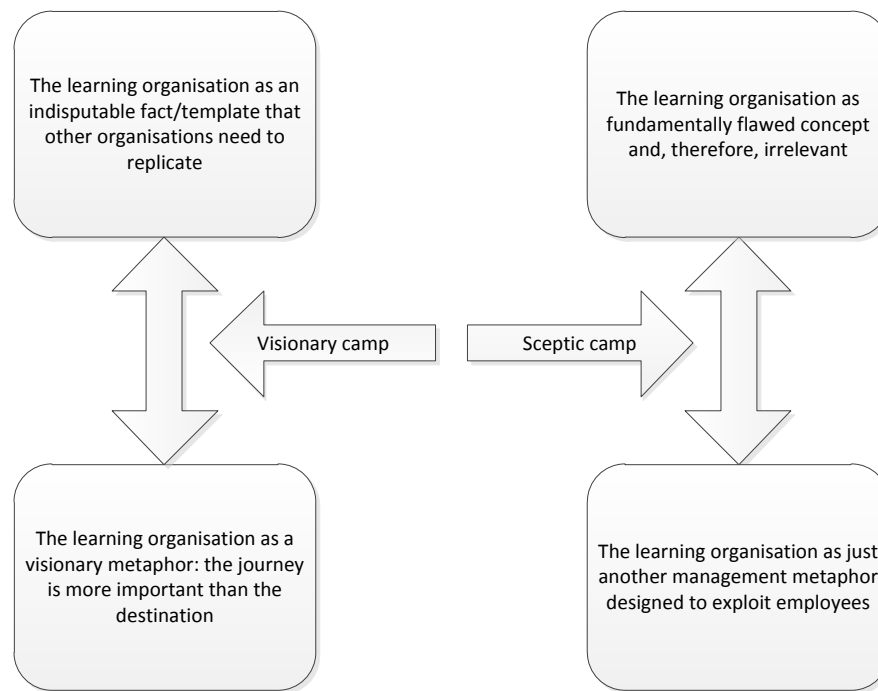


Figure 2: The differing camps of opinion on learning organisations. Source: Author

A number of different authors believe the two camps to be populated by different people with differing problematic agendas – the visionary camp may be populated by consultants keen on selling advice and guidance to clients and may not be so keen to examine the critical aspects of the learning organisation. The sceptic camp may be populated by academics keen on publishing, who may promote an overly critical view of the learning organisation, playing down the practicality of some of the notions (Driver, 2002; Grieves, 2008; Rowley & Gibbs, 2008).

Jackson (2000) places the learning organisation in the same category as concepts such as ‘excellence’, ‘total quality management’, and ‘reengineering’ – simply management fads or rhetorical visions. In the case of the learning organisation, it is the quality of the vision that has been so inspirational to its followers “*who see themselves as actively engaged in building a learning organisation, that have helped the socially rooted vision stand out from competing conceptions (Jackson, 2000)*”. It may well be the grandeur of the vision, typified by the title of the first chapter of Senge’s Fifth Discipline: “Give me a lever long enough...and single handedly, I can move the world”, that has contributed to its popularity (Friedman et al., 2005).

Regardless of which camp they identify themselves with, most authors agree that the learning organisation concept is an important one for organisation science (Driver, 2002) and, no doubt, one of the reasons it endures.

### 2.3. Attributes of a learning organisation

Örtenblad (2007) advocated clearly defining learning organisations in order for them to be successfully implemented in companies: “...scientific research and explanation require concepts that get beneath convenient labels and represent explicitly defined and observable

*events and behaviours. Similar to all conceptual entities, a learning organization should be expected to have unique attributes that, when identified, help make the concept distinct from other concepts (Örtenblad, 2007)."* This statement is important as it shows the foundations upon which a measurement system could be built – by establishing the unique attributes of a learning organisation. In order to successfully measure anything, it is necessary to know what to measure, and: “...to identify ways to measure the different variables...” (Bui & Baruch, 2010).

Peter Senge’s five disciplines give a very good account of the sorts of skills needed within a learning organisation but they do not contribute much in the way of attributes that can be measured. E.g. how could personal mastery, mental models, team learning, shared vision or systems thinking be measured? For this, it is necessary to investigate work carried out by other authors on attributes of a learning organisation. Many authors, including those who have previously attempted to develop measurement systems, have looked into defining attributes of a learning organisation and arranging them into dimensions.

### **2.3.1. Enabling practices conducive to developing learning organisations**

The following is a list of attributes, found in previously published literature, conducive to learning organisation development. This list of enablers is presented in alphabetical order with only the briefest of explanations, almost in note format.

#### ***Career development***

Opportunities for career development exist within a learning organisation (Dunphy, Turner, & Crawford, 1997).

#### ***Celebrate success***

A learning organisation celebrates success and regard success as an opportunity for learning (Campbell & Cairns, 1994; Pedler et al., 1989; Somech & Drachzahavy, 2004).

#### ***Change***

There is a commitment to change, organisational and personal...a collective transformation. A LO manages evolutionary and revolutionary change, develop processes for continuous improvement...a capacity for change and flexibility, allowing a gradual evolution (Jamali et al., 2006; Nonaka & Takeuchi, 1996; Snell, 2002; Tushman & O'Reilly, 1996; Yeung, Ulrich, Nason, & Von Glinow, 1999).

#### ***Communication***

A LO excels at communication, both open, closed, formal, informal and cross functional...involving all stakeholders, including organisational members. There is a free flow of ideas, knowledge, strategies and reasoning up and down an organisational hierarchy (Campbell & Cairns, 1994; Connell, Klein, & Powell, 2003; Jamali et al., 2006; Klimecki & Lassleben, 1998; Maqsood & Walker, 2007; Offermann & Spiros, 2001; Templeton, Lewis, & Snyder, 2002).

### ***Concern for measurement/goals***

Goals are developed for learning, not necessarily performance. There is a fit of process and outcome related performance to organisational goals. Goals are cooperative instead of competitive. Measurement is accompanied by action/reflection, maintaining an awareness of business objectives. The organisation tracks individuals' development and contributions whilst, simultaneously, identifying areas for improvement. Measurements provide indicators for organisational progress and measurement is seen as a way of ensuring that learning takes place and is sustainable (Bereby-Meyer, Moran, & Unger-Aviram, 2004; Casey, 2005; DiBella, 2001; Gephart & Marsick, 1996; Khadra & Rawabdeh, 2006; Lähteenmäki, Toivonen, & Mattila, 2001; Nevis et al., 1995; Ng, 2009; Templeton et al., 2002; Tjosvold, Zi-you, & Chun, 2004).

### ***Continuous learning***

Continuous learning is a theme for individuals, teams and organisations, capturing and recognising the value of new knowledge. The organisation helps its members develop and use intuition. There are institutionalised processes for knowledge acquisition. Members demonstrate a willingness to develop themselves, engage in personal development, individual training and work training. The organisation develops an understanding of organisational learning disabilities and has structures for developing experience, expertise and skills among existing employees to create practical new knowledge. There are systematic processes for employee development including both training and education (A. Armstrong & Foley, 2003; Campbell & Cairns, 1994; Chermack, Lynham, & van der Merwe, 2006; Cohen & Levinthal, 1990; Crossan, Lane, & White, 1999; DiBella, 2001; Dowd, 1999; Dymock & McCarthy, 2006; Garvin, 1993; Gephart & Marsick, 1996; Griego et al., 2000; Huber, 1991; Jakubik, 2008; Jamali & Sidani, 2008; Lähteenmäki et al., 2001; Marsick & Watkins, 2003; Nonaka & Takeuchi, 1996; Pedler et al., 1989; Popper & Lipshitz, 2000; Prieto & Revilla, 2006a, 2006b; Senge, 1990; Snell, 2002; Somech & Drachzahavy, 2004; Templeton et al., 2002; K. Thomas & Allen, 2006).

### ***Creativity***

The organisation is able to unleash the creativity of its members by helping them to understand creative and structural tension (McGill & Slocum Jr, 1993; Senge, 1990).

### ***Data-based decision making***

Decision making is data-based but also incorporates intuition (Campbell & Cairns, 1994).

### ***Dialogue***

Genuine dialogue is an important skill for teams and the organisation. Dialogue incorporates inquiry and advocacy and organisations make time for it and allow

it to take time. Senior organisational members surrender their seniority, thus avoiding domination and junior members surrender their junior status, thus avoiding the comfort of non-participation...for dialogue to be effective (Chermack et al., 2006; Gephart & Marsick, 1996; Isaacs, 1993; Jamali & Sidani, 2008; James, 2003; Marsick & Watkins, 2003; Pedler et al., 1989; Senge, 1990; Snell, 2002; K. Thomas & Allen, 2006).

### ***Distributed leadership***

A hallmark of a learning organisation is distributed leadership. Teams are granted freedom for autonomous decision making, establishing the preconditions for taking initiative and independent problem solving where individuals support group decisions. Formalised rules and procedures are kept to a minimum, thus empowering people towards collective action (Campbell & Cairns, 1994; Dowd, 1999; Elkjaer, 2001; Fisser & Browaeys, 2010; Gephart & Marsick, 1996; Jamali et al., 2006; James, 2003; Jansen, Van den Bosch, & Volberda, 2005; Lähteenmäki et al., 2001; Leonard-Barton, 1992; Maqsood & Walker, 2007; Marsick & Watkins, 2003; Offermann & Spiros, 2001; Prieto & Revilla, 2006a, 2006b; Senge, 1990; Snell, 2002; Somech & Drach-zahavy, 2004).

### ***Egalitarian culture***

There is a climate of professionalism and accountability in an organisation of skilled and knowledgeable individuals who are given responsibility. They have confidence and support differences of all sorts in a supportive culture of cultural awareness (Jamali & Sidani, 2008; James, 2003; Khadra & Rawabdeh, 2006; Maqsood & Walker, 2007; Popper & Lipshitz, 2000; Prieto & Revilla, 2006a; Somech & Drach-zahavy, 2004).

### ***Empathy***

A learning organisation fosters a culture of genuine empathy (McGill & Slocum Jr, 1993).

### ***Environment***

A learning organisation pays particular attention to the environment within which it exists. The organisation is connected to its environment and continually scans it. Organisational boundaries are kept to a minimum and the organisation remains un-intimidated by environmental uncertainty by continually engaging in scenario planning and promoting environmental adaptability. The organisation develops boundary workers and taps into sources outside the organisation for information and new knowledge (Campbell & Cairns, 1994; Casey, 2005; Chermack et al., 2006; De Geus, 1997a; Gephart & Marsick, 1996; James, 2003; Marsick & Watkins, 2003; Nevis et al., 1995; Pedler et al., 1989; Popper & Lipshitz, 2000; Senge, 1990; Templeton et al., 2002; K. Thomas & Allen, 2006).

### ***Experimentation***

A learning organisation promotes and encourages experimentation (Campbell & Cairns, 1994; De Geus, 1997a; DiBella, 2001; Garvin, 1993; Gephart & Marsick, 1996; Goh & Richards, 1997; Jamali & Sidani, 2008; James, 2003; Jerez-Gomez, Cespedes-Lorente, & Valle-Cabrera, 2005b; Keys, Fulmer, & Stumpf, 1996; Leonard-Barton, 1992; Maqsood & Walker, 2007; Nevis et al., 1995; Pedler et al., 1989; Yeung et al., 1999).

### ***Exploitation***

A learning organisation is good at exploiting new knowledge and learning and institutionalising this knowledge. It engages in exploitative learning and the capitalisation of the knowledge, practices and internal capabilities of other organisations. It is also engaged in inter-company learning through maintained links and connections (Campbell & Cairns, 1994; Cohen & Levinthal, 1990; Crossan et al., 1999; James, 2003; Lane, Koka, & Pathak, 2006; Templeton et al., 2002; K. Thomas & Allen, 2006).

### ***Explorative learning***

A learning organisation is particularly good at explorative learning... learning through investigation (Jamali & Sidani, 2008; Lane et al., 2006; Prieto & Revilla, 2006a).

### ***Growth of commitment***

A learning organisation encourages the growth of individual commitment and the development of communities of commitment leading to true engagement in work, a commitment to change and a commitment to achieving objectives (Campbell & Cairns, 1994; Jakubik, 2008; Jamali et al., 2006; Klimecki & Lassleben, 1998; Kofman & Senge, 1993; Lähteenmäki et al., 2001; Maqsood & Walker, 2007).

### ***Identity***

A learning organisation is cohesive and has a strong sense of identity, often with a distinctive culture (Chang & Lee, 2007; De Geus, 1997a; Jansen et al., 2005; Prieto & Revilla, 2006a, 2006b; Snell, 2002; Snyder, McManus, & Wilson, 2000).

### ***Integration***

Integration in this case refers to the integration of knowledge requiring an active dissemination of learning or new knowledge with clear and functional distribution of information. Transfer of knowledge is used develop transformative learning incorporating internal and external knowledge. There is a general awareness of issues with well-developed organisational free flow of ideas and know-how (Casey, 2005; Cohen & Levinthal, 1990; Crossan et al., 1999; Garvin, 1993; Gephart & Marsick, 1996; Goh & Richards, 1997; Huber, 1991; James, 2003; Jerez-Gomez et al., 2005b; Lähteenmäki et al., 2001; Lane

et al., 2006; Leonard-Barton, 1992; Lopez, Peon, & Ordas, 2006; Pedler et al., 1989; Popper & Lipshitz, 2000; Prieto & Revilla, 2006a, 2006b; Snell, 2002; Somech & Drach-zahavy, 2004).

### ***Interpretation***

Learning organisations interpret knowledge before it is applied within the organisation (Crossan et al., 1999; Huber, 1991; Somech & Drach-zahavy, 2004).

### ***Involved leadership/management***

A learning organisation has a clear leadership/management commitment to the organisation and the wellbeing of its members. A responsive leadership that demonstrates a commitment to learning, creating a culture for learning, employing learning approaches to strategy and encouraging the development of a learning climate. There are multiple advocates for this within the leadership team, creating conditions for learning and, importantly, modelling learning behaviour. They provide systems that facilitate learning, freeing resources in order to signal the organisation's commitment to learning and encouraging people to contribute new ideas. Leaders facilitate work and learning across external boundaries and provide access to pertinent business and strategic knowledge. They reinforce a learning culture and ensure that employees are involved in policy and strategy formation. Above all, a learning organisation has a facilitative leadership (A. Armstrong & Foley, 2003; Chang & Lee, 2007; DiBella, 2001; Dowd, 1999; Gephart & Marsick, 1996; Goh & Richards, 1997; Graham & Nafukho, 2007; Jamali & Sidani, 2008; Jerez-Gomez et al., 2005b; Keys et al., 1996; Khadra & Rawabdeh, 2006; Klimecki & Lassleben, 1998; Lähteenmäki et al., 2001; Marsick & Watkins, 2003; Nevis et al., 1995; Ngoc & Swierczek, 2006; Popper & Lipshitz, 2000; Prieto & Revilla, 2006b; Somech & Drach-zahavy, 2004; K. Thomas & Allen, 2006; Wijnhoven, 2001; Yeung et al., 1999).

### ***Job rotation***

A learning organisation systematically encourages interdisciplinary training and often changes the roles of its members to challenge assumptions gained over time (Dunphy et al., 1997; Jansen et al., 2005; Prieto & Revilla, 2006a, 2006b).

### ***Knowledge management***

A learning organisation has systems to capture and share learning, creating an organisational memory. Past experience is considered and may influence future organisational behaviour. A learning organisation retains information and has an awareness of information that may exist in their KM system. There is an active management of knowledge, skills and other intellectual capital for long-term strategic gain and the exploitation of possibilities of information technology to facilitate this. A learning organisation creates embedded structures for capturing and sharing learning, and has a holistic and forward looking approach (Chermack et al., 2006; Fisser & Browaeys, 2010; Hasan &

Crawford, 2003; Huber, 1991; Khadra & Rawabdeh, 2006; Maqsood & Walker, 2007; Marsick & Watkins, 2003; Nonaka & Takeuchi, 1996; Pedler et al., 1989; Popper & Lipshitz, 2000; Prieto & Revilla, 2006a, 2006b; Snyder et al., 2000; Somech & Drach-zahavy, 2004; Templeton et al., 2002; K. Thomas & Allen, 2006; Walsh & Ungson, 1991).

### ***Living entity view***

The learning organisation views itself as a living entity as opposed to the traditional machine view (De Geus, 1997a; Ng, 2009; Nonaka & Takeuchi, 1996).

### ***Long term thinking***

The learning organisation is constantly thinking in the long term, as opposed to the short-term view, in order to allow initiatives to bear fruit (De Geus, 1997a; Ng, 2009; Templeton et al., 2002).

### ***Meaningful work***

The organisation ensures that members are engaged in meaningful and challenging work (Dunphy et al., 1997; Kelley, Blackman, & Hurst, 2007; Kiedrowski, 2006; Lähteenmäki et al., 2001).

### ***Mental models***

Learning organisation members are skilled and well-practiced at highlighting assumptions and holding them up for scrutiny (Senge, 1990; Somech & Drach-zahavy, 2004).

### ***Minimised stress and distress of personnel***

A learning organisation has processes in place that address issues of care and concern (Lähteenmäki et al., 2001).

### ***Openness***

A learning organisation has a climate of openness, transparency and trust (DiBella, 2001; Dowd, 1999; Jamali et al., 2006; Jerez-Gomez et al., 2005b; Klimecki & Lassleben, 1998; Maqsood & Walker, 2007; McGill & Slocum Jr, 1993; Nevis et al., 1995; Popper & Lipshitz, 2000; Prieto & Revilla, 2006a; Snyder et al., 2000).

### ***Operational variety***

A learning organisation employs business-oriented operational variety (DiBella, 2001; Lähteenmäki et al., 2001).

### ***Overcoming learning myopia***

A learning organisation has processes in place for overcoming short-sighted learning (Levinthal & March, 1993).

### ***Overcoming organisational defensive routines***

A learning organisation has no need for organisational defensive routines...defensive reasoning tactics in order to avoid vulnerability, risk, embarrassment and the appearance of incompetence (Argyris, 2004; Fisser & Browaeys, 2010).

### ***Pattern maintenance***

A learning organisation is skilled at pattern maintenance...interpreting meaning and memory (Casey, 2005; Crossan et al., 1999).

### ***Performance gaps are opportunities***

A learning organisation considers performance gaps as opportunities for learning and regularly engages in identifying knowledge gaps and development needs for individuals and groups (A. Armstrong & Foley, 2003; Campbell & Cairns, 1994; Connell et al., 2003; DiBella, 2001; Nevis et al., 1995; Wijnhoven, 2001).

### ***Personal mastery***

Learning organisation members are well acquainted with personal mastery and are guided in the process when appropriate. They have developed personal vision, a commitment to the truth towards their individual current realities and have resources available for continuous self-improvement, self-development and personal growth (Dowd, 1999; Jamali & Sidani, 2008; Lähteenmäki et al., 2001; McGill & Slocum Jr, 1993; Nonaka & Takeuchi, 1996; Offermann & Spiros, 2001; Pedler et al., 1989; Senge, 1990; Snell, 2002; K. Thomas & Allen, 2006).

### ***Policy***

A learning organisation would be expected adhere to policies which clearly articulate: (1) a commitment to learning, which includes the expected management behaviour that in turn influences member learning; (2) tolerance for failure, necessitating policies that do not punish (but even reward) errors; and (3) a commitment to the workforce, which is policy guiding behaviour that will lead to increased member commitment to the organization (G. S. Taylor et al., 2010).

### ***Psychological contracts***

Learning organisations have a system of protean career contracts that develop as the individual develops. These organisations understand the power and

emotion that accompany organisational learning and values the wellbeing of all employees (Campbell & Cairns, 1994; Gephart & Marsick, 1996; Snell, 2002; Vince, 2001).

### ***Remuneration and rewards***

The learning organisation has a system of remuneration that rewards learning and expertise, or skills-based pay as opposed to job-based pay. It excels at linking compensation strategies with organisational learning capabilities and knowledge workers are valued. There is a system of reward flexibility that supports and rewards learning and innovation but also rewards employees for implementing learning and knowledge (Campbell & Cairns, 1994; Dunphy et al., 1997; Gephart & Marsick, 1996; Goh & Richards, 1997; Graham & Nafukho, 2007; Griego et al., 2000; Jamali & Sidani, 2008; Jerez-Gomez, Cespedes-Lorente, & Valle-Cabrera, 2005a; Kelley et al., 2007; Khadra & Rawabdeh, 2006; Lopez et al., 2006; Ngoc & Swierczek, 2006; Offermann & Spiros, 2001; Prietula & Simon, 1989; Snyder et al., 2000; K. Thomas & Allen, 2006).

### ***Retention***

The learning organisation maximises employee retention through focusing on strategies that promote job satisfaction (Kelley et al., 2007; Lopez et al., 2006).

### ***Risk taking***

The learning organisation has a positive attitude towards risk taking (Gephart & Marsick, 1996; Jamali & Sidani, 2008; Lähteenmäki et al., 2001; Lopez et al., 2006; Senge, 1990).

### ***Selective recruitment***

The learning organisation selectively recruits its members, targeting the knowledge needs and cultural needs of the organisation, selecting people for their ability to learn and attain competence and expertise (Connell et al., 2003; Dunphy et al., 1997; Lopez et al., 2006; Snyder et al., 2000; Yeung et al., 1999).

### ***Shared vision***

A shared vision is one that has been co-created and requires organisational cross-functional participation. The purpose of a shared vision is the empowerment of those concerned, giving clarity of purpose and mission, a dispersed strategy, a common purpose and a shared mind-set. A shared vision is one that has a high degree of buy-in (Campbell & Cairns, 1994; Chermack et al., 2006; Dowd, 1999; Gephart & Marsick, 1996; Goh & Richards, 1997; Graham & Nafukho, 2007; James, 2003; Maqsood & Walker, 2007; Prieto & Revilla, 2006a; Senge, 1990; Somech & Drach-zahavy, 2004; K. Thomas & Allen, 2006; Yeung et al., 1999).

### ***Socialisation***

A learning organisation encourages flocking, collegial interactions that enable learning through social channels (Jansen et al., 2005; Lustri, 2007; Ngoc & Swierczek, 2006; Somech & Drach-zahavy, 2004; Templeton et al., 2002).

### ***Structure***

A learning organisation has a horizontal and non-hierarchical, flat structure without unnecessary bureaucracy and strives to overcome internal divisions and rigidity. It has a flexible organisational structure (Gephart & Marsick, 1996; James, 2003; Khadra & Rawabdeh, 2006; Maqsood & Walker, 2007; Senge, 1990; K. Thomas & Allen, 2006); (Fisser & Browaeys, 2010).

### ***Survival***

A learning organisation manages for survival, not short-term profit (De Geus, 1997a; Dymock & McCarthy, 2006; Fisser & Browaeys, 2010).

### ***Systems Perspective***

A learning organisation has a systems perspective including holistic vision, holistic and efficient strategic thinking, looks for points of greatest leverage for change, recognises archetypes and engages in systems thinking (as a discipline) (Campbell & Cairns, 1994; Chermack et al., 2006; DiBella, 2001; Garvin, 1993; Gephart & Marsick, 1996; Jamali et al., 2006; Jerez-Gomez et al., 2005b; Keys et al., 1996; Lähteenmäki et al., 2001; McGill & Slocum Jr, 1993; Nevis et al., 1995; Senge, 1990; Somech & Drach-zahavy, 2004).

### ***Team learning/team work***

A learning organisation is actively engaged in team learning and team work, incorporating collaboration, group problem solving, cross-functional cooperation, conflict management, TQM, resource management, role issues and is self-organising. Teams develop common knowledge, balancing enquiry and advocacy, have a participative approach to policy making, are engaged in boundary spanning, consultation and form communities of practice. Teams form networks of learning (Chermack et al., 2006; Connell et al., 2003; Fisser & Browaeys, 2010; Garvin, 1993; Gephart & Marsick, 1996; Goh & Richards, 1997; Jakubik, 2008; Jamali & Sidani, 2008; James, 2003; Jansen et al., 2005; Lähteenmäki et al., 2001; Maqsood & Walker, 2007; Marsick & Watkins, 2003; Offermann & Spiros, 2001; Prieto & Revilla, 2006a, 2006b; Romme, 1997; Senge, 1990; K. Thomas & Allen, 2006; Yeung et al., 1999).

### ***Tolerance of mistakes***

Learning organisations have a tolerance of mistakes and failure. These are regarded as opportunities for learning, even if potentially costly. Such organisations strive to avoid blame. Mistakes are openly shared, as are successes (Campbell & Cairns, 1994; Gephart & Marsick, 1996; Jamali & Sidani, 2008; Lähteenmäki et al., 2001; Pedler et al., 1989; Popper & Lipshitz,

2000; Prieto & Revilla, 2006a, 2006b; Somech & Drach-zahavy, 2004; K. Thomas & Allen, 2006; Tjosvold et al., 2004).

***Training***

A learning organisation actively engages in the training of its members in order to grow competency from within (Dunphy et al., 1997).

***Transformational leadership***

The leadership of a learning organisation is transformational, embracing change and change management (James, 2003; Snyder et al., 2000).

***Virtual learning spaces and technologies available***

A learning organisation utilises simulators and virtual learning spaces to enhance learning such as Practice Fields, Simuworlnds and Microworlnds (Keys et al., 1996; Kofman & Senge, 1993; Senge, 1990).

Table 3 below summarises the attributes of a learning organisation as found in the literature.

<b>Number</b>	<b>Attribute</b>
1	Has opportunities for career development
2	Celebrates success
3	Is committed to continuous change
4	Has multiple, multidirectional, well-functioning channels of communication
5	Has a concern for measurement accompanied by action/reflection
6	Has a culture of continuous learning
7	Is able to unleash creativity
8	Bases decision making upon data
9	Has a prevalence of genuine dialogue
10	Has a distributed leadership
11	Has an egalitarian culture
12	Has a culture of genuine empathy
13	Is connected to and is sensitive to its environment
14	Encourages experimentation
15	Is good at exploiting new knowledge and learning
16	Has developed explorative learning capabilities
17	Encourages the growth of commitment
18	Is cohesive with a strong sense of identity
19	Has a well-developed integration of knowledge
20	Is able to interpret knowledge before it is applied
21	Has a leadership that is truly involved
22	Systematically encourages inter-disciplinary training and job rotation
23	Has well-developed knowledge management systems

24	Has a living entity view of itself
25	Is constantly thinking in the long term
26	Ensures its members are engaged in meaningful and challenging work
27	Understands the concepts of mental models
28	Minimises the stress and distress of its personnel
29	Has a climate of openness, transparency and trust
30	Employs business oriented operational variety
31	Has processes & practices in place that minimise learning myopia
32	Can overcome organisational defensive routines
33	Is skilled at pattern maintenance
34	Regards performance gaps as opportunities for learning
35	Encourages personal mastery
36	Has policies that articulate commitment to learning, tolerance of mistakes and a commitment to its workforce
37	Has a system of protean career contracts
38	Has systems of skills based remuneration as opposed to position based remuneration
39	Maximises retention of its workforce
40	Has a positive attitude to risk taking
41	Selectively recruits its members
42	Has a co-created shared vision
43	Encourages learning through social channels
44	Has a flexible, horizontal, non-hierarchical flat structure
45	Manages for survival
46	Has a systems perspective
47	Develops team learning skills
48	Regards mistakes as an opportunity for learning
49	Grows competency from within
50	Has a transformational leadership that embraces change
51	Utilises simulators and virtual learning spaces

Table 3: A summary of learning organisation attributes. Source: Author

### 2.3.2. Barriers which limit the development of learning organisations

Understanding the enablers of a learning organisation can be further enhanced by examining barriers to learning, activities that an organisation may be engaged in that are antagonistic to moving the organisation forward as a learning organisation (Argyris, 2004).

It could be argued that attributes acting as barriers to learning are simply the opposites, or the absence of, enablers of a learning organisation. This is partially true, but published literature suggests that there are sets of organisational attributes that could be said to be disablers of a learning organisation. Some of these disablers are touched upon below:

#### *Organisational culture disablers*

In terms of organisational culture, examples of disablers may include: organisation defensive routines (Argyris, 2004; Senge, 1990); work stress (H.

Armstrong, 2000; Lähteenmäki et al., 2001); the organisation not attending to issues of care and concern (H. Armstrong, 2000); the organisation violating psychological contracts (H. Armstrong, 2000); a lack of respect existing within an organisation (Hasan & Crawford, 2003); a lack of trust within an organisation (Hasan & Crawford, 2003); position based pay (Jerez-Gomez et al., 2005a); insecurity (H. Armstrong, 2000; Lähteenmäki et al., 2001); expertise not being recognised or rewarded within an organisation (Prietula & Simon, 1989); a culture of blame existing within an organisation (Senge, 1990; Tjosvold et al., 2004); institutional narcissism (Godkin & Allcorn, 2009); overlooking failures (Templeton & Snyder, 2000); isolating experiments or valuing experiments of one (Templeton & Snyder, 2000); cynicism (McGill & Slocum Jr, 1993); poor communication (Easterby-Smith, 1997); resistance to change (Lähteenmäki et al., 2001) or vision imposed from above in an organisation (Senge, 1990).

***Leadership disablers***

Many barriers to learning refer to organisational leadership: performance goals set for employees rather than learning goals (Bereby-Meyer et al., 2004); low learning values (Bereby-Meyer et al., 2004); measurement instead of action (Johnston, Brignall, & Fitzgerald, 2002); controlling management (McGill & Slocum Jr, 1993); hierarchy and bureaucratic structures within an organisation (Nonaka & Takeuchi, 1995; Senge, 1990); managing by the book (McGill & Slocum Jr, 1993); valuing efficiency above all (McGill & Slocum Jr, 1993); reactive-ness (Kofman & Senge, 1993); a machine view of organisations rather than a living entity view (De Geus, 1997a); ignoring the long run or focusing on the short term (Templeton & Snyder, 2000); focusing on fragmentation or isolation of issues rather than holistic thinking (Templeton & Snyder, 2000) or individual narcissistic leadership behaviours (Godkin & Allcorn, 2009).

Table 4 below, summarises the barriers which inhibit the development of a learning organisation as found in the literature.

<b>Number</b>	<b>Barrier</b>
1	Has a prevalence of organisational defensive routines
2	Does not attend to issues of care and concern
3	Often violates psychological contracts
4	Has a culture that lacks respect
5	Has a culture that lacks trust
6	Has a system of position-based remuneration
7	Has practices that promote insecurity
8	Fails to recognise or reward expertise
9	Has a blame culture
10	Has a culture of institutional narcissism
11	Overlooks failures
12	Isolates experiments or values experiments of one
13	Has a culture of cynicism

14	Is poor at communicating
15	Is resistant to change
16	Has a vision imposed from above
17	Uses performance goals rather than learning goals
18	Has low learning values
19	Uses measurement instead of action
20	Has a controlling management
21	Is made up of hierarchical and bureaucratic structures
22	Manages by the book
23	Values efficiency above all
24	Is reactive rather than proactive
25	Has a machine view of itself
26	Focuses on the short-term
27	Focuses on fragmentation and isolation of issues
28	Has a leadership individuals that demonstrates narcissistic behaviour

Table 4: A summary of barriers that inhibit the development of learning organisations. Source: Author

## 2.4. Measurement of learning organisations

The following section considers researchers' calls for measurement of learning organisations and poses the question of whether such measurement really is possible. Previous attempts at measurement are then examined in order to determine the feasibility of measurement.

### 2.4.1. Is measurement possible?

Measurement can be defined as the assignment of numerals to objects or events according to rules (De Villiers, 2008). Garvin (1993) called for descriptions of learning organisations to be meaningful, manageable and measurable, but there are complaints that research to date has devoted far more effort and time to defining and describing learning organisations than on measurement (Jamali & Sidani, 2008). The measurement or diagnosis of a learning organisation is a far more complicated undertaking than definition and description (Moilanen, 2005) but the potential for reward is great as the ability to measure may provide far more practical and applicable information about learning organisations and, perhaps, more prescriptive directions for moving organisations towards that desired state (Moilanen, 2005). Organisations may be provided with a method for diagnosing their current status that could be used to guide change (Marsick & Watkins, 2003) and academics may be provided with better measures of learning and may become better able to examine links between organisational learning and performance.

Authors in the sceptic camp, regarding learning organisations purely as a metaphor (Contu, Grey, & Örtenblad, 2003) and a management fad, may regard the question of measurement as irrelevant. Others point out the futility of the quest for measurement (Grieves, 2008) due to the belief that the nearly infinite possible combinations of intervening variables would hinder attempts to isolate parameters for successful measurement. Some authors argue that the act of measuring the extent to which an organisation satisfies the criteria for a learning organisation, may well affect the nature of the organisation itself: the tool of measurement would itself become a player in the dynamics (Ng, 2009). They admit, however, that rather than this being a good reason

not to measure, it represents an excellent reason to measure, as it would ensure that sustainable learning would take place.

## 2.4.2. Previous attempts at measurement

Moilanen (2005) In an attempt at creating an instrument for diagnosing and measuring a learning organisation, Moilanen (2005) undertook to examine past attempts at doing the same. Table 5 below gives a list of examples of these attempts:

Authors	Type	Focus and Features
(Pedler, Boydell, & Burgoyne, 1988)	Questionnaire	Strategy, structures and learning opportunities
(Mayo & Lank, 1994)	Questionnaire	187 questions and nine dimensions
(Campbell & Cairns, 1994)	Questionnaire	Behaviourally Anchored Rating Scales (BARS)
(Pearn, Roderick, & Mulrooney, 1995)	Questionnaire	Leading and encouraging learning
(Sarala & Sarala, 1996)	Questionnaire	Philosophy and values, structure and processes, leading and making decisions, organising work, training and development, internal and external interactions of the organisation
(Ojala, 1996)	Short questionnaire	20-statements, very general
(Tannebaum, 1997)	Questionnaire	The learning environment
(Redding & Catalanello, 1997)	Questionnaire	The Learning Organisation Capability Assessment
(Watkins & Marsick, 1998)	Questionnaire	Dimensions of the Learning Organisation Questionnaire (DOLQ)
(Moilanen, 2001)	Questionnaire	The Learning Organisation Diamond Tool
(DiBella, 2001)	Questionnaire	The Organisational Learning Inventory
(A. Armstrong & Foley, 2003)	Questionnaire	Based on four facilitating mechanisms

Table 5: Previous attempts at measuring Learning Organisations. Source: Author

The first measurement system was developed by Pedler et al. (1988) and came about through a study of some British companies. It predated Senge's inaugural work and focused on measuring against nine main areas: "...

- *Organisational policy and strategy formation, together with its implementation, evaluation and improvement, are consciously structured as a learning process.*
- *The debate over organisational policy and strategy is widely shared, participated in, and identified with, amongst members of the organisation. Debate implies recognition of differences, airing disagreements, tolerating and working with conflicts to reach decisions.*
- *Management control systems of accounting, budgeting and reporting are structured to assist learning from the consequences of managerial decisions.*

- *Information systems, including the applications of information technology, are used to “informate” as well as to “automate”, enabling members to question current operating assumptions and seek information for individual and collective learning about organisation norms, goals and processes.*
- *Individuals, groupings, departments and divisions exchange information on expectations and feedback on satisfactions to assist learning (as Total Quality programmes) as well as goods and services.*
- *Members with outside contacts act as ‘environmental scanners’ for the organisation (as well as delivering goods and services, etc.) and feedback this information to other organisation members.*
- *Organisation members engage to share information and learn jointly with partners outside the organisation, e.g. key customers and suppliers.*
- *The culture and management style within the organisation encourage experimentation, learning and development from successes and failures.*
- *Resources and facilities for self-development are available for all” (Pedler et al., 1989).*

The initial study of ‘The Learning Company’ gathered data through interviews, shared work days and some workshops and was then presented as a measurement system in 1991, utilising a questionnaire (Moilanen, 2001).

The next questionnaire, developed by Mayo and Lank (1994), included 187 questions split into nine dimensions (Mayo & Lank, 1994) emphasising organisational factors, individual and team-based learning, management and leadership factors. The main criticism of this instrument is the number of questions and the time needed by participants to complete it (Moilanen, 2001).

Campbell & Cairns (1994) developed a measurement system based on behaviourally anchored rating scales (BARS). It measured the following behaviours: “...

- *The manner in which information is handled*
- *The style of communication*
- *The manner and magnitude of changes made*
- *The approach taken to errors and experimentation in actions and decision making*
- *The reward and remuneration system” (Campbell & Cairns, 1994)*

The ‘Learning Audit’ was developed by Pearn et al. (1995). This questionnaire focused on the way learning is encouraged by departments and managers (Pearn et al., 1995). The questionnaire is comprehensive in its evaluation of leading and encouraging learning but quite superficial in its assessment of the learning organisation as a whole (Moilanen, 2001).

The questionnaire developed by Sarala and Sarala (1996) was divided into the following main groups:

- Philosophy and values
- Structure and processes
- Leading and making decisions
- Organising the work
- Training and development
- The internal and external interactions of the organization

These groups contained several statements centred on five different archetypes:

- A bureaucratic organization
- Quality management
- Process orientation
- Managing by objectives
- A learning organization

The focus of the tool was to establish whether or not an organisation was a learning organisation (Moilanen, 2001; Sarala & Sarala, 1996).

Otala (1996) introduced a very short questionnaire comprising 20 statements which was probably developed more to raise awareness of the learning organisation concept than as a serious measurement system (Moilanen, 2001; Otala, 1996).

The next questionnaire, developed by Tannenbaum (1997) seemed to be aimed at managers' use only (Moilanen, 2001), focusing mainly on the learning environment, processes, training and job-related learning (Moilanen, 2001; Tannebaum, 1997).

The 'Learning Organisation Capability Assessment' (Redding & Catalanello, 1997) was a similar example of a short and easy-to-use questionnaire designed to assess where an organisation can place itself on a learning organisation continuum. It is based on three archetypes: traditional, continuously improving and learning organisations (Moilanen, 2001).

The most comprehensive questionnaire is the 'Dimensions of a Learning Organisation Questionnaire' (DOLQ) (Watkins & Marsick, 1998). It is comprised of four sections addressing individual, team, organizational and global issues. The instrument is based on seven dimensions: "...

- *Continuous learning – an organisation's effort to create continuous learning opportunities for all of its members.*
- *Inquiry and dialogue – an organisation's effort in creating a culture of questioning, feedback, and experimentation.*
- *Team learning – the spirit of collaboration and the collaborative skills that undergird the effective use of teams.*
- *Empowerment – an organisation's process to create and share a collective vision and get feedback from its members about the gap between the current status and the new vision.*
- *Embedded system – indicates efforts to establish systems to capture and share learning.*
- *System connection – reflects global thinking and actions to connect the organisation to its internal and external environment.*
- *Strategic leadership – shows the extent to which leaders think strategically about how to use learning to create change and to move the organization in new directions or new markets" (Yang, Watkins, & Marsick, 2004).*

This measurement system takes into account leadership, financial and knowledge performance and, of all instruments mentioned here, has undergone the most amount of scientific and empirical testing (Moilanen, 2001).

Moilanen (2001) developed the measurement system known as the ‘Learning Organisation Diamond Tool, evaluating an organisation in terms of five dimensions: “...

- *Driving forces – the core idea being that learning organisations will not be based or developed without the conscious attention and work of the managers.*
- *Finding purpose – the meaning of the organisation that is found in the vision or strategy.*
- *Questioning – enquiring, doubting and finding the value of the present state.*
- *Empowering – finding the right tools for learning.*
- *Evaluating – being interested in what is happening within the field of learning and development” (Moilanen, 2001).*

Each of the five dimensions is evaluated at an individual level and an organisational level, forming the ten elements of the Learning Organisation Diamond (Moilanen, 2001). The Learning Organisation Diamond tool has not received as much recognition and acclaim as the DOLQ.

The Organisational Learning Inventory (OLI) was developed by DiBella (2001). It was a tool used to profile a team or an organisation’s learning capability and was based upon a framework of seven different learning orientations of organisations, presented as bi-polar dimensions, resulting in 14 different approaches (DiBella, 2001).

Armstrong & Foley (2003) developed the ‘Learning Environment Questionnaire’ that evaluated organisations in terms of four facilitating mechanisms: the learning environment, identifying learning and development needs, meeting learning and development needs and applying learning in the workplace. This tool assesses the degree to which these Organisational Learning Mechanisms (OLM) are institutionalised within the organisation (A. Armstrong & Foley, 2003).

All of the measurement systems presented in this section had, as their basis for measurement, a number of different themes or attributes that were captured and summarised in Table 3 earlier, together with work of other authors attempting to capture attributes of a learning organisation. All of these measurement methodologies have in common the fact that they rely solely on survey questionnaires for data collection and all rely on statistical analysis to process the survey responses. What is important to keep in mind when reviewing these previous measurement methodologies is that what they actually measure relates to the perceptions of employees and managers rather than absolute indicators of learning organisations. They are self-reporting instruments and a measure of perception (Jamali et al., 2009).

Furthermore, it seems relatively easy to construct a survey on the basis of an attribute statement, e.g. “My organisation strives to maximise retention.” A respondent could look at the statement and rate his/her organisation on a Likert scale without having to give much thought to the response. Examples of this can be seen in the Dimensions of the Learning Organisation Questionnaire (DOLQ) (Watkins & Marsick, 1998): “...

*30. My organisation supports employees who take calculated risks.*

*31. My organisation builds alignment of visions across different levels and work groups.*

*32. My organisation helps employees balance work and family.*

- 33. *My organisation encourages people to think from a global perspective.*
- 34. *My organisation encourages everyone to bring the customers' views into the decision making process.*
- 35. *My organisation considers the impact of decisions on employee morale.*
- 36. *My organisation works together with the outside community to meet mutual needs.”*

The seven questions (30 – 36) shown above are taken from a section of the DOLQ and may be considered to be adequate as survey questions. All responses would be collated and analysed, the attribute would be measured and conclusions would be drawn. But for a measurement system to be less subjective, data supporting or contradicting conclusions from a survey statement would have to be gathered using more than just one methodology.

When considering the DOLQ questions above with a view to constructing a multiple data collection strategy, however, it instantly becomes harder to know what to look for if researchers are onsite at an organisation seeking evidence to support an answer for any of the above questions. To enable this to happen, each of the attributes of a learning organisation must be broken down into smaller components and this can be done by rewording the above questions as follows:

- 30. How could an organisation support employees who take calculated risks?
- 31. How could an organisation build alignment of visions across different levels and work groups?
- 32. How could an organisation help employees balance work and family?
- 33. How could an organisation encourage people to think from a global perspective?
- 34. How could an organisation encourage everyone to bring the customers' views into the decision making process?
- 35. How could an organisation consider the impact of decisions on employee morale?
- 36. How could an organisation work together with the outside community to meet mutual needs?

On closer examination, each of the questions listed above would probably produce a number of answers that could be engineered to serve as a list of activities an organisation could undertake. A search reveals a complete absence of literature mentioning such a process, which would indicate that an investigation of this nature has not yet been attempted. Breaking down learning organisation attributes into learning organisation activities could serve as a template around which a qualitative evidence gathering strategy could be developed. When talking about performance management and performance measurement, Lebas (1995) showed how an organisation can be represented through the identification of its activities. This logic would indicate that it may be possible to identify an organisation as a learning organisation by showing that it engages in activities expected of a learning organisation.

## **2.5. Other management systems**

Jackson (2000) categorised the learning organisation in the same way as other management concepts such as ‘excellence’, ‘total quality management’, and ‘reengineering’. He regarded them as management fads or rhetorical visions.

This section examines a sample of other management systems; describes them, their purpose, the advantages and pitfalls of each in order to gain a deeper understanding of the measurement

systems they use and how those measurement systems may have overcome problems so far encountered in previous attempts at measuring learning organisations. The management systems examined in this section are TQM, Six Sigma, Lean and BPR.

### **2.5.1. TQM**

TQM (Total Quality Management) is defined as a continuously evolving management system consisting of values, methodologies and tools, the aim of which is to increase external and internal customer satisfaction with a reduced amount of resources (Andersson, Eriksson, & Torstensson, 2006).

*TQM functions on the premise that "...the quality of products and processes is the responsibility of everyone who is involved with the creation or consumption of the products or services offered by an organization. In other words, TQM capitalizes on the involvement of management, workforce, suppliers, and even customers, in order to meet or exceed customer expectations (Cua, McKone, & Schroeder, 2001)."*

The literature frequently mentions seven quality control tools and seven management tools. The common methodology used to improve business is the improvement cycle which consists of four stages: plan, do, study and act (PDSA) (Andersson et al., 2006). Quality systems reviews normally take place in the form of an audit (Hawkes & Adams, 1995).

A criticism of TQM is that only between one-fifth and one-third of TQM programmes carried out in the US or Europe achieved any significant or tangible improvements in quality, productivity, competitiveness or financial results (Andersson et al., 2006).

### **2.5.2. Six Sigma**

Motorola was the first company to launch a Six Sigma programme in the mid-1980s. Six Sigma is defined... *"as a business process that allows companies to drastically improve their bottom line by designing and monitoring everyday business activities in ways that minimise waste and resources whilst increasing customer satisfaction (Andersson et al., 2006)."* It is an improvement programme for reducing variation, which focuses on continuous breakthrough improvements. (Andersson et al., 2006)

There are two major improvement methodologies in Six Sigma, one for already existing processes and one for new processes. The first methodology used to improve an existing process can be divided into five phases. These are: measure, analyse, improve and control. The second methodology is often used when the existing processes do not satisfy the customers or are not able to achieve the strategic business objectives. This methodology can also be divided into five phases: define; measure; analyse; design and verify. (Andersson et al., 2006)

There has not been much published criticism of Six Sigma except that it has the same common features as TQM, and Six Sigma does not, in principle, contain anything new. The rhetoric of Six Sigma is very much one of command and control, leading to hierarchies and lack of empowerment (McAdam & Lafferty, 2004). A feature of the self-control based training is the coloured belt proficiency levels.

Six Sigma is a highly disciplined, data oriented, top down approach and uses statistical decision tools (Andersson et al., 2006)

As with TQM, “...projects and initiatives are aligned with strategic objectives of the organisation, Six Sigma emphasizes checking, inspection, audit and analysis (Dedhia, 2005).”

### 2.5.3. Lean

Compared to other quality management concepts described above, the lean concept, as in lean manufacturing, lean production etc., is one of the more common and successful ideas. “*Lean is about controlling the resources in accordance with the customers’ needs and to reduce unnecessary waste (including waste of time). The concept was introduced at a larger scale by Toyota in the 1950s (Andersson et al., 2006).*”

Lean can be defined as: “...*a systematic approach to identifying and eliminating waste through continuous improvement, flowing the product at the pull of the customer in pursuit of perfection (Andersson et al., 2006).*”

The five basic principles of lean manufacturing are shown as follows: “...

1. **Understanding customer value** – *only what the customers perceive as value is important.*
2. **Value stream analysis** – *having understood the value for the customers, the next step is to analyse the business processes to determine which ones actually add value. If an action does not add value, it should be modified or eliminated from the process.*
3. **Flow** – *focus on organising a continuous flow through the production or supply chain rather than moving commodities in large batches.*
4. **Pull** – *demand chain management prevents the production and stockpiling of commodities i.e., customer demand pulls finished products through the system. No work is carried out unless the result of it is required downstream.*
5. **Perfection** – *the elimination of non-value-adding elements (waste) is a process of continuous improvement.” (Andersson et al., 2006)*

The main criticisms of Lean are that it: “...*requires a stable platform, where scale and efficiency can be maximised. Highly dynamic conditions cannot be dealt with, as there is no room for flexibility due to focus on perfection (Andersson et al., 2006).*”

As with the other management systems, audit is often used as a precursor to Lean improvement programmes (R. Thomas & Barton, 2011).

Table 6 shows a summary of the differences and similarities between the above mentioned management systems.

Concepts	TQM	Six Sigma	Lean
<b>Origin</b>	The quality evolution in Japan	The quality evolution in Japan and Motorola	The quality evolution in Japan and Toyota
<b>Theory</b>	Focus on customers	No defects	Remove waste
<b>Process view</b>	Improve and uniform processes	Reduce variation and improve processes	Improve flow in processes
<b>Approach</b>	Let everybody be committed	Project management	Project management
<b>Methodologies</b>	Plan, do, study, act	Define, measure, analyse, improve (or design), control (or verify)	Understanding customer value, value stream, analysis, flow, pull, perfection
<b>Measurement</b>	Analytical or statistical tools	Advanced statistical and analytical tools	Analytical tools
<b>Primary effects</b>	Increased customer satisfaction	Save money	Reduce lead time
<b>Secondary effects</b>	Achieves customer loyalty and improves performance	Achieves business goals and improves financial performance	Reduces inventory, increases productivity and customer interaction
<b>Criticism</b>	No tangible improvements, resource-demanding, unclear notion	Does not involve everybody, does not improve customer satisfaction, does not have a system view	Reduces flexibility, causes congestion in the supply chain, not applicable in all industries

Table 6: Similarities and differences between TQM, Six Sigma and Lean. Source: Adapted from Andersson et al. (2006).

#### 2.5.4. BPR

Business Process Reengineering is the analysis and design of workflows and processes within an organization. BPR is one more example of a number of different management systems that are, effectively, change management programmes that can lead to a fundamental change within an organisation's structure, culture and management processes: *“(BPR) has become a widely used approach to management change since the early 1990s, yielding potential benefits such as increasing productivity through reduced process time and cost, improved quality, and greater customer satisfaction. However, it has been reported that as many as 70% of reengineering efforts result in failure (Cao, Clarke, & Lehaney, 2001).”*

BPR is very similar to the change management processes mentioned above. Again, a pre-BPR audit is a common feature of this process (Cameron & Braiden, 2004).

## 2.6. Auditing/measurement

The question of whether the Learning Organisation Quick Scan (LOQS) is an audit system or a system of measurement is debateable and depends, to a large degree, on the purpose for which it is to be used. Many past attempts at measuring and/or diagnosing a learning organisation use

the term measurement (Mayo & Lank, 1994; Moilanen, 2005; Watkins & Marsick, 1998) and only one author, (Pearn et al., 1995), calls his questionnaire an audit.

There is no clear definition of audit, but the term is used in the context of compliance (Karapetrovic & Willborn, 2000; Power, 2000), where an audit is used as a check to see that an organisation complies with a pre-agreed or legal set of standards (Karapetrovic & Willborn, 2000; Power, 2000) in its processes and procedures. The term audit is also used as a pre-cursor to change initiatives (Cameron & Braiden, 2004; Dedhia, 2005; R. Thomas & Barton, 2011) in order to establish a baseline of an organisation's current status prior to the change. Those advocating the use of the term audit (Power, 2004) indicate that the quality or accuracy of an audit depends on the skill of the auditors. Measurement, or the results of measurement, should be independent of those performing the measurement (Power, 2004). Therefore, the use of the term audit or measurement is a problem of semantics.

For the purpose of this thesis, the term measurement is used in regards to the LOQS when investigating whether or not an organisation is a learning organisation and if so, to what degree. This is in line with the language used in previous articles relating to the measurement of learning organisations.

The next section will take a closer look at an auditing methodology developed specifically for management systems.

## **2.7. Quick Scan Audit Methodology**

Quick Scan Audit Methodology (QSAM) is an example of an audit methodology that encompasses the use of multiple data gathering methodologies and is described here as a potential exemplar, and a candidate for possible adaptation into learning organisations measurement methodology.

The QSAM is a tried and tested set of techniques initially developed by Naim, Childerhouse, Disney, and Towill (2002) in order to assess the health of a supply chain. Work on developing a supply chain audit methodology was started by the Logistics Systems Dynamics Group at Cardiff University in the early 1990s and since then it continues to be developed by the original members with assistance from academics around the world. The Quick Scan Audit Methodology was designed from the start to be both practitioner-relevant and supportive of academic need (Boehme, Childerhouse, Deakins, Potter, & Towill, 2008; Childerhouse & Towill, 2011).

Although originally a collaborative effort with the UK automotive industry, QSAM has since been applied in organisations of varying sizes and in different business sectors in Germany, New Zealand, and Thailand, as outlined in Table 7 below (Boehme et al., 2008).

Country	Sector
Germany	Automotive component and system supplier
New Zealand	FMCG, consumer foods Engineering service provider Dairy producer Service provider, hospital and cold storage Pulp and paper mill Retailer, mass merchant
Thailand	Small manufacturer Cable manufacturer Steel fabricator Service provider, scanning Concrete producer
UK	Automotive component and system supplier OEM, non-automotive Lighting product manufacturer FMGC producer Automotive heat treatment subcontractor Steel fabricator Service provider, utility and logistics

Table 7: Countries and organisation sectors that have applied QSAM. Source: Boehme et al. (2008)

The QSAM is a systematic approach to the collection and synthesis of data from a supply chain and is a generic methodology to identify change management opportunities. Because several researchers are used for data collection and interpretation, multiple perspectives are examined. Furthermore, there is a feedback phase, giving and receiving feedback from participant organisations, which significantly adds to the richness of the data.

### 2.7.1. Component parts

The audit process itself is conducted by experienced supply chain academics in a structured approach designed to fit around the limited time availability of busy managers and employees. To this end, typically four researchers will spend three days actually on site, assisted by an in-house business champion (Boehme et al., 2008; Childerhouse & Towill, 2011).

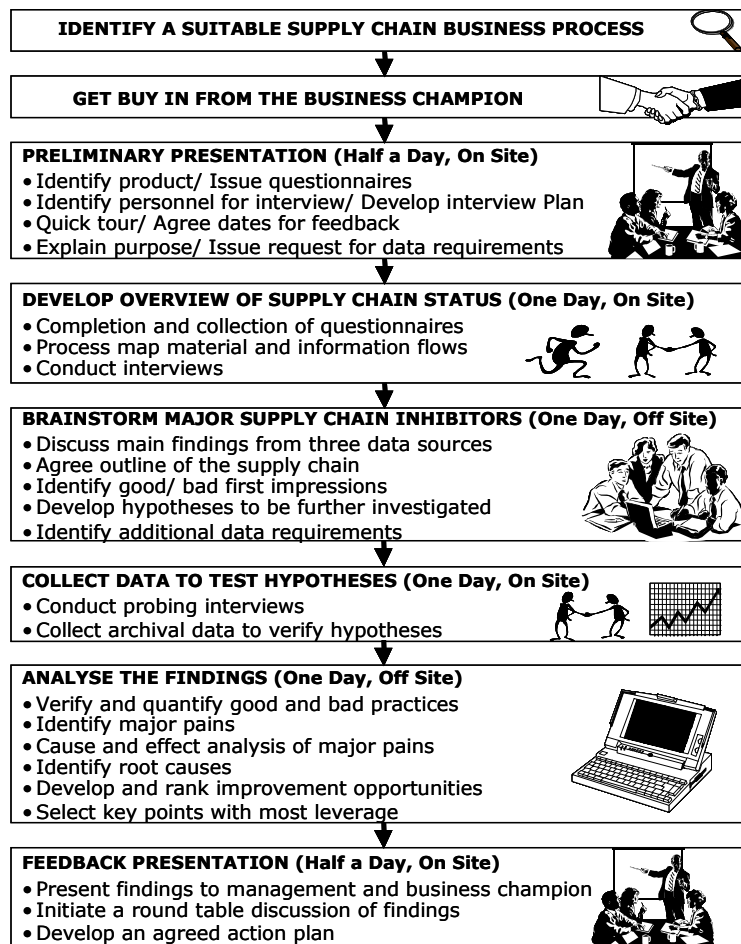


Figure 3: The QSAM Process. Source: Boehme et al., (2008) and Childerhouse & Towill, (2011)

The QSAM consists of four distinct phases:

- Preliminary presentation
- Data collection
- Analysis
- Feedback presentation

### *Preliminary presentation*

This presentation is made to the executive team and explains the Quick Scan methodology and highlights specific objectives. An interview plan is developed and questionnaires are issued to the most applicable personnel.

### *Data collection*

There are four basic sources of data: attitudinal questionnaires, process maps, semi-structured interviews and archival information. The first day on-site involves the collection of these four standard types of data and culminates in a brainstorming session to evaluate further avenues of investigation. This leads to a more focused approach on the second day in order to validate and further investigate key issues.

### ***Analysing the findings***

Triangulation of the different forms of information described, results in the production of a balanced perspective. A large number of analytical tools are utilised at this stage of the Quick Scan process.

### ***Feedback presentation***

A critical phase of the Quick Scan is the final feedback presentation, during which improvement opportunities are discussed, constraints regarding the proposed solutions are identified and future action plans are agreed. It is also necessary to outline the resources that will be required to initiate the actions and whether the Quick Scan team's further involvement is required.

## **2.7.2. The team**

The Quick Scan process can be completed in a two-week period but only three days are required on-site in order to minimise the disturbance to the business involved. The Quick Scan team normally consists of three to five diagnostic staff and a business champion. The perceived problem is defined by a business champion so that buy-in is a matter of outlining the method, explaining the resource implications as well as the benefits and determining the scope of the Quick Scan (Boehme et al., 2008; Childerhouse & Towill, 2011).

## **2.7.3. Advantage and weaknesses as a measuring system**

The Quick Scan described has particular strengths and weaknesses. Its strengths are that it:

- is a relatively quick and efficient process
- undertakes a diagnostic in considerable depth given the time scale
- triangulates data sources
- gives a very good holistic perspective of the supply chain
- is undertaken by a third party with little legacy from existing operations

The weaknesses are that it requires a great deal of tacit knowledge from the team members and a considerable amount of training for team members to be conversant with the method. The QSAM also generates a great deal of data (Boehme et al., 2008; Childerhouse & Towill, 2011).

This method appeals as it utilises multiple data collection methodologies that would provide a richness of data (and insight) not possible with questionnaires alone.

## **2.8. Literature review summary - the research gap**

This literature review has focused on three main areas: the concept of the learning organisation, audit and measurement, and attributes of a learning organisation:

### **2.8.1. The concept of the learning organisation**

In examining the concept of the learning organisation, this literature review looked at studies carried out prior to Senge's seminal work on learning organisations and how the learning organisation can be seen as an evolutionary step in management strategies. I established the fact that there seems to be a continuing and unabated demand for publications in this area.

The five disciplines of a learning organisation, as described by Senge, were then examined and the vagueness of the concept was discussed, especially in terms of how the five disciplines seem totally inadequate as a template for building a learning organisation. The literature review then went on to describe how many proponents see the learning organisation as a solution to the current volatile environment within which organisations exist. It also demonstrated how the vagueness of the concept has spawned numerous attempts at re-defining learning organisations. This has resulted in further ambiguity and mystification of the learning organisation concept, resulting in what has been called the visionary/sceptic dichotomy.

The literature review revealed how visionaries can be further divided into two camps: those that view the existence of the learning organisation as an undeniable fact, and those that view the learning organisation as a utopian ideal that can be striven for but never reached – where the journey is more important than the destination. Similarly, the sceptics can also be divided into two camps: one that views the learning organisation concept as a negative ideology designed to exploit employees and the other that considers the learning organisation concept as so fundamentally flawed that it should be abandoned.

### **2.8.2. Measurement and audit**

This part of the literature review looked at calls for measurement systems and how measurement systems can be seen as a solution for reducing the degree of divergence of opinion over the learning organisation concept. The literature review examined the question of whether it is possible to measure an organisation and determine that it is a learning organisation. Previous attempts at measurement were investigated and shown to rely solely on survey methodologies, thus turning them into self-reporting instruments with arguably limited validity.

The literature review then looked at other change management systems such as TQM, Six Sigma, Lean and BPR. These revealed the prevalence of auditing as a means of gathering information using multiple data gathering methodologies. The semantics of the terminologies of audit and measurement was discussed and finally, in this section, the Quick Scan Audit Methodology (QSAM) was examined in detail in terms of its use in measuring the health of a supply chain.

### **2.8.3. Attributes of a learning organisation**

This area represented an exhaustive review of the literature dealing with what other authors have identified as attributes of a learning organisation. Attributes of a learning organisation were classified as either conducive to a learning organisation (attributes that I called ‘enablers’) or as antagonistic, functioning as barriers to learning (‘disablers’). These were further split into two categories, organisational culture disablers (cultural attributes) and leadership disablers (leadership attributes).

When examining previous attempts at measurement, it could be seen that assessing learning organisations on the basis of attributes arranged into dimensions is not new. Others also have adopted this approach but only quantitatively through the use of survey-only methods. When looking more closely at one of the previously attempted measurement methodologies, the DOLQ, it could be seen how the attributes of a learning organisation had been sculpted into a questionnaire that could be answered by a respondent quite easily and without too much thought going into the responses. But when considering the development of a more qualitative evidence gathering strategy, it becomes apparent that the attributes of a learning organisation are insufficient as a framework for measurement as they are too vague. They need to be broken down further into possible activities that a learning organisation would be expected to engage in. These possible learning organisation activities could then be used as a framework for the development of a qualitative measurement system.

### **2.8.4. Representing the research gaps**

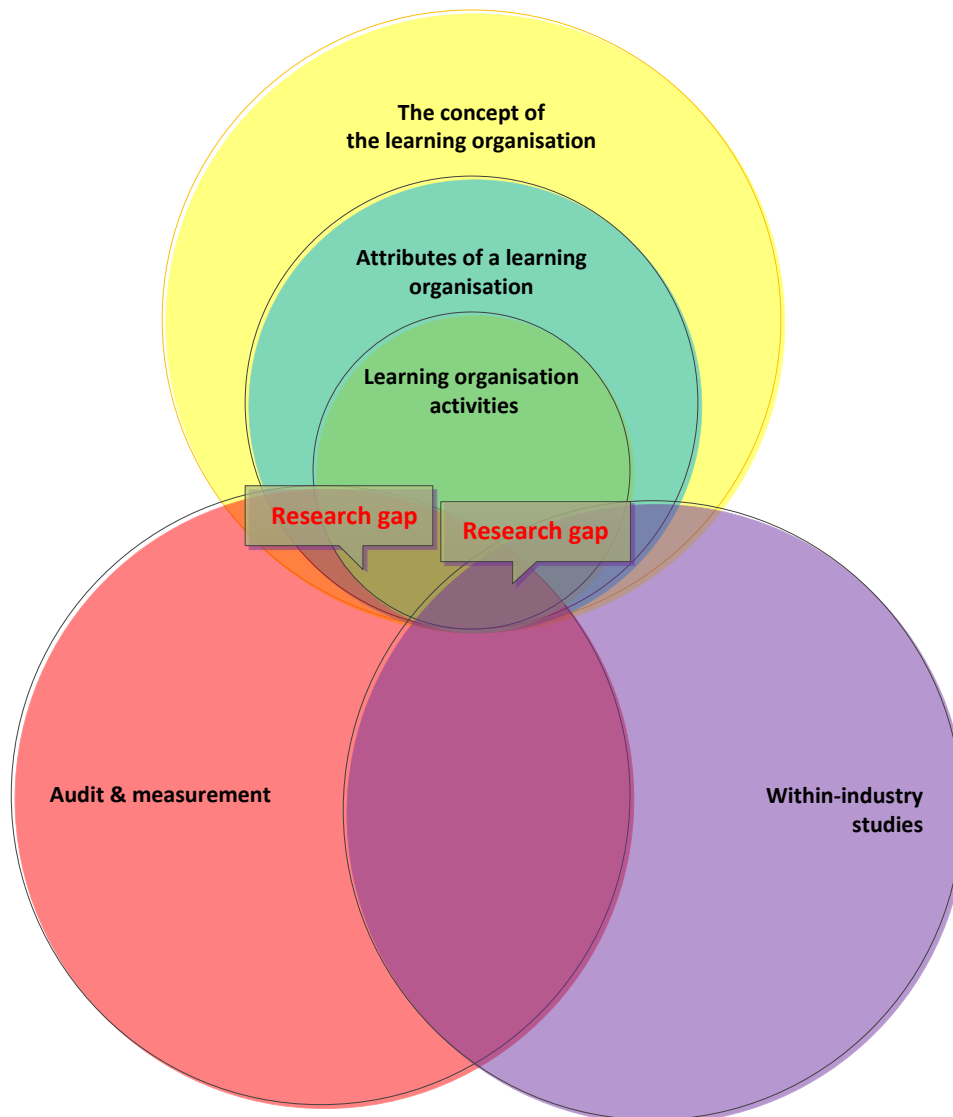
The gaps in the research are represented in Figure 4 below. The Venn diagram shows the concept of the learning organisation, represented as one of the main circles, split into a sub-circle representing the attributes of a learning organisation. This sub-circle is further split into another sub-circle representing the learning organisation activities, developed from the attributes of a learning organisation.

The first gap in the research is represented by the intersection of the learning organisation activities sub-circle and the circle representing audit and measurement. Nowhere in the literature is there any evidence of a previous attempt at qualitatively measuring a learning organisation by comparing the activities engaged in by a participant organisation against those that a learning organisation would be expected to engage in.

Bringing in a third major circle representing within-industry studies reveals a second major gap in the research. The place in the diagram where this circle intersects the previously mentioned intersection; represents a gap where there have been no previously attempted, within-industry studies of measurements of learning organisations – the evaluation of several organisations as learning organisations all from within one industry sector.

Both these gaps can be filled through a multiple iterative case study method to develop a qualitative methodology to measure an organisation as a learning organisation where all cases involve participant organisations from within the same industry sector.

It is hoped that introducing qualitative approaches to assess organisations will lead to improvements on previous attempts at measurement.



**Figure 4: The research gap.** Source: Author

The successful development of such a methodology has the potential to answer questions such as:

- Do learning organisations exist in reality?
- Are learning organisations more prosperous than other types of organisation?
- Do learning organisations enjoy greater longevity compared to others?

It may also prevent organisations making bogus or suspect claims of being a learning organisation since their claims could be verified. The Rover Automobile company, Chaparral Steel and British Petroleum are examples of organisations that have claimed to be learning organisations (Sheaff & Pilgrim, 2006).

Indeed, there are several examples of research studies carried out on organisations identified by those authors as learning organisations simply because they claimed to be such in their mission and vision statements and organisational manuals. Examples of

articles based on such studies are “Pain and Stress in Learning Organisations: A Question of Career?” (Akella, 2007) or “Discipline and Negotiation: Power in Learning Organisations” (Akella, 2008). Any conclusion from studies of this nature must be dubious.

If learning organisations were shown to exist in reality, studies of these organisations could reveal whether or not the LO attributes identified in the literature are correct. This would help to further refine the measurement methodology.

Examining cases from one industry sector may reveal industry characteristics that are conducive or antagonistic to the existence of learning organisations within that sector.

In summary, the research question for this study becomes: **“Can a more robust methodology of assessing organisations as learning organisations be developed by extending previous survey-only methods of measurement through the incorporation of qualitative approaches?”**

### 3. Methodology

As seen in the literature review chapter, previous attempts at measuring learning organisations relied on quantitative methodologies: attribute based survey questionnaires to gather data and statistical methods to interpret the results. And, as shown in the literature review, previous attempts at measurement have been criticised as being self-reporting – a snapshot of opinions about the organisation at a given point in time. It is hoped that by extending the work of previous authors into activities-based measurement, a much richer data-set can be obtained, coded against the known attributes of a learning organisation. In this way, the organisation can be evaluated in its own context and setting to produce a more robust assessment as an improved method of measuring a learning organisation.

It has been decided to use an adaptation of the Quick Scan Audit Methodology (QSAM) as the basis for the new learning organisation measurement mechanism. The appealing hallmarks of the QSAM are as follows:

- It allows quantitative survey data enhanced by qualitative, activity-based observational data to be collected and analysed, thus allowing methodological triangulation.
- It utilises teams of multiple researchers, allowing multiple researcher perspectives to be examined.
- It is fast, reducing the perception of disruption for potential participant organisations.
- It utilises multiple data gathering methods, allowing triangulation of data to occur and thus increases the potential for accuracy of findings.
- It includes a feedback phase to the organisation which will be an ideal opportunity to gain feedback data on the accuracy and the relevance of the findings from the participant organisation.

The original QSAM consisted of the following major stages (Naim et al., 2002):

- Identify suitable supply chain business process
- Get buy-in from the business champion
- Preliminary presentation
- Conduct Quick Scan using four data gathering methodologies
- Analyse the findings
- Feedback presentation
- Write up report

The major stages of the Learning Organisation Quick Scan (LOQS) are proposed to be similar to this but the foundations upon which data gathering is planned and implemented and the data analysed are, however, proposed to be completely different; the foundation being the learning organisation activities, derived from the attributes of a learning organisation. Processes will be designed to deal with what is anticipated to be a large volume of data and care will have to be taken to put together a team with sufficient knowledge and experience to be effective data-gathering assistants.

The QSAM has been selected as the platform for modification due to the fact that it has been successfully used for assessing the health of supply chains for several years and in several countries and has been judged to be reliable and accurate. This research study, therefore, is about adapting the Quick Scan Audit Methodology to develop and test a system designed to measure an organisation as a learning organisation. A multiple iterative case study methodology will provide the data necessary for refining the LOQS into a robust measurement methodology. This chapter describes the methodology adopted for the development of such a system and justifies the choice of methodologies.

This chapter will start by presenting a summary of the adopted methodology and will continue by giving justifications for the methodology from the relevant literature.

### **3.1. *An upfront summary of the adopted methodology***

This research focuses on an assessment of organisational learning and, therefore, adopts constructivism as its approach whereby organisations are considered to be a social construct rather than a tangible object. It is the interaction of employees that creates and re-creates organisational capability... learning. A constructivist approach generally leads to an interpretive epistemology (Cunliffe, 2008) as it takes into account peoples' mental models that underscore their actions. This is why this research is considered to be a largely qualitative study that, for the most part, has adopted an interpretivist paradigm. The aim of the research is to use qualitative methodologies to extend and improve upon previous survey-only methods of measuring an organisation as a learning organisation. The study will attempt to adapt the Quick Scan Audit Methodology (QSAM) to measure an organisation using learning organisation activities, developed from attributes of a learning organisation, as the foundation for measurement. But, like the QSAM, the LOQS will, to an extent, adopt mixed methodologies. It will be the mix of researchers and data collection tools that will enable a cross reference of materials from both positivist and interpretivist perspectives.

The Learning Organisation Quick Scan (LOQS) will be developed in this way: an initial prototype will be tested and refined through several iterations at different organisations, all within one industry sector (an iterative case study methodology). A team of researchers will gather data onsite in field studies using survey questionnaires, interviews, observation and document analysis. This data will be used to uncover evidence that the participant organisation routinely engages in activities indicating that it has processes, policies, procedures and mind-sets conforming to known attributes of a learning organisation. The degree to which the organisation conforms will also be assessed. The acquired data will be used to identify where the organisation engages in activities that function as barriers to learning, indicating broken or non-existent processes, policies, procedures and mind-sets that directly hinder it from conforming to known attributes of a learning organisation. The causes and effects of organisation activities will be investigated and the data will be analysed and presented in such a way that researchers and organisational leaders will know where on a learning organisation continuum the participant organisation sits and why.

In qualitative research, a variety of data collection methods are used to collect data that are crafted into stories, descriptions or accounts. Neither data nor methods for collecting data can be judged as being valid but it is the accounts developed from the data that need to be shown to be valid and reliable. Descriptive validity, i.e. the factual accuracy of the account as reported by observers, will be maximised largely through investigator triangulation. In this research study, the main account – the measure of how a participant organisation compares to the theoretical ideal of the learning organisation (and why it is where it is) – will be made up of an aggregation of multitudes of smaller accounts obtained through interviews, observations and document analysis. Multiple investigators coming together at regular intervals will allow the continuous cross-checking of findings where either agreement on what has taken place will occur, or areas for further investigation will come to light. A number of checks may be necessary before eventual agreement on what has been discovered is reached. These regularly scheduled investigator meetings will form part of a peer review process taking place at both the data gathering and data analysis phases of the study. The recording of all interviews and chats, and detailed field notes on observations, will provide an audit trail that can be revisited to further check for factual accuracy.

Interpretive validity refers to whether the researchers accurately portray the meaning attached by the participants to what is being studied. A number of strategies will be employed to maximise interpretive validity: in regards to interviews and informal chats, extensive use of paraphrasing throughout the interview will be used as a form of member checking to ensure interviewers have understood the picture that the interviewees are trying to paint. In some cases, interviewees will be asked to score the organisation against certain criteria and the interviewers will then follow up through the use of probing questions. Member checking will also take another form. A cause and effect analysis will be performed on identified barriers to learning which will form the participant organisation's story, where points of greatest leverage for change will be identified. This story will form part of the presentation back to the executive team of the organisation. This team will be asked to give feedback on their perception of the accuracy of the story. The perceived accuracy of the story will provide indicators on the accuracy of inferences from data gathered through interviews, surveys, observations and document analysis. Low inference indicators will be used in case write-ups to ensure that descriptions are phrased close to participants' accounts and researchers' field notes.

Peer review at the data gathering and data analysis phases will also form part of the strategy for ensuring theoretical validity – the degree to which theoretical explanations developed from the research study fit the data. Attributes of a learning organisation will form the theoretical framework from which explanations will be assessed as being a close fit to the data and to what degree. Extended fieldwork will not be an option as one of the attractive hallmarks of the Quick Scan to participants is the relatively low intrusiveness of the method with only 9 person/days being spent in the field (54 person/hours).

Generalizability, the degree to which it is possible to extend the account of a particular situation or population to other persons, times or settings than those directly studied, will be one of the limitations of this research study. The LOQS as a methodology will only be developed and tested (and saturation established) within one industry sector – as four cases is estimated to be enough to establish saturation, this is enough to prove internal generalizability. Extending the study to test the methodology in more than one industry sector (external generalizability) is considered to be an area for further research and, therefore, beyond the scope of this research study.

Evaluative validity will be established by the use of attributes/activities of a learning organisation as the evaluative framework by which each case is judged. Each identified organisational activity will be evaluated against this framework as 'good practice', i.e. conducive to reaching the learning organisation ideal; or as 'bad practice', representing a barrier to learning. Attributes of a learning organisation are considered to be valid as they have been developed and extended in a multitude of previous research studies.

Other strategies to be used in this research study to increase validity will include data triangulation – the use of multiple data gathering methods as data sources for triangulation and the use of the 'researcher as a detective' method/approach.

Finally, reliability is understood to be the stability of findings and is usually established in quantitative research through a process of test/re-test with similarity of results proving reliability. Reliability in qualitative research is difficult to establish due to the infeasibility of collecting data from the same sources in the same organisation at different times and checking to see if the results are the same. As such, reliability will be a known and accepted weakness of this research study.

The following sections will continue by giving justifications for the methodology from the literature.

### 3.2. Differing views on the nature of reality

Differing philosophical views on the nature of reality have led to many debates from within the discipline of Management Studies over the distinctive contributions of knowledge, and to knowledge, resulting from these differing viewpoints (Burrell & Morgan, 1979; Gioia & Pitre, 1990). These debates centre around fundamental assumptions about the nature of organisational phenomena (ontology), the nature of knowledge about those phenomena (epistemology), and the ways of studying those phenomena (methodology) (Gioia & Pitre, 1990).

Burrell and Morgan (1979) organised these differences along objective – subjective and regulation – radical change dimensions in a 2 x 2 matrix comprising of four different research paradigms as shown below:

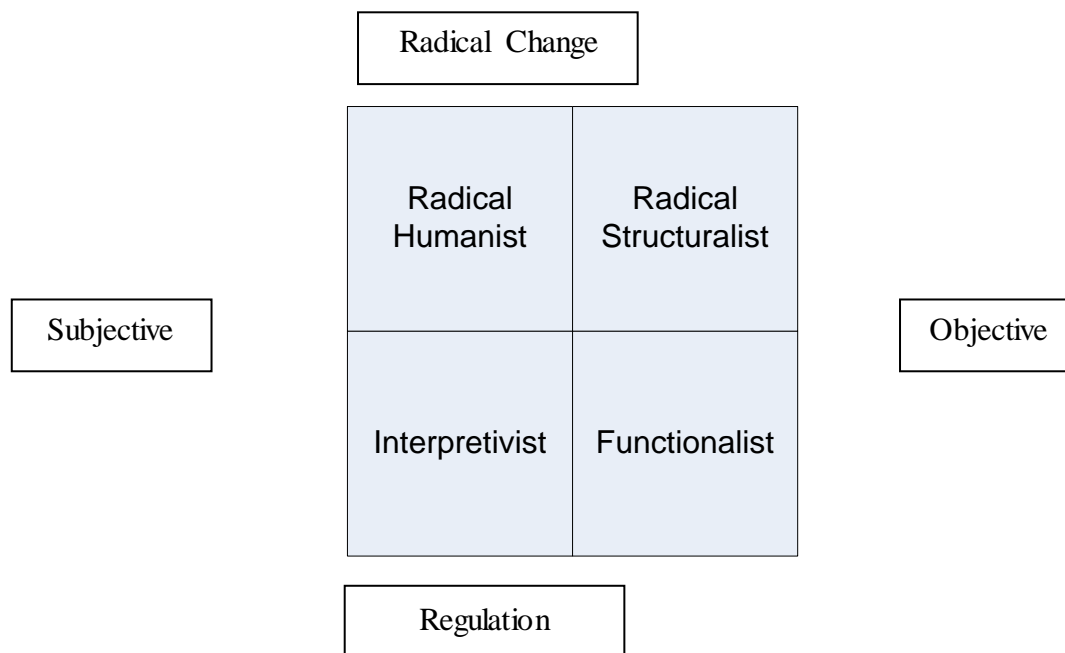


Figure 5: Matrix of research paradigms. Source: (Burrell & Morgan, 1979)

Figure 5 above shows four basic philosophical directions: the subjective, objective, radical change and regulation. Subjectivism builds upon the philosophy that reality only exists through the interpretation of individuals who, in regards to organisational science, socially construct and maintain their own organisational realities. Objectivism, on the other hand, builds upon the view that reality is independent of organisational members (Gioia & Pitre, 1990). Regulation focuses on stability and maintaining the status quo, whereas radical change focuses on the ideology of change or transformation.

Functionalism (Positivism) is shown to have an objectivist outlook on the organisational world, focusing on regulation. Interpretivism has a more subjectivist outlook and also has a focus on regulation.

Radical humanism is similar to interpretivism, but has a more critical or evaluative stance. Radical structuralism is related to radical humanism in the focus for change but emphasises existing societal class or industry structures which are seen as instruments of domination.

Objectivism (positivism), which is based on the natural science model of dealing with facts, is more associated with quantitative methods of analysis. Subjectivism (phenomenologicalism or interpretivism) deals with understanding the subjectivity of social phenomena and requires a qualitative approach (Noor, 2008). Pluralism refers to an acceptance of both objectivist and subjectivist viewpoints in order to get a fuller understanding of phenomena (Cunliffe, 2011).

### **3.3. Data gathering and analysis methods**

The choice of data gathering and data analysis methods is largely driven by the ontological and epistemological philosophies of the researcher (Bryman, 1984).

Quantitative research methods are the preference of positivists (Bryman, 1984) and encompass formal, objective, systematic processes in which numerical data are used to obtain information about the world. Quantitative methods generally:

- Use large sample sizes
- Are concerned with hypothesis testing
- Produce data that is highly specific and precise
- Have high reliability
- Have low validity
- Aim to generalise from sample to population (Hussey & Hussey, 1997)

Examples of quantitative methodologies include cross-sectional studies, experimental studies, longitudinal studies and surveys.

Qualitative research methods are the preference of interpretivists (Bryman, 1984) and involve the study of things in their natural settings, attempting to make sense of, or to interpret, phenomena in terms of the meanings people bring to them (Denzin, 1970). Qualitative methods generally:

- Use small sample sizes
- Are concerned with generating theories
- Produce data that are rich and subjective
- Have low reliability
- Have high validity
- Aim to generalise from one setting to another (Hussey & Hussey, 1997)

Examples of qualitative methodologies include action research, case studies, ethnography, grounded theory, hermeneutics and participative enquiry.

There is a growing number of researchers promoting mixed methods research who maintain that the linkage to ontology of certain research procedures or methods is neither sacred nor necessary (Johnson & Onwuegbuzie, 2004). They believe that qualitative researchers should be free to use quantitative methods; that quantitative researchers should be free to use qualitative methods and that insights gained from one method can often be enhanced and enriched by the use of multiple methods (Cunliffe, 2011).

### 3.3.1. Data gathering methods

This section explains commonly used data gathering methods, examining the advantages and limitations of each method in the types of data they reveal.

#### *Surveys*

Surveys have generally been the data gathering method of choice in social sciences by positivists (Bryman, 1984). Surveys are a set of questions that can be presented to a group of people (participants) either online, on paper, or verbally. Survey questionnaires require a response from participants that can take the form of multiple choice options or short written answers. Questionnaires may be good for gaining opinions from a large group of people but they do not allow further probing, drilling down further or the exploration of themes that present themselves as is possible using interviews. Questionnaires are also inadequate for gaining the richness of data possible with observation and the ability to view processes and interactions as they occur in a natural setting (Hussey & Hussey, 1997).

Using questionnaires alone sacrifices the ability to triangulate data in the way that multiple data gathering methodologies allow and seems wholly inadequate for measuring something as complex and as rich as a learning organisation.

#### *Interviews*

Interviews have been used by both positivist and interpretivist researchers. Interviews are a data gathering method involving asking questions of selected participants in order to find out their perspectives in relation to a topic of research. Interviews can be used to gain greater depth of information and may be conducted face-to-face, voice-to-voice or screen-to-screen, and may involve individuals or groups of individuals. Interviews offer the interviewer the benefit of non-verbal cues such as tone of voice or body language that can also be considered data (Hussey & Hussey, 1997).

A positivistic approach suggests structured, closed questions which have been prepared beforehand, and is often used in market research surveys, for example (Hussey & Hussey, 1997).

An interpretivist approach suggests unstructured questions, where questions have not been prepared beforehand. Unstructured or semi-structured interviews tend to be very time consuming and there may be problems with recording the questions and answers, controlling the range of topics and, later, analysing the data. Questions are likely to be open-ended and probes may be used to explore answers in more depth (Hussey & Hussey, 1997).

#### *Observation*

Observation is a method of gathering data by using an observer to view processes and interactions as they occur in a natural setting. Survey questionnaires have been criticised by researchers as they can only report what people say they do and feel and not what the researcher has seen them do or feel: “...in other words, the gap between word and deed may give participant observation a technical edge over survey, particularly when the possibility of a disjuncture may be problematic (Bryman, 1984).”

Observation can occur in a laboratory or in a natural setting. A natural setting is a research environment that would have existed had the researchers never studied it. Observing individuals in any setting may make them wonder what investigators are doing and they may change their behaviour in anticipation of what they think the investigators are looking for or they may become nervous – these are known as demand characteristics, because demands are being placed on the individual, and this may affect the research. It may be possible to minimise demand characteristics by not stating the exact purpose of the research but this is considered by many to be unethical (Hussey & Hussey, 1997).

### ***Document analysis***

Document analysis or the study of archival data can also provide a rich data source – the collection of which is considered to be unobtrusive (Jick, 1979).

### ***Combined methodologies***

Denzin (1970) argues that the use of a variety of different methods by a number of different researchers studying the same phenomenon should, if their conclusions are similar, lead to greater validity and reliability than any single method alone.

### **3.3.2. Data analysis methods**

Data analysis methods are highly dependent upon the type of research and the reasons for conducting the research. Purists in quantitative research believe that social science investigation should be objective and should aim for time and context-free generalisations. They believe that causes of social scientific events can be determined reliably and validly (Johnson & Onwuegbuzie, 2004). Table 8 below summarises the advantages and the disadvantages of quantitative research and the data they produce.

<b>Strengths</b>	<b>Weaknesses</b>
Testing and validating already constructed theories about how (and to a lesser degree, why) phenomena occur.	The categories used by the researchers may not reflect local constituencies' understandings.
Testing hypotheses that are constructed before the data are collected. Can generalize research findings when the data are based on random samples of sufficient size.	The theories used by the researchers may not reflect local constituencies' understandings.
Can generalize a research finding when it has been replicated on many different populations and subpopulations.	The researcher may miss out on phenomena occurring because of the focus on theory or hypothesis testing rather than on theory or hypothesis generation (called the confirmation bias).
The researcher may construct a situation that eliminates the confounding influence of	Knowledge produced may be too abstract and general for direct application to specific local

many variables, allowing one to more credibly assess cause-and-effect relationships.	situations, contexts, and individuals.
Data collection using some quantitative methods is relatively quick (e.g., telephone interviews).	
Provides precise, quantitative, numerical data.	
Data analysis is relatively less time consuming (using statistical software).	
The research results are relatively independent of the researcher (e.g., effect size, statistical significance).	
It may have higher credibility with many people in power (e.g., administrators, politicians, people who fund programmes).	
It is useful for studying large numbers of people.	

**Table 8: The strengths and weaknesses of quantitative research. Source: Johnson & Onwuegbuzie (2004)**

Critics of quantitative research often argue that the research frequently provides only superficial evidence on the social world and that it is meaningless to try to determine the causal relationships between arbitrarily chosen variables that are irrelevant to those individuals whose social worlds they are meant to represent (Bryman, 1984).

Qualitative research purists contend: “...*that multiple-constructed realities abound, that time- and context-free generalizations are neither desirable nor possible, that research is value-bound, that it is impossible to differentiate fully causes and effects, that logic flows from specific to general (e.g., explanations are generated inductively from the data), and that knower and known cannot be separated because the subjective knower is the only source of reality (Johnson & Onwuegbuzie, 2004).*” Table 9 below shows the advantages and disadvantages of qualitative research and the data they produce.

<b>Strengths</b>	<b>Weaknesses</b>
The data are based on the participants' own categories of meaning.	Knowledge produced may not generalize to other people or other settings (i.e., findings may be unique to the relatively few people included in the research study).
It is useful for studying a limited number of cases in depth.	It is difficult to make quantitative predictions.

It is useful for describing complex phenomena.	It is more difficult to test hypotheses and theories.
Provides individual case information.	It may have lower credibility with some administrators and commissioners of programs.
Can conduct cross-case comparisons and analysis.	It generally takes more time to collect the data when compared to quantitative research.
Provides understanding and description of people's personal experiences of phenomena (i.e., the "emic" or insider's viewpoint).	Data analysis is often time consuming.
Can describe in rich detail phenomena as they are situated and embedded in local contexts.	The results are more easily influenced by the researcher's personal biases and idiosyncrasies.
The researcher identifies contextual and setting factors as they relate to the phenomenon of interest.	
The researcher can study dynamic processes (i.e., documenting sequential patterns and change).	
The researcher can use the primarily qualitative method of "grounded theory" to generate inductively a tentative but explanatory theory about a phenomenon.	
Can determine how participants interpret "constructs" (e.g., self-esteem, IQ).	
Data are usually collected in naturalistic settings in qualitative research.	
Qualitative approaches are responsive to local situations, conditions, and stakeholders' needs.	
Qualitative researchers are responsive to changes that occur during the conduct of a study (especially during extended fieldwork) and may shift the focus of their studies as a result.	
Qualitative data in the words and categories of participants lend themselves to exploring how and why phenomena occur.	

One can use an important case to demonstrate vividly a phenomenon to the readers of a report.	
Determine idiographic causation (i.e., determination of causes of a particular event).	

Table 9: The strengths and weaknesses of qualitative research. Source: Johnson & Onwuegbuzie (2004)

### *Analysing quantitative data*

Researchers that have adopted a positivist stance will have collected mainly quantitative data which is nearly exclusively analysed using statistical analysis techniques (Hussey & Hussey, 1997).

Table 10 below shows typical statistical methods for analysing quantitative data.

Data Type	Exploratory Data Analysis	Confirmatory Data Analysis
Univariate data	Presenting frequencies Tables Graphical forms	Estimating from samples Confidence intervals
	Measuring location Mean Median Mode	Forecasting Time series analysis
	Measuring dispersion Range & interquartile range Standard deviation	
	Measuring change Index numbers	
Bivariate data	Presenting frequencies Cross tabulations Scatter diagrams Stem plots	Measuring association Pearson's coefficient Spearman's rank coefficient
		Measuring difference Chi squared test Student t-test

Table 10: Statistical methods of analysing quantitative data. Source: Adapted from Hussey & Hussey (1979)

Univariate data is data consisting of one variable whereas bivariate data means data consisting of two variables.

Exploratory data analysis is a method of visually examining sets of data to formulate hypotheses that could be tested on new sets of data. In exploratory data analysis, techniques are applied to data as part of a preliminary analysis or even a full analysis if

great statistical rigour is not required or the data does not justify it. Graphical presentations not only present data in a different, more compact form but also aid subsequent hypothesis detection/confirmation. (Hussey & Hussey, 1997).

A statistical hypothesis test (confirmatory data analysis) is a decision-making method using data, whether from a controlled experiment or an observational study (not controlled). In statistics, a result is described as being statistically significant if it is unlikely to have occurred through chance alone, according to a pre-determined threshold probability known as the significance level. (Hussey & Hussey, 1997)

### ***Qualitative data analysis***

Discussions over analysis are not nearly as common in qualitative research as it is in quantitative research (Leech & Onwuegbuzie, 2007) and there are few guidelines to follow when assessing the soundness of a given qualitative technique (Van Maanen, 1979).

The following is a brief explanation of seven different, commonly used methods of analysing qualitative data:

- **Constant comparison analysis** – (also known as coding) *“is performed by the researcher reading through an entire set or subset of data, grouping the data into smaller meaningful parts. The researcher then labels the group with a descriptive title or code. Similar pieces of data will be labelled with the same code. After all the data has been coded, the codes are grouped by similarity and a theme is identified and documented based on each grouping. Constant comparison analysis is a method of choice when the researcher wants to answer general or overarching questions of the data”* (Leech & Onwuegbuzie, 2007).
- **Key words in context** – *“is performed by the researcher reading through the data and identifying keywords (words that are either used frequently or in an unusual manner) and then listing the words that come before and after the keyword. KWIC is an appropriate tool to use when the researcher is interested in capturing the actual words used by the participant (i.e., in vivo codes). This is particularly useful when analysing short responses to unstructured or structured questions. However, this analysis can still be utilised to analyse large unstructured text”* (Leech & Onwuegbuzie, 2007).
- **Word count** – *“is performed by the researcher counting all the words and finding the most frequently used words in order to understand what is important to the participant. Word count is particularly useful if the researcher can assume that frequency of words, categories, or themes provides a good indication of meaningfulness”* (Leech & Onwuegbuzie, 2007).
- **Classical content analysis** – *“Classical content analysis is very similar to constant comparison analysis. Instead of creating themes, however, the researcher counts the number of times each code is used. Generally this is most useful when the researcher is interested in the frequency of themes”* (Leech & Onwuegbuzie, 2007).

- **Domain analysis** – *“As with constant comparison analysis wherein the researcher is labelling sections of data with codes, in domain analysis the researcher is labelling the domains. Domain analysis is helpful to use when the researcher has the option of interviewing the same participant again. With domain analysis, structural questions are generated that can help identify what aspects of the participant’s story the researcher needs further information on”* (Leech & Onwuegbuzie, 2007).
- **Taxonomic analysis** – *“Taxonomic analysis is the second step after domain analysis. Domain analysis can be undertaken alone, or it can be utilized further with taxonomic analysis. Taxonomy is a “classification system” that inventories the domains into a flowchart or diagram to help the researcher understand the relationships among the domains. Similar to a domain analysis, a taxonomic analysis is a set of categories organized on the basis of a single semantic relationship. However, a taxonomic analysis differs from a domain analysis inasmuch as taxonomy shows the relationships among all the terms in a domain. Taxonomic analysis, like domain analysis, is helpful to increase understanding of participants’ speech or language”* (Leech & Onwuegbuzie, 2007).
- **Componential analysis** – *“Componential analysis is another step that can be undertaken after domains are created. Componential analysis is a “systematic search for attributes (components of meaning) associated with cultural symbols”. Componential analysis is used when a researcher is trying to uncover relationships between words. This analysis is used to discover the differences between the subcomponents of domains, with the goal being to “map as accurately as possible the psychological reality of our informant’s cultural knowledge or, in other words, to find and present the differences. This analysis is useful for seeing comparisons in the data and identifying places where the researcher needs further clarification from the participant(s)”* (Leech & Onwuegbuzie, 2007).

### **3.4. Development methodology**

The proposed development methodology for this research employs multiple iterative case studies. There is no standard definition of a case study. For the purposes of this study, the following definition by Benbasat, Goldstein, and Mead (1987) will be adopted... *“A case study examines a phenomenon in its natural setting, employing multiple methods of data collection to gather information from one or a few entities (people, groups, or organizations). The boundaries of the phenomenon are not clearly evident at the outset of the research and no experimental control or manipulation is used (Benbasat et al., 1987).”*

Case studies are a form of research strategy that can said to be equivalent to experiments, histories, or a simulations, which may be considered by some to be alternative research strategies (Yin, 1981), and can be carried out using either qualitative or quantitative data. The data may come from fieldwork, archival records, verbal reports, observations or any combinations of these. As a research strategy, the distinguishing characteristic of case studies is that they attempt to examine contemporary phenomena in their real-life contexts, especially

when the boundaries between phenomenon and context are not clearly evident. There can be said to be eleven key characteristics of case studies (Benbasat et al., 1987): “...

- *The phenomenon is examined in a natural setting.*
- *Data are collected by multiple means.*
- *One or a few entities (person, group, or organization) are examined.*
- *The complexity of the unit is studied intensively.*
- *Case studies are more suitable for the exploration, classification and hypothesis development stages of the knowledge building process. The investigator should have a receptive attitude towards exploration.*
- *No experimental controls or manipulations are involved.*
- *The investigator may not specify the set of independent and dependent variables in advance.*
- *The results derived depend heavily on the integrative powers of the investigator.*
- *Changes in site selection and data collection methods could take place as the investigator develops new hypotheses.*
- *Case research is useful in the study of "why" and "how" questions because these deal with operational links to be traced over time rather than with frequency or incidence.*
- *The focus is on contemporary events.”*

Although experiments can be considered to be different as they purposely separate phenomena from their context, case studies as analytic units should be considered as being equivalent to whole experiments (Yin, 1981).

Case research is regarded by many as being one of the most powerful research methods available in management science, especially when developing new theory. Many researchers have been calling for an increase in the number of field-based research studies in order to keep up with the growing number of new managerial methods (Voss, Tsikriktsis, & Frohlich, 2002). Case research is, however, challenging as it is time consuming, needs skilled interviewers and caution is required when attempting to draw generalizable conclusions from limited sets of cases while maintaining rigor (Voss et al., 2002).

Cases not only enrich theory but also researchers themselves: “...*Cases are also important for researchers’ own learning processes in developing the skills needed to do good research. If researchers wish to develop their own skills to a high level, then concrete, context-dependent experience is just as central for them as to professionals learning any other specific skills. Concrete experiences can be achieved via continued proximity to the studied reality and via feedback from those under study (Flyvbjerg, 2006).*” Feedback from those under study is a core component of the Quick Scan methodology.

Flyvbjerg (2006) goes on to explain that if the purpose of researchers’ work is to understand phenomena, then research is simply a form of learning and the most effective human learning occurs when researchers place themselves within the context being studied. This ensures that researchers understand the viewpoints and the behaviour which characterises social actors. Therefore, the proximity to reality which the case study entails and the learning process that it generates for the researcher will often determine the degree of advanced understanding that

occurs. There are often more discoveries made from the type of intense observation occurring through case study than from statistics applied to large groups (Flyvbjerg, 2006).

Cases can either be singular or multiple in nature, Table 11 below shows when these different types of case study can be adopted:

Choice	Advantages	Disadvantages
Single cases	Allows greater depth	Limits on generalizability of conclusions drawn. Biases such as misjudging the representativeness of single events and exaggerating easily available data
Multiple cases	Augments external validity, helps guard against observer bias	More resources needed, less depth per case
Retrospective/historical cases	Allows the collection of data on historical events	May be difficult to determine cause & effect, participants may not recall important events
Longitudinal cases	Overcomes the problems of retrospective cases	Have long time lapses and may be difficult to do

Table 11: Choice of case study type. Source: Adapted from Voss et al. (2002)

Single case studies are normally used for exploratory investigations which usually focus on theory development but can be expanded in an iterative fashion as theory develops and understanding increases (McCutcheon & Meredith, 1993). Table 12 below expands on this concept by showing how to match research purpose with methodology.

Purpose	Research Question	Research structure
<b>Exploration:</b> Uncover areas for research and theory development	Is there something interesting enough to justify research?	In-depth case studies Unfocused longitudinal field study
<b>Theory building:</b>  Identify/describe key variables  Identify linkages between variables  Identify why these relationships exist	What are the key variables?  What are the patterns or linkages between variables?  Why should these relationships exist?	Few focused case studies  In-depth field studies Multi-site case studies Best-in-class case studies
<b>Theory testing:</b> Test theories developed in the previous stages	Are the theories we have generated able to survive the test of empirical data?	Experiment  Quasi-experiment

Predict future outcomes	Did we get the behaviour that was predicted by the theory or did we observe another unanticipated behaviour?	Multiple case studies  Large-scale sample of population
<b>Theory extension/refinement:</b> To better structure the theories in light of observed results	How generalizable is the theory?  Where does the theory apply?	Experiment  Quasi-experiment  Case studies  Large-scale sample of population

Table 12: Matching research purpose with methodology. Source: Voss et al. (2002)

When it comes to adapting the QSAM into a measurement system that measures a learning organisation, there are elements of theory building involved: determining the nature of data collection and data analysis elements needed in a quick scan methodology that will allow the successful assessment of the degree to which a participant organisation can be called a learning organisation. This is why a multiple iterative case study methodology has been selected, involving several sites. Table 13 below shows the process of building theory from case study research and how this process will be adapted for this research study.

Step	Activity	Reason
Getting started	Definition of research question  Possibly a priori constructs  Neither theory nor hypotheses	Focuses efforts  Provides better grounding of construct measures  Retains theoretical flexibility
Selecting cases	Specified population  Theoretical, not random, sampling	Constrains extraneous variation and sharpens external validity  Focuses efforts on theoretically useful cases, i.e., those that replicate or extend theory by filling conceptual categories
Crafting instruments & protocols	Multiple data collection methods  Qualitative and quantitative	Strengthens grounding of theory through triangulation of evidence  Synergistic view of evidence

	data combined  Multiple investigators	Fosters divergent perspectives and strengthens grounding
Entering the field	Overlap data collection and analysis, including field notes  Flexible and opportunistic data collection methods	Speeds analyses and reveals helpful adjustments to data collection  Allows investigators to take advantage of emergent themes and unique case features
Analysing data	Within-case analysis  Cross-case pattern search using divergent techniques	Gains familiarity with data and preliminary theory generation  Forces investigators to look beyond initial impressions and see evidence through multiple lenses
Shaping hypothesis	Iterative tabulation of evidence for each construct  Replication, not sampling, logic across cases  Search evidence for the "why" behind relationships	Sharpens construct definition, validity, and measurability  Confirms, extends, and sharpens theory  Builds internal validity
Enfolding literature	Comparison with conflicting literature  Comparison with similar literature	Builds internal validity, raises theoretical level, and sharpens construct definitions  Sharpens generalizability, improves construct definition, and raises theoretical level
Reaching closure	Theoretical saturation when possible	Ends process when marginal improvement becomes small

Table 13: Process of building theory from case study research. Source: Eisenhardt (1989).

- **Getting started:** involves the formulation of an initial definition of the research question which is important in building theory from case studies (Eisenhardt, 1989). For this study, the research question is as follows: **“Can a more robust methodology of assessing organisations as learning organisations be developed by extending**

**previous survey-only methods of measurement through the incorporation of qualitative approaches?”**

- **Selecting cases:** For this research study, small to medium sized organisations (by New Zealand standards) will be selected within the same industry sector, the electricity lines companies. This is done in order to increase validity by limiting the number of confounding variables that could arise from examining cases in different industries.
- **Crafting instruments and protocols:** As suggested by Eisenhardt (1989), this research study will combine multiple data collection methods – surveys, interviews, observations and archival sources. *“The triangulation made possible by multiple data collection methods will provide stronger substantiation of constructs and hypotheses. This research will also make use of multiple investigators. Multiple investigators have two key advantages: firstly, they enhance the creative potential of the study. Team members often have complementary insights which add to the richness of the data, and their different perspectives increase the likelihood of capitalizing on any novel insights which may be in the data. Secondly, the convergence of observations from multiple investigators enhances confidence in the findings. Convergent perceptions add to the empirical grounding of the hypotheses, while conflicting perceptions keep the group from premature closure. Thus, the use of more investigators builds confidence in the findings and increases the likelihood of revealing surprising findings. This research will also employ the strategy of making the visits to case study sites in teams. This allows the case to be viewed from the different perspectives of multiple observers. The possibility of giving individuals on the team unique roles, which increases the chances that investigators will view case evidence in divergent ways, will also be considered”*(Eisenhardt, 1989).
- **Entering the field:** Team meetings, in which investigators will be expected to share their thoughts and emergent ideas, will be employed for overlapping data collection and analysis. *“Overlapping data analysis with data collection not only gives the researcher a head start in analysis but, more importantly, allows researchers to take advantage of flexible data collection”* (Eisenhardt, 1989). The freedom to make adjustments during the data collection process is a key feature of theory-building case research. Further adjustments to data collection instruments may occur, such as the addition of questions to an interview protocol or questions to a questionnaire. These kinds of adjustment allow the researcher to probe developing themes or to take advantage of opportunities that may present themselves.
- **Analysing data:** This study will employ a strategy of within-case analysis to deal with what is expected to be a staggering volume of data and to minimise the danger of death by data asphyxiation. Within-case analysis for this study will involve detailed case study write-ups for each site. These write-ups will be descriptive accounts, vital to the generation of insight because they allow investigators to cope early in the analysis phase with what has the potential to be large amounts of data (Eisenhardt, 1989).
- **Searching for cross-case patterns:** In order to prevent investigators reaching premature and even false conclusions as a result of processing biases, investigators will attempt to look at the data in many divergent ways... *“one tactic is to select categories or dimensions and then to look for within-group similarities coupled with intergroup differences. Dimensions can be suggested by the research problem or by existing*

*literature, or the researcher can simply choose some dimensions” (Eisenhardt, 1989). An extensive literature review has already revealed an exhaustive list of attributes of a learning organisation and these have been grouped into dimensions. All collected data will be coded against these dimensions in the analysis stage.*

- **Shaping hypotheses:** *“The central idea is that researchers constantly compare theory and data. A close fit between theory and data is important to building good theory because it takes advantage of the new insights possible from the data and yields an empirically valid theory. Thus, the underlying logic is replication, that is, the logic of treating a series of cases as a series of experiments with each case serving to confirm or disprove the hypotheses. Each case is analogous to an experiment, and multiple cases are analogous to multiple experiments” (Eisenhardt, 1989). In this study each “experiment” is designed to highlight what works and what does not work in terms of data gathering and data analysis in the new quick scan methodology. With each test and reflect iteration, the methodology is envisaged to improve in efficiency and effectiveness until a developed “theory” or methodology protocol is ready for testing in a final case.*
- **Enfolding literature:** *“An essential feature of theory building is comparison of the emergent concepts, theory, or hypotheses with the extant literature. This involves asking what something is similar to, what it contradicts, and why. A key to this process is to consider a broad range of literature. Overall, tying the emergent theory to existing literature enhances the internal validity, generalizability, and theoretical level of theory building from case study research. While linking results to the literature is important in most research, it is particularly crucial in theory building research because the findings often rest on a very limited number of cases. In this situation, any further corroboration of internal validity or generalizability is an important improvement” (Eisenhardt, 1989). A continuous analysis of the literature as themes emerge will be an important element in the development of the LOQS.*
- **Reaching closure:** Reaching closure will be determined when theoretical saturation has been reached. That will be when the hypothesis (the developed prototype) is deemed complete and ready for testing in one final case. If the test proves successful, the study will stop. Figure 6 below shows that this research started with a thorough review of the literature which revealed the gap in the literature, the research question and attributes of a learning organisation. It also suggested a measurement methodology (QSAM) that would serve as a useful platform for modification into a learning organisation quick scan methodology in a prototype format. The research project will then enter a planning stage where it will be decided exactly what components need to be included in this new methodology in terms of data collection and analysis methods. These will then be developed into a prototype according to the plan at which stage it will be tested in the first case. The outputs from this methodology will be reviewed and analysed together with feedback from the participant organisation. Reflection over what went well, what did not, what needs to change and what can stay the same will then inform a plan for further development of the prototype which will then be tested again in a second case. Analysis, review and reflection will then reveal if theoretical saturation has been reached. If it has not then a further iteration will be required. If it has, then the developed methodology (the theory) will be deemed complete and ready for a final iteration of testing in the final case. If the analysis, review and reflection reveal the test to have been a success, then the research project will stop.

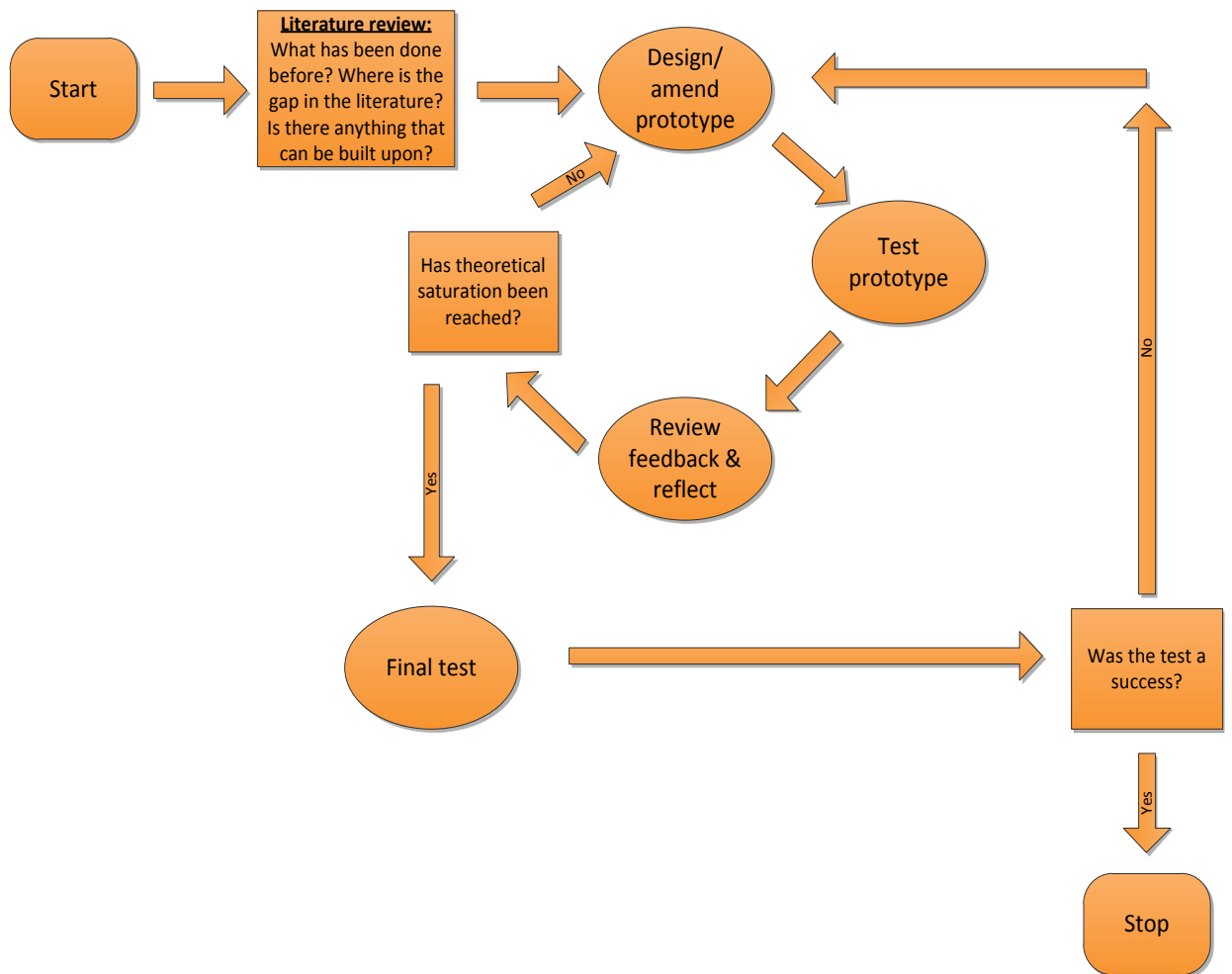


Figure 6: Iterative case study methodology used in this research. Source: Author

### 3.5. *The role of the LOQS team*

The LOQS (Learning Organisation Quick Scan) team will consist of the lead researcher (the author) and two research assistants.

The role of the lead researcher will be to design the LOQS methodology as an adaptation of the QSAM, deciding which elements of the QSAM are to be adopted and which are not. The lead researcher will be solely responsible for developing the research protocol (data gathering and data analysis) and will be solely responsible for any modifications to the protocol that arise through reflection over lessons learned from each case. The lead researcher will select organisations to contact, will be responsible for contacting them and attempting to secure agreement from them to participate in the study. He will also be responsible for negotiating terms for participation with the target organisations.

The lead researcher will also negotiate with the target organisations for the selection of an internal coordinator who will be responsible for scheduling interviews, observations, meetings, administering the survey questionnaire and locating any documentation for analysis.

The lead researcher will chair all meetings, coordinate data gathering and will be responsible for the analysis of the data and the scoring of each organisation as learning organisations.

The role of research assistants will be to assist in the gathering of data at each of the participant organisations. Because onsite time is limited, good communication between the researchers will be vital to ensure that all involved are aware of what each researcher has discovered. Any breakdown in communication brings with it the risk of duplication of work and possibly, duplication of fruitless avenues of investigation. In the same vein, discoveries made by one researcher may stimulate new directions for investigation that need proper coordination.

It is the intention that there will be much discussion and debate between members of the LOQS team, both during data collection and during the offsite analysis of the collected data, on the significance and relevance of the findings. The ability to utilise the benefits of multiple researcher perspectives as a form of triangulation is one of the key features of the Quick Scan methodology.

But this is the limit to the involvement of the research assistants. At no point will the assistants have any involvement in the development, design or refinement of the LOQS methodology or its component parts – this is the sole domain of the lead researcher (the author).

### **3.6. *Validity and reliability***

This section will examine how validity and reliability are established in qualitative research according to the literature and will then look at how this research study will deal with these issues.

#### **3.6.1. *Validity and reliability in qualitative research***

Reliability can be defined as the stability of findings, whereas validity can be defined as the truthfulness of the findings (Whittemore, Chase, & Mandle, 2001).

In quantitative research, the extent to which results are consistent over time and constitute an accurate representation of the total population under study, is referred to as reliability. If the results of a study can be reproduced with a similar methodology, then the research instrument is said to be reliable (Golafshani, 2003). There are two ways of estimating reliability in quantitative research: test/retest involves two administrations of the measurement instrument and the closer the two results are, the more reliable the instrument; the second way is by grouping questions in a questionnaire that measure the same concept and the higher the correlation between the groups, the higher the reliability. Many researchers, such as Long and Johnson (2000), believe that due to the nature of the data and the sample in qualitative research, establishing a study's reliability is practically hopeless. Some qualitative researchers consider low reliability and high validity to be quite justified. Putting together two different accounts might result in a better understanding of the whole than either one would separately, since different perspectives are taken into account, even if the consistency between the accounts is low (Long & Johnson, 2000).

Validity is the extent to which the research findings accurately represent what is really happening in the situation. An effect or test is valid if it demonstrates or measures what the researcher thinks or claims it does (Hussey & Hussey, 1997); in other words, the best available approximation of the truth or falsity of a given inference, proposition or conclusion. Validity in quantitative research is normally established through consideration of three main aspects: content validity, criterion-related validity and construct validity. Content validity depends largely on sampling and careful construction of the instrument and refers to the degree to which the entirety of the phenomenon under investigation is addressed. Criterion-related validity is concerned with comparison of the instrument and findings with an established standard to determine the correlation between measured performance and actual performance. Construct validity is associated with the consideration of the proximity of the instrument to the construct in question (Long & Johnson, 2000).

At the extreme end of the spectrum, some qualitative researchers have advocated abandoning criteria of validity and reliability from qualitative research altogether as irrelevant (Johnson, 1997) due to incompatibility between the epistemological and ontological assumptions of quantitative and qualitative research (Smith, 1984). Maxwell (1992) takes a more moderate approach when explaining that validity categories are of less direct use in qualitative research than they are in quantitative research where threats to validity can be dealt with in an anonymous, generic fashion through design features such as randomisation and controls. This is less possible in qualitative research due to its inductive nature and primary focus on understanding particulars rather than universal generalizations (Maxwell, 1992).

Whittemore et al. (2001) not only articulated the futility of the pursuit of certainty in scientific enquiry but also claimed validity in qualitative research to be even more challenging due to the need not only to incorporate rigor and subjectivity into the scientific process but also creativity (Whittemore et al., 2001). Although Klein and Myers (1999) agree with the notion that qualitative research does not easily lend itself to the mechanistic application of a predetermined set of criteria, it is better to have some principles than none at all, as the absence of any criteria increases the risk that interpretive work will be judged inappropriately (Klein & Myers, 1999) which increases the danger of weight being added to the notion that validity and qualitative research are an oxymoron (Onwuegbuzie & Leech, 2007). *“Qualitative research seeks depth over breadth and attempts to learn subtle nuances of life experiences as opposed to aggregated evidence (qualitative research is contextual and subjective, as opposed to generalizable and objective). The need to demonstrate the rigour and legitimacy of qualitative research has led to translated standards of validity, which have proven to be useful”* (Whittemore et al., 2001).

Research is vulnerable to threats to validity at the three major phases of the research process: research design/data collection, data analysis and data interpretation (Onwuegbuzie & Leech, 2007). In quantitative research, these three phases usually occur in series but in qualitative research, these phases are iterative and therefore, conceptualisations of validity should take this into account (Onwuegbuzie & Leech, 2007).

Qualitative researchers, when speaking of research validity, refer to descriptions such as; credibility, authenticity, criticality, integrity, explicitness, vividness, thoroughness,

congruence and sensitivity (Johnson, 1997; Whittmore et al., 2001). Table 14 below shows how these descriptions are assessed.

Criteria	Assessment
Credibility	Do the results of the research reflect the experience of participants or the context in a believable way?
Authenticity	Does a representation of the emic perspective exhibit awareness of the subtle differences in the voices of all participants?
Criticality	Does the research process demonstrate evidence of critical appraisal?
Integrity	Does the research reflect recursive and repetitive checks of validity as well as a humble presentation of the findings?
Explicitness	Have methodological decisions, interpretations and investigator biases been addressed?
Vividness	Have thick and faithful descriptions been portrayed with artfulness and clarity?
Creativity	Have imaginative ways of organising, presenting and analysing data been incorporated?
Thoroughness	Do the findings convincingly address the questions posed through completeness and saturation?
Congruence	Are the process and the findings congruent? Do the findings fit into a context outside of the study situation?
Sensitivity	Has the investigation been implemented in ways that are sensitive to the nature of human, cultural and social contexts?

Table 14: Assessment of criteria of validity. Source: Adapted from Whittmore et al. (2001)

Maxwell (1992) regarded the word ‘understanding’ as a more fundamental concept for qualitative research than validity and presented five broad categories of understanding: descriptive validity, interpretive validity, theoretical validity, generalizability and evaluative validity and described the boundaries between them as fuzzy and ambiguous. He regarded the applicability of these concepts of validity as independent of some absolute truth or reality to which an account can be compared and as ways of assessing accounts that do not depend entirely on features of the account itself, but relate to those things that the account claims to be about (Maxwell, 1992). This way of thinking about validity assumes that it refers to accounts and not to data or methods. Data cannot be valid or invalid, only inferences drawn from them. Methods also can produce data that lead to valid accounts in some circumstances and invalid ones in others (Maxwell, 1992).

Descriptive validity refers to the factual accuracy of the account as reported by the observers (Maxwell, 1992). Did what was reported as taking place in the group actually happen? Did the researchers accurately report what they saw and heard? As description is such a major objective in qualitative research, descriptive validity is regarded as an important criterion and can be maximised through the use of investigator triangulation – multiple observers recording and describing research participants’ behaviour and the context in which they were located. This allows cross-checking of observations to take place and investigator agreement on what happened reduces the likelihood that outside

reviewers will question whether something occurred, thereby increasing the credibility and defensibility of the research (Johnson, 1997).

Whereas descriptive validity refers to the accuracy of reporting facts, interpretive validity refers to whether the researchers accurately portray the meaning attached by the participants to what is being studied (Maxwell, 1992). In other words, it refers to the degree to which the viewpoints, thoughts, feelings, intentions and experiences of the research participants are accurately understood by the researchers and portrayed in the research report: “...*accurate interpretive validity requires that the researcher get inside the heads of the participants, look through the participants’ eyes, and see and feel what they see and feel. In this way, the qualitative researcher can understand things from the perspective of the participants and provide a valid account of these perspectives...understanding their phenomenological words* (Johnson, 1997).” A number of strategies can be used to maximise interpretive validity, including participant feedback (or member checking) – checking the researcher’s interpretation of participants’ viewpoints with the participants and other members of the group in order to clear up areas of miscommunication. Do the people being studied agree with what has been said about them (Johnson, 1997)? Using low inference descriptors when writing a research report is another strategy for interpretive validity, as it allows the reader to experience participants’ actual language, dialect and personal meanings. Quoting verbatim is the lowest inference descriptor (Johnson, 1997).

Theoretical validity refers to the degree to which a theoretical explanation developed from the research study fits the data and is, therefore, credible and defensible (Maxwell, 1992). Maxwell (1992) used the example of a student throwing an eraser in class, labelling this an act of defiance, and connected it to the repressive behaviour or values of the teacher; the social structure of school and class relationships in American society. He explained that identifying the throwing as an act of resistance constituted the application of a theoretical construct. Additionally, the connection of the throwing to other aspects of the participants, the school or the community, constitutes the postulation of theoretical relationships among these constructs (Maxwell, 1992). The theoretical construct called ‘resistance’ was used to explain the student’s behaviour and Maxwell (1992) points out that the construct of resistance may also be related to other theoretical constructs or variables. Theories are often developed by relating theoretical constructs (Johnson, 1997).

Strategies for maximising theoretical validity include: extended fieldwork (spending sufficient time studying research participants and their setting to allow confidence that the patterns of relationships are stable enough to accurately understand why these relationships occur); theory triangulation (examining how the phenomenon being studied could be explained by different theories, the various theories possible providing a more relevant or pertinent explanation); pattern matching to make predictions based on the theory, testing the accuracy of these predictions (each occurrence of the prediction as expected, providing evidence supporting the given explanation); peer review (discussing explanations with colleagues in order to discover possible problems with the explanation and provide an opportunity to resolve them) (Johnson, 1997).

Generalizability refers to the degree to which it is possible to extend the account of a particular situation or population to other persons, times or settings than those directly studied (Maxwell, 1992). Qualitative studies are not often designed to generalize to a wider population and sometimes the opposite is true – that the value of the study is to

provide an account of an extreme or special case (specific rather than universalistic findings). This is important in qualitative research when there is a desire to draw inferences from actual persons, events or activities observed, and apply them to other persons, events or situations, or to other times than when the observation was initially carried out (Maxwell, 1992). Maxwell (1992) referred to two types of generalizability: internal generalizability, referring to generalizing within the community, group or institutions studied to persons, events and settings that were not directly observed or interviewed; and external generalizability, referring to generalizing to other communities, groups or institutions.

Evaluative validity refers to the application of an evaluative framework to the objects of study, rather than a descriptive, interpretive or explanatory framework. It is based on evaluation as being a category of understanding and being an important component of what some authors term as critical validity (Maxwell, 1992). An example given by Maxwell (1992) was the validity questions about statements such as “The student was wrong to throw the eraser at the teacher”. Many authors make no claim to evaluate the things they study (Maxwell, 1992).

A summary of strategies used to promote qualitative research validity is presented in Table 15 below.

Strategy	Description
Researcher as “detective”	A metaphor characterising the qualitative researcher as he/she searches for evidence about causes and effects. The researcher develops an understanding of the data through careful consideration of potential causes and effects and by systematically eliminating rival explanations or hypotheses until the final case is made beyond reasonable doubt. The detective can utilise any of the strategies listed here.
Extended fieldwork	When possible, qualitative researchers should collect data in the field over an extended period of time.
Low inference descriptors	The use of description phrased similarly to the participants’ accounts and researchers’ field notes. Verbatims (direct quotes) are commonly used.
Triangulation	Cross checking information and conclusions using multiple procedures or sources. When the different procedures or sources are in agreement, corroboration has been achieved.
Data triangulation	The use of multiple data sources to help understand a phenomenon.
Methods triangulation	The use of multiple research methods to study a phenomenon.
Investigator triangulation	The use of multiple investigators in collecting and interpreting data.
Theory triangulation	The use of multiple theories and perspectives to help interpret and explain the data.
Participant feedback	The feedback and discussion of the researchers’ interpretations and conclusions from actual participants and other members of the participant community for verification and insight.

Peer review	Discussion of the researchers' interpretations and conclusions with other people. This peer should be sceptical and play devil's advocate, challenging the researcher to provide solid evidence of interpretations or conclusions.
Negative case sampling	Locating and examining cases that contradict the researchers' expectations and tentative explanation.
Reflexivity	This involves self-awareness and critical self-reflection by the researcher on his/her potential biases and predispositions as they may affect the research process and conclusions.
Pattern matching	Predicting a series of results that form a pattern and then determining the degree to which the actual results fit into the predicted pattern.

Table 15: Strategies used to promote qualitative research validity. Adapted from (Johnson, 1997)

### **3.7. The electricity industry in New Zealand**

The decision to gather data from only one component part of the electricity industry, electricity lines companies (or distribution networks), was made in order to reduce, as far as possible, the number of confounding variables that may emerge when analysing data.

Electricity lines companies also have limited exposure to competition, as they are sometimes considered to be local monopolies. This means that there could be an opportunity for sufficient redundancy to exist within a participant organisation for evidence of genuine learning organisation attributes to emerge or it could mean that a participant organisation has stagnated. It is possible that cases of both extremes exist within the organisation and one of the tests of the LOQS prototype will be if the developed methodology is good enough to detect the differences.

The electricity reforms in 1998 saw the industry in NZ divided into the following main areas:

- Generation
- Transmission
- Distribution
- Retail
- The NZEM

The following descriptions of the electricity industry include statistics which have been updated from Wikipedia:

#### **3.7.1. Generation**

New Zealand generation is predominantly obtained through hydro-generation, which accounts for approximately two-thirds of the total. Management of the hydro lakes is critical, as there is only capacity to meet approximately one month of demand when full. Reliance on hydro generation has been mitigated in recent years by a growing trend towards gas generation and co-generation with approximately 60% of the new generation being gas-fired. The end result of the reforms has been the formation of five state-owned enterprises, one of which has been privatised.

### **3.7.2. Transmission**

New Zealand is in the unusual situation of being a long, thin country with most of its hydro-generation in the lower half of the South Island, while most of the demand is in the upper half of the North Island. To minimise transmission losses, a 575 Km high-voltage direct current transmission line runs from the Waitaki River power system in the South Island across the Cook Strait (via underwater cables) to Wellington (HVDC link). The HVDC transports surplus electricity from the South Island to the North Island, and also from the North Island to the South Island when hydro-generation is low.

New Zealand's national electricity transmission grid is important for connecting its generating facilities to its demand centres, which are often in excess of 150 km in distance from each other. The national grid is owned, operated, and maintained by state-owned enterprise Transpower New Zealand Limited. In total, the national grid contains 11,803 kilometres (7,334 mi) of high-voltage lines and 178 substations.

### **3.7.3. Distribution**

Electricity from Transpower's national grid is distributed to local lines companies and large industrial users via 180 grid exit points (GXPs) at 147 locations. Distribution of electricity to local consumers is the responsibility of one of 29 local line companies. Each company supplies electricity to a set geographic area based on the grid exit points they draw from.

The local line companies draw electricity from the grid exit point at either the standard distribution voltage (i.e. the voltage used to deliver electricity to the street of the consumer) of 11 kV, or take electricity at a higher voltage of 22 kV, 33 kV, 66 kV, or 110 kV for sub-transmission between towns and other communities. Electricity at 11 kV is distributed to the streets of consumers, and to some large local businesses, such as farms and schools. Local pole-mounted or ground-mounted transformers reduce the electricity from distribution voltage to the New Zealand mains voltage of 230 volts for distribution into local homes and businesses.

### **3.7.4. Retail**

Residential customers consume approximately 35% of electricity generated, commercial customers 22% and industrial customers 43%, with a total consumption in the year ended 2011 of 38,490 GWh. There are main retailers ranging in size from about 20,000 customers to approximately 450,000 customers.

### **3.7.5. The NZEM**

The New Zealand Wholesale Electricity Market (NZEM) is a voluntary multi-lateral trading contract where most New Zealand wholesale electricity sales are transacted. Dispatch occurs in real time and is co-ordinated by Transpower, which monitors supply and demand. NZEM dispatch is determined by prices at which electricity is offered by the generators and bid for by the retailers (except where grid security otherwise requires it). The generator with the lowest price is dispatched first. Offers are accepted in order of price until enough generation is dispatched to meet demand – the spot price is the price where supply meets demand. A price is established for each half-hour

trading period at each grid connection point (or node) and the spot price is adjusted at each node to take into account transmission losses and grid constraints at that geographical location.

In the long term, in theory, nodal pricing sends strong investment signals to the market participants not only to invest in generation and transmission assets, but also where the investment should occur. Not all countries utilise nodal pricing. In fact most European countries have a uniform price across the entire country.

### **3.8. Timetables**

The envisaged timetables for this research study, in terms of milestones, are outlined in Table 16 below:

<b>Milestone</b>	<b>Timeframe</b>
Start	November 2006
Initial literature review complete	April 2007
Final proposal to university	June 2007
Design of initial prototype complete	October 2008
First case study complete	February 2009
Field data collection complete	August 2010
First thesis submission	June 2011
Revised thesis submission	August 2012

**Table 16: Table 14: Milestones and envisaged timeframes for this research. Source: Author**

### **3.9. Ethics**

Ethical approval for this research was sought and obtained through the Waikato Management School Ethics approval process. Approval was given upon assurance that none of the participant organisations would be coerced into participating and that their identities would be protected in all publications resulting from this research. Participation by employees of these organisations would be completely voluntary. At interviews, interviewees would be reminded that participation was voluntary and a written agreement to participate would be signed. Survey questionnaires would be completed by employees on a voluntary basis and a notice on the front page of the questionnaire would remind participants of this.

Employee participation in surveys and interviews would be completely anonymous and no individual survey or interview results would be reported back to managers. Interviews would only be recorded with interviewees' express permission.

### **3.10. Summary**

This chapter started off by giving a summary of the adopted methodology for this research study. The chapter continued by presenting justifications for the adopted methodology from the literature, beginning by examining differing views on the nature of reality and how these views influence the choice of data gathering and data analysis methods. The author stated that although this research study would largely follow a subjectivist ontology and adopt a mainly

interpretivist paradigm, there would also be elements of pluralism and mixed methodologies in order to gain a fuller understanding of organisational practices.

Different methods of gathering data were then explored in more detail. The chapter proceeded to discuss strategies available for the analysis of data, highlighting the respective advantages and disadvantages of quantitative and qualitative methods.

A multiple iterative case study method was proposed as being the most appropriate development method for this research. This conclusion was drawn by showing how the purpose of the study (theory building and testing) was used to determine the methodology. The development of the learning organisation quick scan protocol was identified as representing theory building and the testing of the LOQS represented theory testing. The process of building theory from case study research was then examined in detail and an explanation of how this process will be adopted for this case study was given.

The methodology chapter went on to explain the role of the LOQS team, giving special clarification to the differentiation between the role of the lead researcher and the roles of the research assistants. A special point was made of the fact that the research assistants will only be used to help gather and analyse case data and will have absolutely no part in developing, assessing and refining the LOQS as a methodology. This chapter then went on to explore how validity and reliability are maintained in qualitative research and explained how these techniques were applied to this research study.

The industry within which organisations will be targeted for participation was introduced (electricity lines companies) with an emphasis on how lines companies fit within the New Zealand electricity industry as a whole. A timetable for milestones in this research study was revealed and the last section explained how ethical issues for this project will be dealt with.

## **4. Development and testing of the LOQS methodology**

The chapter that follows gives an account of the development and testing of the LOQS methodology, starting with the development of the initial prototype for testing in the first case. It continues by describing the first test of the LOQS, describing in detail what was found, what went right, what went wrong, the lessons learned and the modifications needed in preparation for the second case. Reflections from the first case led to the important realisation that attributes of a learning organisation were not sufficient to function as the framework for measurement. Each attribute needed to be split further into activities expected of a learning organisation and these activities would form the framework employed for measuring subsequent cases.

The second case is then described in a similar fashion to the first. Reflection on the first case led to further modifications to the LOQS methodology, which were required in preparation for the third case. A description of the third case follows. The near failure of the third case provided much data to reflect upon and led to a series of modifications to the LOQS, deemed sufficient to believe that saturation had been reached. The fourth case, therefore, is described as the final test of the LOQS methodology. This chapter ends with a summary of reflections on all four cases and a mapping of the evolution of the LOQS methodology.

### ***4.1. Development of the initial prototype***

This section outlines how the initial prototype was developed for testing in the first case. It starts by explaining how the attributes of a learning organisation were arranged into five dimensions and a narrative description of each dimension is presented as they were understood by the LOQS team at that stage of the study. This section also describes how the attributes were used to develop the framework for planning the collection of data through the different data collection methods. A more detailed list describing which data collection method was used for collecting evidence against each attribute is available in Appendix 7 of this thesis.

An analysis of which elements of the QSAM are to be adopted into the LOQS is presented, as is a strategy for scoring the survey questionnaire responses. Lastly, a list of envisaged preparatory tasks for discussion with each participant organisation is developed.

#### **4.1.1. Arranging learning organisation attributes into dimensions**

The first step that was undertaken in the development process of the prototype LOQS was to arrange the learning organisation attributes, identified from the review of the literature, into dimensions that would function as a framework against which participant organisations could be evaluated and a score plotted. The attributes seemed to group quite naturally under five distinct headings (dimensions) and a narrative description of each of these learning organisation dimensions was developed. These are shown below.

##### ***Organisational Culture Dimension***

The learning organisation has an egalitarian culture and carefully selects its members. New members are selectively recruited based on identified knowledge needs, cultural needs of the organisation and the applicants' ability to learn and absorb new knowledge.

The organisation does its utmost to maximise retention, firstly through psychological or protean career contracts and policies that clearly articulate the fact that the organisation values the wellbeing of all employees, minimises stress and distress of personnel and understands the power and emotion that accompanies organisational learning.

The organisation has remuneration and rewards systems that reward learning and expertise as opposed to position (skills-based pay, as opposed to job-based pay).

Commitment is grown and allowed to develop and evolve from individual commitment to communities of commitment. There is a high level of engagement in work and there is a commitment to continuous change, as well as a commitment to organisational objectives.

The organisation has a positive attitude towards risk-taking; it is tolerant of mistakes and regards mistakes as an opportunity for learning (regardless of cost). It celebrates success. Both successes and failures are openly shared and recognised as opportunities for learning. A learning organisation strives to maximise communication within the organisation. It is a culture of socialisation, encouraging flocking and collegial interactions and it recognises the value of learning through social channels.

The learning organisation takes great trouble to make itself aware of the skills, competencies and aspirations of its workforce.

### ***Leadership Dimension***

The leadership of a learning organisation is a facilitative leadership that shows commitment to the learning organisation as a goal. There are multiple advocates within the organisation that regard the learning organisation as a desirable state.

There is a learning approach to strategy and policies should be created to articulate the value that the organisation places upon learning. Employees are involved in the development of policy and strategy, and the organisational leadership provides access to pertinent business and strategic knowledge.

The leadership team models learning behaviour and provides systems that facilitate learning. They free up resources in order to signal organisational commitment to learning and encourage people to contribute new ideas, facilitating learning (and work) across external and internal boundaries.

As the organisation moves forward across the learning organisation continuum; leadership will become far more distributed in nature and autonomous decision making is encouraged.

The leadership team is responsible for establishing the preconditions for taking initiative; for independent problem solving and empowering organisational members towards collective action. There is a reduction of formalised rules and procedures.

The vision for the company is holistic and is necessary for evolving efficient and holistic strategic thinking. It is vital that the organisational leadership team espouses a living entity view of the organisation as opposed to the more common machine view

and takes steps to promote organisational longevity. The leadership team thinks in the long term and manages for survival.

The leadership of the organisation actively develops systems for the free flow of ideas and knowledge up and down the organisational hierarchy.

The organisation has embedded policies that clearly articulate a commitment to learning (involving the symbolic behaviour of managers which, in turn, influences member learning), a tolerance for failure (which involves policies that do not punish, but even reward errors), and a commitment to the workforce (which is essentially policy guiding behaviour that will lead to increased member commitment to the organisation). In evidence are systems that are aimed at eliminating narcissistic leader behaviours which risk being translated into related organisational or group behaviours.

### ***Team Dimension***

This dimension includes team work and team learning (which should occur together) and involves the coming together of the people necessary to perform tasks, solve problems, make decisions and/or drive the organisation towards a desired direction.

Team learning/team work incorporates collaboration and cross functional cooperation as consultative boundary spanners. Teams develop a common set of core skills using a balance of enquiry and advocacy. They develop the notion and behaviour of communities of practise. Teams manage conflict, role issues, resource and are self-organising. Teams also review their own performance.

Teams engage in true dialogue as opposed to discussion. They take time for learning, developing and frequently utilising these skills. Teams in learning organisations look upon challenges and problems systemically rather than in isolation – a good understanding of complexity, cause and effect. Explorative learning occurs as a means of knowledge acquisition, e.g. scenario planning.

### ***Knowledge management***

This dimension focuses on the way in which acquired knowledge is processed, transferred and utilised. Knowledge management provides an avenue for considering past experience which may influence future organisational behaviour.

Acquired knowledge must be interpreted before it can be used or stored, possibly using pattern maintenance in order to create meaningful memory. Acquired knowledge is integrated or disseminated. There are clear information/distribution flows where knowledge is transferred. Organisational ideas and know-how flow freely. Acquired knowledge is exploited, either in order to gain more new knowledge, as new developed practices, or commercially. Exploitative learning can also mean the capitalisation of knowledge, practices and internal capabilities of other companies, as part of inter-company learning through maintained links or connections.

There are structures in place for recognising new knowledge, to develop skills, expertise and experience among employees. There are also processes in place for employees to learn from each other with well-developed systems for succession

planning. Virtual learning spaces and available technologies such as practice fields are needed in a learning organisation to test decisions, conclusions, scenarios etc. Testing is also a form of knowledge acquisition.

### ***Systems Dimension***

Evidence of systems thinking must be evident throughout the organisation from the management team down to teams and further downwards to individual employees. It is evidenced in decision making in terms of analysing unforeseen consequences of decisions upon other areas of the organisation or the organisation as a whole and even beyond. It is also evidenced by analysing root causes of events, using and recognising systems archetypes and continuously looking for points of greatest leverage for change.

At the time of development, this dimension seemed quite abstract in nature, leading to concerns over possible difficulties in developing a means by which to measure it.

#### **4.1.2. What was adopted from the Quick Scan Audit Methodology**

What was known about the QSAM from the field of supply chain management was that it:

- utilised investigating teams of multiple researchers with different roles
- utilised multiple information gathering methods
- was designed to take a short amount of time
- incorporated an onsite investigation phase
- incorporated an offsite data analysis phase
- concluded by giving feedback to the organisation in a presentation that included:
  - issues uncovered through investigation using a cause and effect diagram
  - an organisational ‘account’ developed from the cause and effect diagram
  - suggested changes (in terms of short-term, medium-term and long-term wins)
  - the organisation’s current position in relation to developed bench marks

The main challenge in regards to the development of an adaptation of the QSAM appeared to be keeping the scope of the project manageable. The potential complexity in measuring an organisation as a learning organisation, taking into account the entire organisation and the environment within which it operated, initially appeared far greater than the measurement of the health of an organisational supply chain. This is because the scope seemed limited to the organisation’s supply chain and possible integrations with other organisations, which only need encompass a limited number of processes involving a limited number of business units. The danger of taking on the challenge of measuring an entire organisation was the risk that the measurement system would take too long, and be so intrusive and disruptive as to be prohibitive for an organisation to agree to participate. The basic overall structure and timetable used for the QSAM would, therefore, be borrowed for the development of the Learning Organisation Quick Scan (LOQS).

Table 17 below shows which elements of QSAM were retained for the LOQS prototype.

<b>Element</b>	<b>Explanation</b>
<b>The preliminary presentation</b>	<p>The preliminary presentation to the executive team works well for the QSAM and would need to be retained for the LOQS. It will be the first thing to happen in the LOQS process, giving members of that team an introduction to the methodology, objectives/purpose of the study and their part in it. It would also provide an opportunity for the investigators to gain the executive team's overall perspective of the current state of the organisation and issues that the investigators may expect to find.</p>
<b>Data collection</b>	<p>One of the major appeals of the Quick Scan Audit Methodology is the use of multiple data collection methodologies, another feature that will be retained for the LOQS. Interviews and survey questionnaires will be used, as will be the collection of relevant documentation, but the data collection strategy may be adapted so as to be relevant to the dimensions and attributes of a learning organisation. Other data collection methods, such as observation, may well be needed as a check to see that the organisation does in practice what it claims to do.</p>
<b>Data analysis</b>	<p>Data analysis in the QSAM involves:</p> <ul style="list-style-type: none"> <li>• Verifying good and bad practices</li> <li>• Identifying major pains</li> <li>• Performing cause and effect analysis of major pains</li> <li>• Selecting key points with most leverage</li> <li>• Developing and ranking improvement opportunities</li> </ul> <p>These analysis methods will be retained for the first cut of the prototype with the major challenge being the development of a method of scoring the organisation against the LOQS dimensions.</p>
<b>Feedback presentation</b>	<p>In the QSAM, the feedback presentation stage is comprised of the following:</p> <ul style="list-style-type: none"> <li>• Present findings to management and the business champion</li> <li>• Initiate a round table discussion of findings</li> <li>• Develop an agreed action plan</li> </ul> <p>The agreed action plan is an outcome that is not relevant for the LOQS, as the primary purpose is to measure the degree to which the target organisation can be called a learning organisation. The LOQS is not really intended to be a precursor for change and</p>

	<p>therefore this output will be limited to pointing out possible opportunities for change categorised as quick wins, medium-term wins and long-term wins as a means of thanking the organisation for its participation.</p>
--	--

Table 17: Elements of QSAM retained for the LOQS. Source: Author

### 4.1.3. The initial LOQS prototype

The temptation was to put limited effort into the development of the initial prototype prior to Case 1 and evaluate the first participant organisation using an improvised methodology, and then using lessons learned from everything that went wrong in the first case to develop the second iteration of the prototype. However, the perceived risk of delivering a poor set of deliverables or having a LOQS team giving unprofessional impressions (caused by not really knowing what they were doing) was too great and could hamper future attempts at gaining further participant organisations.

It was decided, therefore, to put as much effort as possible in developing as robust a prototype as possible prior to Case 1. There would still be a number of remaining ‘unknowns’, e.g., the nature of data to expect from the first LOQS iteration and how to analyse them.

The data-gathering methods to be employed for the first case were, however, known and understood. The LOQS team knew that they would be carrying out a survey, interviewing some people, conducting some informal chats with employees they came across, observing field teams at work and analysing organisational documentation.

A detailed plan was developed by examining each LO attribute and making a judgement on which data gathering method(s) could be used to elicit data from the participating organisation for that attribute. The data gathering plan was developed from a matrix as shown in the example below.

	A	B	D	E	F
1	Attribute	Interviews	Survey	Document Analysis	Observation
14	The organisation promotes a lifestyle balance	Y	Y	Y	N
15	The organisation has implemented cross training and job rotation	Y	Y	Y	N
16	The organisation recognises learning	Y	Y	Y	N
17	The organisation rewards learning	Y	Y	Y	N
18	The organisation recognises expertise	Y	N	Y	N
19	The organisation rewards expertise	Y	N	Y	N
20	The organisation is committed to continuous improvement	Y	Y	Y	N
21	The organisation has a process for securing commitment to organisational goals	Y	N	Y	N
22	Organisational members have a sense of pride in their work	N	Y	N	N
23	Members enjoy working for their organisation	N	Y	N	N
24	Management displays a minimum of Command & Control	Y	N	N	N
25	There is a culture of openness and transparency when making decision	Y	Y	N	N
26	Members feel they are able to voice opinions without fear of retribution	N	Y	N	N
27	The organisation regards performance gaps as opportunities for learning	Y	N	Y	N

Figure 7: Example of possible data gathering techniques by LOQS attributes. Source: Author

The attributes were then filtered for each data gathering method in turn to allow an initial development of the LOQS process to occur.

### *Survey Questionnaires*

Filtering the matrix for surveys, shown in Figure 7 above, revealed the LO attributes that would function as the framework for the survey questionnaire. Survey questions used by other authors in previous attempts at measurement were examined for relevance and appropriateness and those that could be reused, were. Questions and statements were then authored for the remaining attributes. The questionnaire, as a whole, was then tested to ensure that questions were clear, straightforward, and unambiguous with a language suitable for potential respondents with lower levels of literacy. The survey questionnaire went through three iterations of “test, correct, test” – involving three different test subjects.

The resulting survey questionnaire used 51-statements about the organisation and its practices and each respondent would be expected to mark, on a seven point Likert scale, the extent to which they agreed or disagreed with each statement.

Table 18 below shows the scoring system developed for the LOQS survey questionnaire responses.

<b>Response</b>	<b>Score</b>
Strongly agree	+3 Points
Agree	+2 Points
Agree slightly	+1 Point
Neither agree nor disagree	0 Points
Disagree slightly	-1 Point
Disagree	-2 Points
Strongly disagree	-3 Points

Table 18: Scoring system developed for LOQS questionnaire responses. Source: Author

### ***Interview questions***

Manipulating the matrix, shown in Figure 7 above, by filtering it for interviews revealed a list of attributes that would function as the framework for interviews. Participants would be randomly selected for interviewing, making sure that participants representing all business units would be included. It was decided not to structure the interviews to any great depth but to use the list of attributes as broad areas around which open-ended questions would be asked. Data from these interviews would then be coded according to the list of attributes. All members of the executive team would be interviewed.

### ***Informal chats***

It was envisaged that the LOQS team would schedule time to walk around the offices and yards of the target organisation and randomly engage available staff members in conversation to gain further information on perceptions of employees or further investigate themes emerging from the more formal interviews. As such, these chats were not to be planned at all and would be totally improvised as necessary. Data from these informal chats would then be coded in the same way as the data gathered from the interviews.

### ***Observations***

By manipulating the matrix (shown in Figure 7), and filtering for observations as a data gathering technique, a list of attributes was produced that would serve as a prompt for what to look for, while observing office staff and observing field crew out on the field. Hopefully this would allow the LOQS team to study the way in which employees interacted with each other and gain an idea of the sort of information that would pass from person to person. It would also allow the LOQS team to gain an understanding of the nature of team work and skills and it was hoped that observations would provide an insight into the degree of learning that would occur in the course of employees going about their day to day activities.

### ***Document analysis***

Lastly, by manipulating the matrix, shown in Figure 7, and filtering for document analysis as a data gathering technique, a list of attributes was produced that would serve as the framework for the examination and analysis of organisational documents.

Table 19 below shows the document analysis plan included in the LOQS prototype.

<b>Organisational documents</b>	<b>Explanation</b>
Policies and procedures	Policies and procedures would be examined in order to get a glimpse of the organisational memory of the organisation.
Training, personal and professional development documentation	Training, personal and professional development plans documentation would be examined in order to get an idea of the degree to which targeted employee development and learning is institutionalised within the organisation.
Newsletters	Newsletters would be examined in order to understand the sort of information communicated to the stakeholders of the organisation and also to gain an insight into the culture of the organisation.
Annual reports	Annual reports would be looked at to further understand the information reported to stakeholders.
Examples of periodic employee reviews	Periodic employee reviews would be examined to understand the nature of performance assessments within the organisation, as well as to gain an understanding of the nature of targets set for individuals.
Mission, vision and values statements	Mission, vision and values statements would be examined in order to understand the drivers behind the organisation culture, leadership and strategy.

Table 19: Example of documents that would be targeted for analysis when testing the LOQS prototype. Source: Author

One point of potential interest would be to gauge whether current practices within a target organisation were supported by policy or procedure and whether policies and procedures represented what actually occurred within the participant organisation.

At this time, as nothing was known about the nature of the data to be collected, no effort was expended in planning exactly how the data was to be analysed or how the results were to be fed back to the participating organisation.

### ***Other housekeeping preparations***

People with previous QSAM experience were questioned. It was revealed that the LOQS team would have to factor in some time for preparation tasks. These are shown in Table 20 below.

<b>Task</b>	<b>Explanation</b>
Introductory presentation to staff	It would be important to announce to the employees of the participating organisation the purpose of the study, when the LOQS team would be on site and what would be required from the staff if they chose to participate. The announcement to staff would take the form of an introductory presentation and would be the LOQS team's opportunity to gain buy-in from staff.
Site orientation	It would also be important that the LOQS team be well oriented around the participating organisation's buildings so that the LOQS team could be given free and unhindered access to the organisation, unaccompanied.
Safety induction	A safety induction would be necessary so that the participating organisation could comply with health and safety requirements and so that the LOQS team would not put themselves in any unnecessary danger. The issuing of loan personal protection equipment and access keys would also be necessary so that the LOQS team could conduct off-site observation and have access to all necessary parts of the buildings.
Appointment of an onsite coordinator	This person would be responsible for administrating the survey, booking meeting rooms, interviews and presentations, arranging site visits and locating documentation necessary for the document analysis.

Table 20: Envisaged administrative tasks factored in as part of the prototype. Source: Author

#### 4.1.4. Summary

This section presented the initial prototype of the Learning Organisation Quick Scan for testing in Case 1. It showed how the attributes of a learning organisation were arranged into five dimensions and gave a narrative description of each of these five dimensions (the LOQS dimensions). It continued by showing how the LOQS dimensions and attributes were used to develop a strategy for data collection. With the exception of survey questionnaire responses, no strategy for data analysis could be developed at this stage due to a lack of understanding of the nature of the data that would be collected. Therefore, despite the best of intentions, the first LOQS prototype was very much a skeleton prototype to be used in an explorative fashion with the aim of developing strategies for data analysis and scoring on the fly as the understanding of the nature of the data that is collected increases.

Great care will need to be taken to explain this to the first participating organisation so that expectations, in terms of deliverables to the organisations, are appropriately managed. Even so, it is expected that that this prototype will prove to be an

improvement on previous survey-only measurement methods, due to the richness of data it will provide in the context of the people working at the participant organisation. The analysis of this data, gathered from multiple sources through multiple methods and interpreted by multiple researchers, should lead to conclusions that will prove far more robust and with a higher degree of validity than those gained from self-reporting instruments. This data may also reveal opportunities for change within the organisation, should the participant organisation choose to pursue them.

#### **4.2. Applying the methodology to LineCo1 – the first case**

LineCo1 is a local electricity lines company and is responsible for transporting electricity from the national grid to local households. LineCo1 is also responsible for the maintenance of existing assets and investment in new assets.

LineCo1 has about 55-staff: admin, management staff and field workers – consisting of Cable Jointers and Line Mechanics. Although LineCo1 is considered to be a local monopoly, they are exposed to a small degree of competition through tendering for contracts for the installation of reticulation for new developments (underground and overhead), service mains, electrical inspections, and arborist services.

The engagement of LineCo1 as a participant of this research study was achieved through a cold call process which started with an e-mail to the CEO of the organisation. The initial e-mail included a brief introduction of the aims of the study and a brief introduction of the individual LOQS team members. The e-mail ended with a request for an appointment in order to give the LOQS team an opportunity to explain the study in more detail.

The introductory e-mail was followed up with a phone call to the CEO about a week later. The aim of the phone call was to be granted a face-to-face interview and the intention was to keep the call as brief as possible so that the “hard sell” itself could occur at the interview stage. But due to the fact that participation was being sought with LineCo1 as a first trial run, it became necessary to run through the proposal in detail before an appointment could be secured.

The interview took place later that same week and involved the author presenting the proposal in front of the CEO and three other members of the executive team. The presentation took about 30 minutes and was followed by a rigorous question and answer session which took 90 minutes. It was very clear that the leadership of the organisation believed that the proposed study would be quite disruptive and were eager to understand the potential benefits to the organisation from participation.

Great care was taken not to exaggerated potential benefits to the organisation and to clearly articulate the fact that LineCo1 was to be the first organisation in the study. All the processes developed for the study would be totally untested and the author envisaged that this first study would uncover the need for major process refinements to the prototype.

At the end of the meeting, the executive team clearly understood LineCo1 were to be guinea pigs and the only thing the author could offer amounted to the study representing an opportunity for LineCo1 to have a third party look at their organisation without bias, without agenda and without any history.

The only tangible benefit the author hoped to offer would be a snapshot of the mood of the organisation and, possibly, some suggestions for possible change, if any became apparent. A detailed written proposal was required before LineCo1 would commit to participating and this decision would require input from LineCo1's board.

Initial impressions were that LineCo1 was a very healthy organisation with a very astute leadership team and the prediction from the author was that LineCo1 would score quite highly as a learning organisation.

LineCo1 agreed to participate after studying the written proposal.

The objectives of this first case were to test the prototype LOQS, the development of which was described in the previous chapter, and perform a thorough analysis of what went right and what went wrong. This analysis, it was hoped, would reveal areas of required modifications to the LOQS prototype. The only change to the prototype prior to the first case was the introduction of a technology assessment.

The aim of the technology assessment would be to assess whether any form of knowledge management technology is in use by the organisation. The LOQS team would also endeavour to ascertain whether practice fields in the form of simulators are used by the organisation for learning. The last part of this investigation would be to assess the extent to which information systems facilitate the free flow of information in and around the organisation and reveal how information is analysed and used to inform decision making and planning.

#### **4.2.1. Planned timetable for case 1**

The time table agreed between the LOQS team and LineCo1 for the first case study, as envisaged, required the LOQS team to attend a safety induction and site orientation prior to the start of the LOQS. Electricity lines companies are a safety-conscious and safety-focused industry due to the hazardous nature of much of the work that takes place. In order for the investigators to have unlimited access to the headquarters buildings and be able to go out on site to observe field work, it would be necessary for the team to participate in a safety induction and be issued sufficient loan personal protection equipment to be allowed on site. The safety induction was scheduled on the Friday before the start of the first day of the LOQS. Site orientation was scheduled to occur as part of the safety induction.

The introductory presentation to the workforce is one of the hall marks of the QSAM and was, therefore, brought over as part of the LOQS. The point of the introductory presentation is to gain the buy-in of the participating organisation to the process. Past experience from supply chain Quick Scans showed that buy-in can truly only occur when staff understand the aims of the study, understand what is to occur during the LOQS, understand how they can benefit from participating, are assured that the study is independent, that the information they give when participating is confidential, that they are heard and that participation is voluntary. The author would have to make sure that the presentation covered all these points and leave plenty of time for questions. The introductory presentation was scheduled just before close of business on the Friday before the start of the LOQS. Buy-in from the employees was deemed to be of paramount importance as a strategy to maximise employee participation.

The last piece of admin preparation prior to the start of the LOQS was to appoint an internal coordinator. The role of the internal coordinator would be a vital one for the LOQS. The coordinator is responsible for administering the survey, scheduling interviews, meetings, site visits, booking meeting rooms and locating documents for the document analysis phase of the LOQS. In the case of LineCo1, the internal coordinator appointed was the PA to the CEO.

The first day of the LOQS would commence with a meeting with the executive team to go through the arrangements for the benefit of those who may not yet have been briefed, and to iron out any loose ends. The remainder of the day would be devoted to interviews, starting with the executives and then moving on to other staff. Survey questionnaires would be handed out by the internal coordinator for collection at the end of day 2.

Day 2 would be devoted to interviews, informal chats, site visits, observations, the technology review and the document analysis

Days 3 and 4 would be spent offsite collating and analysing the data.

Since this was the first LOQS and there being no past experience to draw upon to plan the analysis phase, it was necessary to brainstorm the likely types of data that would emerge from the first LOQS in order to prepare, the first stage would involve analysing the survey responses and summarising points of interest emerging from this analysis.

The second stage would involve an analysis of the interviews and informal chats, triangulating this with insights gained from the analysis of data collected from survey responses, observations, technology review and document analysis. Themes would then be developed that would help in the assessment of the organisation's status as a learning organisation. Negative themes would be further analysed and mapped into cause and effect diagrams which, it was hoped, would reveal leverage points for organisational change. These leverage points would then form the basis of recommendations to the organisation.

It was the intention that the process of analysing the required data would inspire ideas for thus far missing processes to compile a final metric that would provide a concrete revelation of the organisation's status as a learning organisation. What had been envisaged up to this point was an LO chart in the form of a pentagon, with each axis of the pentagon representing one of the five LO dimensions developed from the review of the literature, the pentagon being the lines joining up all of the axis maximums and representing the score a learning organisation would achieve.

Once that analysis of the data was completed as described above, the findings would then be collated into a final PowerPoint presentation to be delivered back to the organisation.

A presentation of results was scheduled for the afternoon of day 5. The presentation would have to be prepared in two formats: one for the employees of LineCo1 and the other for the executive team. The envisaged format of the presentation to the entire workforce (including the executive team) is shown in Table 21 below.

<b>Presentation part</b>	<b>Explanation</b>
Introduction	The introduction would comprise of a recap of to the aims of the research and a reminder of how the data was gathered and analysed.
Highlights from the survey responses and interviews	Only responses that indicated clear organisational consensus or those that indicated clear organisation division would be presented along with an explanation of the implications of these responses. Selected results from the interviews would also be used here to give greater richness to the findings and to give some sort of explanation of why respondents felt the way they did in the form of concrete examples. It was also hoped that the presentation would include a (yet to be developed) graphic that would clearly show the mood of the organisation.
Introducing themes	These would be themes developed from the triangulation of all data collection methods.
Cause and effect	This would be where the themes mentioned above would be shown in a cause and effect diagram which the LOQS team would run through in quite some detail.
Learning Organisation metric	It was hoped that this metric would show the difference between the “perfect learning organisation” along with where on the chart LineCo1, as an organisation, lay...and why this was the case.
Questions and answers	At this point, the employees of the organisation would be given the chance to ask questions of the LOQS team and be given clarifications to any points that may not have been fully understood. The executive team would be asked to refrain from asking questions at this point in order avoid the risk of them dominating this interaction.

Table 21: Envisaged format of the feedback presentation to the entire workforce. Source: Author

At the end of the presentation to the entire workforce, the meeting would then change venue to the board room where the LOQS team could continue the presentation to the executive team. Table 22 below shows the envisaged format of the feedback presentation to the executive team.

<b>Presentation part</b>	<b>Explanation</b>
Recap of cause and effect	This recap would be where this presentation would start off as it was assumed that all of the executive team would be present at the first presentation.
Recommendations to the organisation	The LOQS team would show, using the cause and effect diagram where the leverage points for change lay. These leverage points would lead on to recommendations for change along with propositions of how these may be achieved. It was hoped that, as with the QSAM, these recommendations would be split into three categories: quick wins, medium-term wins and long-term suggestions.

Questions and answers	This is where the executive team would finally have the opportunity to pose their questions to the investigating team who would, hopefully, be in a position to answer those questions. It was envisaged that this would be a very important part of the actual research as it was entirely possible that members of the executive team may have insights into the data that the LOQS team may have missed and these insights may well be useful for modifying the methodology for subsequent case studies.
-----------------------	---

Table 22: Envisaged format of the feedback presentation to the executive team. Source: Author

The last part of the presentation would be where the LOQS team would seek feedback from the executive team of LineCo1. This would give the data needed to amend the LOQS methodology for a second iteration. The questions that the LOQS team envisaged needing answers to were as follows:

- How intrusive or disruptive did the organisation find this process?
- How would they like to see it done differently?
- How could the survey be improved?
- How did they find the interviews?
- Were the findings presented in the presentation accurate?
- Did the LOQS team get it wrong anywhere?
- Were there things the LOQS team missed?
- If so, how could these issues be addressed in future Quick Scans?
- How useful was the cause and effect analysis?
- How useful were the graphics?
- How useful were the metrics presented?
- How useful was the advice given?
- How useful was the process as a whole?
- Would they recommend other lines companies to participate?

#### 4.2.2. What the LOQS revealed about LineCo1

The previous sections of this case constitute the planning stage of the case as seen from the time when the case was initially planned. This next section reveals what actually occurred and presents the findings uncovered from performing the first LOQS iteration on LineCo1.

The site orientation of LineCo1 occurred on the same day as the safety induction, in the week prior to the commencement of the Quick Scan. What was quite unexpected at the time was that this induction was an excellent information gathering opportunity and allowed the LOQS team, through informal conversations with the tour guide and with the personnel that we were introduced to during the orientation, to gain a thorough explanation of the organisation's operational processes.

LineCo1's main activities include repairing faults to the network, preventative network maintenance, services to electricity retailers and extending the network (development). LineCo1 is divided into the following business units:

- ***Faults***  
 Faults are reported to the small call centre team located within the head office building. This information is relayed to the planning and design office who then dispatch teams of engineers (in trucks supplied with the appropriate equipment and parts) to repair those faults and restore connection to the affected customers. This part of LineCo1's activities can be extremely difficult to predict as severe weather situations (mainly high winds and lightning strikes) can cause mayhem on the network requiring teams to be called out at any hour, sometimes in fairly hazardous and unpleasant conditions. Extreme situations can require all hands on deck. Teams must be available to respond to emergency situations 24 hours a day, 7 days a week and 365 days a year.
- ***Network maintenance***  
 Network maintenance is scheduled to take place during quieter times to replace or service aging lines, poles and other equipment such as transformers etc. Teams of arborists are responsible for removing trees growing too close to lines.
- ***Services to electricity retailers***  
 Services to retailers involve disconnection of electricity for non-payment of bills and reconnection of services after disconnection.
- ***Extending the network***  
 Extending the network involves connecting new subdivisions, homes, streetlights, businesses or factories to the network and is the only area in which LineCo1 is exposed to any competition from other lines companies as they often tender for the proposed work.
- ***Stores***  
 The stores are a critical feature for LineCo1 and must contain an adequate supply of equipment and parts. The purchasing officer/store-person is the individual responsible for making sure that the stores are adequately stocked for all of the above mentioned activities and he is also responsible for investigating emerging technologies, new parts and new techniques. The stores are housed in a high security area as much of the contents are high value and the area itself is classed as hazardous due to trucks continually arriving, departing and being loaded with heavy equipment and parts.
- ***The Control Centre***  
 There is also a control centre located within the high security area that monitors and controls the distribution network. In times of non-emergency, this control centre is unmanned and the service is contracted out to another larger neighbouring lines company. LineCo1 takes back control of the network during emergency situations.

One of the things the LOQS team noticed during the site induction tour was an abundance of posters articulating LineCo1's mission, vision and values distributed around the buildings in high prominence, as seen in Figure 8 below.

## LineCo1 Purpose



Figure 8: LineCo1's vision, mission and values. Source: LineCo1

At the conclusion of the site induction, the LOQS team were introduced to the executive team, at which time some informal conversations took place. At this point, the investigators began to form some initial impressions about the state of the organisation as an LO. It is interesting to note that from these and previous conversations held with the CEO, the investigators felt that there was considerable pride in the organisation felt by the executive team, who were quite animated when describing initiatives and achievements. The impression of the organisation was one of a thriving, cohesive and focused organisation continually trying to improve by examining best practices, keeping abreast of emerging technologies, having a clear articulated vision and continually learning as a team. The investigators formed their initial impression of LineCo1 as a harmonious environment to work in and the investigators began to feel that LineCo1 may well score quite highly as a learning organisation.

The introductory presentation to the employees followed the site induction tour and was scheduled to take about 15 minutes, including time set aside for questions and answers. It was held just before close of business on Friday afternoon, which was the only time when most of the workforce would be gathered in one place. The presentation ran as planned apart from the fact that none of the employees posed any questions or made any comment – they listened politely and left for the day.

The initial meeting with the executive was set to take place at the start of day 1 of the LOQS, to provide an opportunity to finalise any outstanding planning issues and administrative details. Upon being asked where and what the executive perceived to be the main pain points within the organisation, it was revealed that there probably existed pain points in two main areas: A residual “us and them” attitude between management

and the field staff, which the executive team interpreted as being a residual artefact from the days when all electricity companies in New Zealand were part of the state-run Electricity Corporation of New Zealand. The second pain point involved accidents and injuries at the work place and the fact that statistics on these seemed to be worsening, despite a number of initiatives to improve the situation. The same accidents seemed to happen again and again, which suggested to the executive team that not much learning was taking place in this area.

Interviews with the executive team then took place and revealed the following common themes:

- ***Health & Safety***

Safety statistics continued to be an issue that was of major concern to the Board. What intrigued many of the managers was that the same accidents happen time and time again and often as the result of what managers interpreted as stupidity...e.g. lifting heavy concrete blocks without assistance. Many of the managers wondered if this was being done on purpose in order to get more time off work and some went as far as stating that accidents were a more recent phenomenon.

- ***Reluctance in compliance***

Compliance with new directives from the management/executive team and from regulatory bodies such as the ACC was something that the managers clearly believed field workers found difficult to accept as being part of their job, to the extent of actually rebelling against the directives. The example given was that all teams when entering a field site for the first time were required to conduct what is known as a ‘Tail-Gate Session’ (the tail gate of a company utility vehicle) and go through a group exercise to identify, mitigate and negate potential site hazards. Details of the identified hazards and the mitigation strategies were to be entered into what is known as “the orange folder”. Many managers believed that field workers were using compliance to slow down productivity.

- ***Difficulty in adopting feedback***

Many managers felt that the field crew had extreme difficulty in accepting management feedback in order to improve the quality of their work and felt that contractors, sometimes brought in to bolster field crew numbers, did far better than LineCol’s employees.

- ***Dissemination of training***

A big concern expressed by managers involved the dissemination of training and learning. A large contingent of the field crew were “old timers”, many of whom had been in the industry for a very long time with 10, 20, 30 years in service not being at all uncommon. Managers feared that peer pressure from the “old timers” prevented younger line mechanics and cable jointers from adopting the practices and procedures they were being taught.

Managers and executives clearly exhibited distrust of field team members and adopted clear assumptions of laziness, dogmatism, reluctance to listen, reluctance to change and

even stupidity amongst their employees who, in their eyes, clearly worked against any initiatives proposed by management.

The LOQS team then went about interviewing employees on a 'one-on-one' basis. Interviewers found it necessary to emphasise the independence of the research in order to overcome the reluctance of LineCo1 employees to talk freely. Initially, there was a great deal of suspicion that the LOQS was "just another management initiative" and it took a while before that suspicion subsided. The following are common themes that emerged from interviews and informal chats with LineCo1 employees.

- ***Culture***

The culture at LineCo1 was described by many employees as being toxic. Some revealed that they enjoyed working at LineCo1; others explained that they merely tolerated working there and the remainder simply hated being there. Interviewees reported a very high turnover of staff prior to the recession and many reported knowing of many who wanted to leave. Some interviewees revealed their own plans for leaving LineCo1. Many described the atmosphere as being high stress, no respect and no trust – definitely an 'us and them' attitude. Their greatest concern seemed to be that management simply did not listen and the CEO "just doesn't want to know". Some of the interviewees pointed to posters about safety boots – a new model of safety boot had been introduced by the executive team and the posters informed staff that wearing the old style of boot would be considered a disciplinary offence – interviewees stated that this was typical of management, always saying "do this...or else!"

- ***Communication***

Communication between management and staff was described by nearly all interviewees as being very poor. Office staff reported embarrassment over the fact that they often did not know where management staff were, what they were doing or when they would be available. The field staff described management as being invisible, rarely venturing into the workshop/stores area (when they did, it was almost always to single staff out for a reprimand), never coming on site and rarely attending social events initiated by the staff. General meetings, when they occurred, were always regarded by staff as a 'one-way download' from management to staff. If members of the management team were seen in the workshop areas, field crew would speculate on who was in trouble. Many of the foremen reported that they used to have foremen's meetings but stopped having them as they felt the management team were not receptive to their suggestions.

- ***Lack of recognition***

Many of the field crew felt that management had no idea of what they actually did or what actually went on, on site. The older members of the field crew, when questioned about the management view that accidents occurring today did not occur 20 years ago, responded by saying that the same accidents certainly did happen but did not get reported. Injured personnel would turn up to work regardless of their injuries (something they felt was no longer emulated among younger staff members). Many of the interviewees felt they received little recognition for the work they did in times of emergency although some did report that they did, occasionally, receive cinema tickets or restaurant vouchers

for their efforts. Many of the interviewees felt that the lack of recognition by management was further highlighted by the fact that the organisation very seldom promoted employees, choosing instead to recruit people from outside the organisation...almost none of those interviewed felt that they had a career path to follow.

- ***Frustration over processes not working***

Every one of the field workers interviewed articulated one issue in particular that caused them more angst and frustration than any other: when a job is planned by the planning department, a list of relevant parts and equipment needed is produced and these items are subsequently loaded onto the truck. The field crew complained that this list of parts and equipment was invariably wrong or incomplete resulting in one of the crew often having to make a long journey back to the depot to pick up the appropriate parts or equipment or, in some cases where a part simply was not available, the job could not be completed at all.

- ***Lack of genuine consultation***

Two examples of this perception were brought up when interviewing staff at LineCo1. The first relating to a new truck recently purchased to replace one that had outlived its usefulness. The need to replace this truck had been brought to the attention of the management team on several occasions. The responsibility for purchasing a new truck and having it designed and customised for line work was passed on to the design team who then proceeded to draw up the specifications and went on to place the order. The truck that eventually arrived was, in the opinion of the field crew, well short of being fit for purpose, the major complaints being that it lacked air conditioning, was unstable and underpowered and therefore could not get to certain more remote sites, and that it could not carry poles, something the field crews deemed vital for the sort of work they often carried out. Had the field crews been part of the design and specification stage, this simply would not have occurred.

The second example cited was the issue of designing the mission, vision and values charts mentioned previously. Consultants were brought in to bring together a team representing the entire organisation in order to develop a shared vision for the organisation. The executive team hoped that this initiative would help to heal the rift between them and the rest of the staff at LineCo1. The interviewees claimed, however, that very shortly after the initiative commenced, they began to get the feeling that the end result was already decided and that the job of the consultants was to find a way to get members of the workshops to come up with the 'desired' end product. The result of this perception was that employees came to regard the exercise as a complete waste of time and the resulting chart became meaningless to employees. According to the interviewees, the rift deepened further and the management team was well aware and troubled by the growing rift within the organisation. They had hired consultants on several occasions to address the underlying problems but nothing ever came of these initiatives.

- ***Lack of trust***

Two examples highlight a lack of trust between employees and the management team. One big irritation expressed by foremen was that they are not trusted with company cell phones. They claimed that the management team did not trust foremen not to use cell phones for private calls or internet downloads. The lack of phones resulted in several incidents of difficulty locating other contractors on larger more remote sites, with time wasted looking for them.

From the interviews, it became apparent that this lack of trust seemed to come from both directions. All trucks were recently equipped with GPS, a navigation aid. But employees seemed very suspicious of managements' ulterior motives for having these devices installed in the cabs. They felt that GPS devices also enable the management team to 'spy' on the crews despite the fact that GPS was becoming a common tool in the industry as a safety measure.

- ***The Annual Connection***

The Annual Connection is a yearly event organised by the Electricity Supply Industry Training Organisation which includes line mechanic and cable jointer competitions, exhibitor stalls, seminars and an annual awards dinner. It is an event that is designed to allow trades people to demonstrate new technologies and allows professionals from different organisations to network and compare notes. Even though LineCo1 regularly enters teams into the competitions, interviewees were very unhappy about the fact that the management team would not allow other employees to go along to the events to support their teams without taking a day off as annual leave, a policy that employees regarded as being short-sighted.

- ***Other issues***

Other issues that were articulated by interviewees are summed up as follows:

- Difficulties in finding new staff due to poor remuneration at LineCo1.
- Other than apprentice training, it was seen as hard for employees to get additional professional development.
- There appeared to be very little cross training or job rotation at LineCo1.

Field observations were scheduled for two of the investigators. One investigator was sent to join a field team performing live line work and the other was sent to join a team installing underground cables at another site. Investigator 1 was able to observe a 'tail-gate' meeting where the entire field crew sat on the back of one of the utility vehicles to discuss identified potential hazards and hazard mitigation strategies. During that meeting, the 'orange folder' was filled out, a folder used to record the results of the meeting. The identification of the hazards was carried out professionally and conscientiously. Work then commenced. The crew were required to replace one of the poles while the cables were still live. During the project, it was discovered that cables from another set of poles crossed over the cables that the crew was to be working on and a vital piece of equipment had not been factored in – a cable lifter that stretched the cables that crossed over out of the way of the cables to be worked on. One of the crew had to return to the depot to collect the necessary plant. Other than that incident, the team seemed to work well together and each member appeared to know what they were supposed to be doing.

Investigator 2 arrived on site to find the underground cable laying crew sitting in the cab of one of the trucks waiting for a contractor to finish digging a trench. No work was observed so the opportunity was taken to have further informal chats with the crew. Those informal chats revealed nothing that had not already been captured from the interviews and chats mentioned above.

Nothing out of the ordinary was noted during observations of office staff at work. Most people sat quietly at their workstations doing their work on PCs. Occasionally people would get up and consult their colleagues or leave their desk to retrieve a folder. While looking around the building, pictures of company vehicles damaged in accidents could be seen in one of the lunch rooms in a 'wall of shame' fashion.

The following documents were reviewed as part of document analysis phase of the LOQS:

- ***Policies and Procedures***

Policies at LineCo1 are reviewed on an annual basis. In theory, anybody can suggest a new policy but there have been no policies suggested by anybody outside of the Management of Governance Teams. There were 7 admin polices, 5 finance policies, 9 human resource policies and 19 health and safety policies.

Most of the policies were written in a prescriptive fashion, explicitly articulating exactly the sorts of behaviours expected from staff at LineCo1, further reinforced in the code of behaviour policy.

The recruitment and retention policy clearly indicated that all vacancies were to be advertised internally and that staff were encouraged to apply for those positions. There was a short section on training and development where it stated that multi-skilling of employees was encouraged. The recruitment and retention policy did articulate LineCo1's desire to achieve a 'good employer status' and said that it would do so by:

- Communicating with staff on a regular basis through newsletters, e-mail circulars, memos and staff meetings
- Providing suggestion boxes for anonymous suggestions
- Organising and contributing to Christmas and midyear functions for staff and their families
- Providing, influenza, hepatitis and tetanus vaccinations
- Encouraging harmonious working relationships between employees
- Providing support and counselling where needed
- Exercising maximum discretion in assisting employees with work-related or domestic problems

- ***Training and professional development plans***

There were no individual training plans or professional development plans for employees other than for apprentices through the Electricity Supply Industry Training Organisation (ESITO). Further clarification from the management team revealed that individual training and development plans were an initiative

earmarked for implementation but that this initiative was still in the planning phase.

- ***Newsletters***

Newsletters to employees were sent out by LineCo1 sporadically and were included in salary advices (pay packets). Information contained in these newsletters included planned events organised by the social club; who had married; births of children of employees etc. Newsletters could also celebrate apprentices who had graduated. Interviewees had mixed views of the newsletters. Some read them and appreciated them while others only glanced at them or did not bother reading them at all.

- ***Annual reports***

The only report that the investigators were able to review was the asset plan for the period 1/4/2009 – 31/3/2029 which is a compliance document required by New Zealand's Commerce Commission. This document outlined plans for the line company's main activities (repair, maintenance, service to retailers and development). The document did articulate LineCo1's pride in having the lowest line charges of any lines company in New Zealand.

- ***Performance reviews***

As far as the LOQS team could ascertain, performance reviews were only carried out sporadically and, whether or not they occurred, depended upon the manager. No documentation of these reviews was evident.

- ***Statement of corporate intent***

The investigators did come across a statement of corporate intent which read: *“LineCo1 believes in the recognition and acknowledgement of our staff and increasing the potential of all employees through learning. We aim to grow all employees' competencies and skills through delivering on individual training plans. LineCo1 is safety conscious, socially responsible and a good employer. We recognise the ability to recruit and retain well qualified and motivated and committed staff is essential for an efficient and effective business.”*

- ***The design manual***

In terms of an organisational document analysis, the design manual represented the only real evidence of an attempt by LineCo1 to capture and record knowledge. The design manual was a large technical guide that articulated what LineCo1 considered to be technical best practice. The authors explained that the manual was not designed to replace qualified electrical engineering knowledge, experience or judgement. It also lacked any site specific work procedures and as a result most of those interviewed said that they made little reference to it.

A review of the data systems revealed the following:

- Internet connection was strictly locked down and limited to business use.
- The Intranet was set up as a portal into other systems:
  - Planned outages
  - Unplanned faults

- Arborist activities
- Published newsletters (which were out of date – the latest being from 2007)
- GPS tracking systems for all vehicles and on persons working alone (hosted at Innovation Park in Hamilton). The GPS automatically triggers an alarm when people and vehicles are at an abnormal angle. The IT team were able to confirm that the GPS system had been used to check on people going home early and also to check on the speed of vehicles following accidents.
- Accidents tracked on spreadsheets
- Complaints tracked on spreadsheets
- Work costing also tracked on spreadsheets linked to the stores system which track only high value items.
- The SCADA systems gathering live data from the electricity lines distribution network
- The GIS system, containing exact coordinates of lines, transformers, substations and poles

No tracking of employee training, learning and development took place using LineCo1's data systems.

#### **4.2.3. Offsite analysis of the data**

All of day 3, day 4 and half of day 5 were allocated for the offsite analysis of the data.

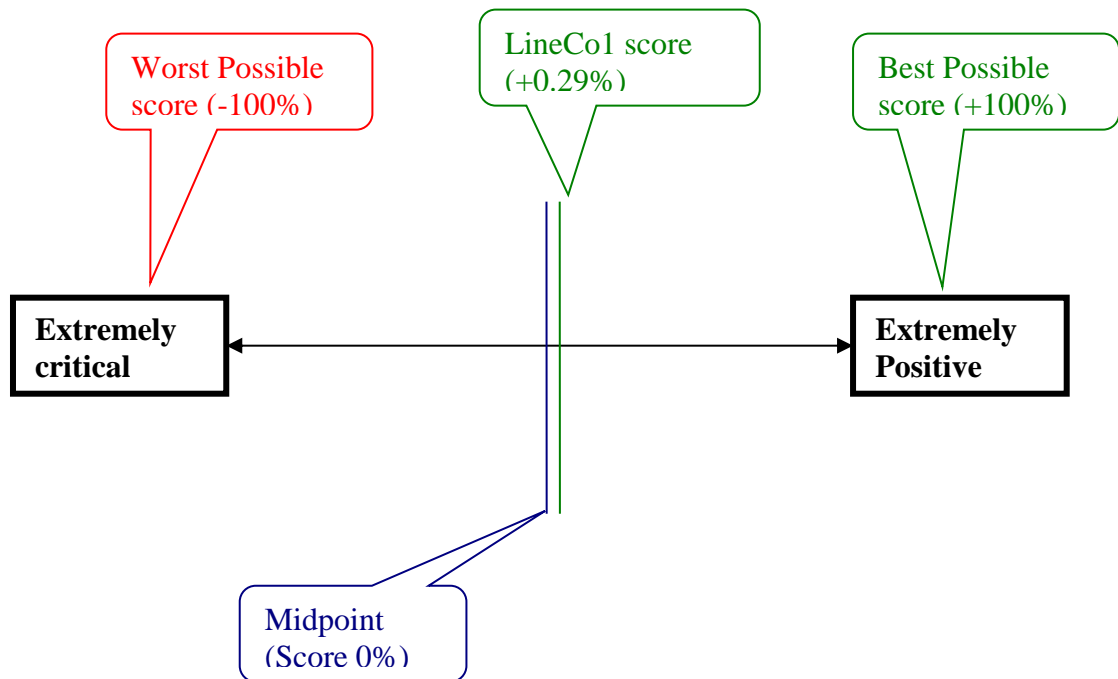
43 out of 55 of LineCo1's staff (including the Management Team) participated in the survey which equated to a 78% response rate.

The survey questionnaire consisted of 51 statements which each participant could tick on a 7-point Likert scale to indicate the degree to which they agreed or disagreed with the statement as shown below:

1. Strongly disagree
2. Disagree
3. Disagree slightly
4. Neither agree nor disagree
5. Agree slightly
6. Agree
7. Strongly agree

All the responses were recorded in a spreadsheet for collation and analysis. This data was analysed in two ways: firstly, the percentage of responses (strongly disagree to strongly agree) for each statement was recorded and graphed. Secondly, each statement for each participant was given a score. Three points was given to the 'best possible answer'; two points was given to the 'next best possible answer'; one point was given to the third best possible answer; zero points was given to a neutral answer etc., down to minus three points being given to the 'worst possible answer'. The organisation's score for each statement then became an average of all respondents' scores.

An overall organisational survey response score could then be worked out and graphed as shown in Figure 9 below.



**Figure 9: The overall mood of LineCo1 from the survey responses. Source: Author**

The diagram in Figure 9 above gives a graphical representation of the overall mood of the organisation from the survey responses. If all respondents had given the ‘best possible response’ to every statement, the overall result would have been +100% (extremely positive)...or if all respondent had given the ‘worst possible response’ to every statement on the questionnaire, then the overall result would have been -100% (extremely critical). LineCo1’s overall score was +0.29% which is very close to zero.

When this diagram was viewed in conjunction with the graphs of responses from each statement on the questionnaire, it became very clear that there was a deep divide within the organisation, many employees feeling positive towards LineCo1 but just as many feeling negative. Scoring each statement from -3 to +3 also allowed the LOQS team to identify the problem attributes (statements with the lowest scores) and positive attributes (statements with the highest scores) and include the identified outlier graphs for presentation back to the organisation for discussion.

The graphs selected for presentation are shown below.

### Positive attributes

The graphs below show areas from the survey where there was a clear positive consensus of opinion.

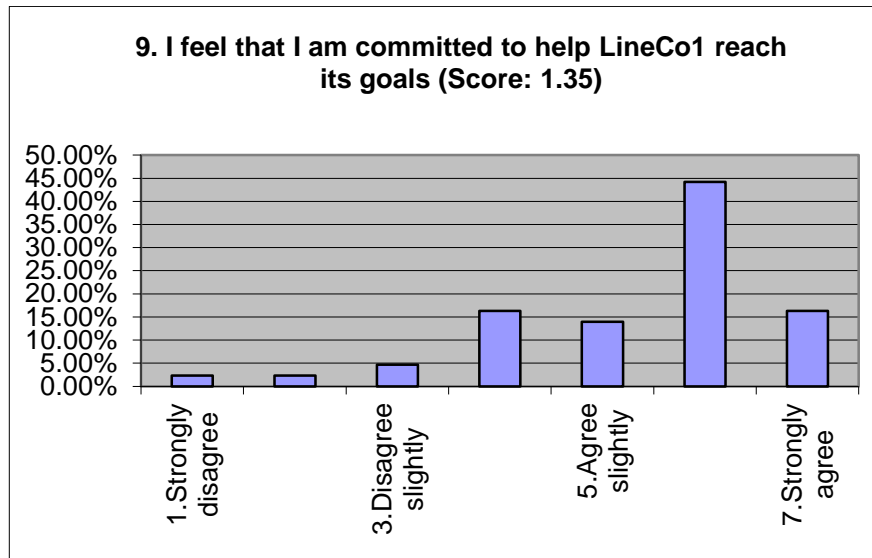


Figure 10: Graph showing LineCo1's overall survey results for question 9. Source: Author

Figure 10 revealed that most respondents felt committed to LineCo1 doing well. Overall commitment seems high.

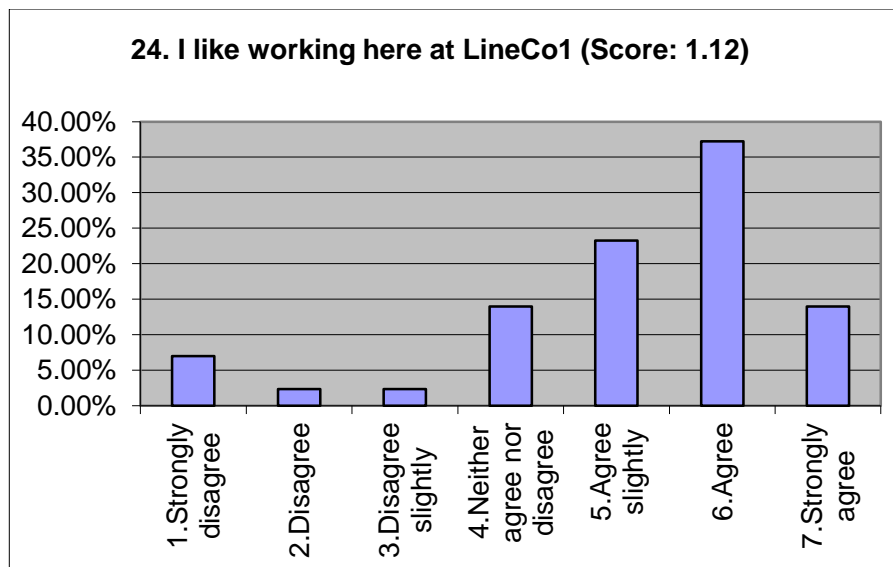


Figure 11: Graph showing LineCo1's overall survey results for question 24. Source: Author

Figure 11 revealed that most respondents enjoyed working for LineCo1, despite what the interview results seemed to indicate.

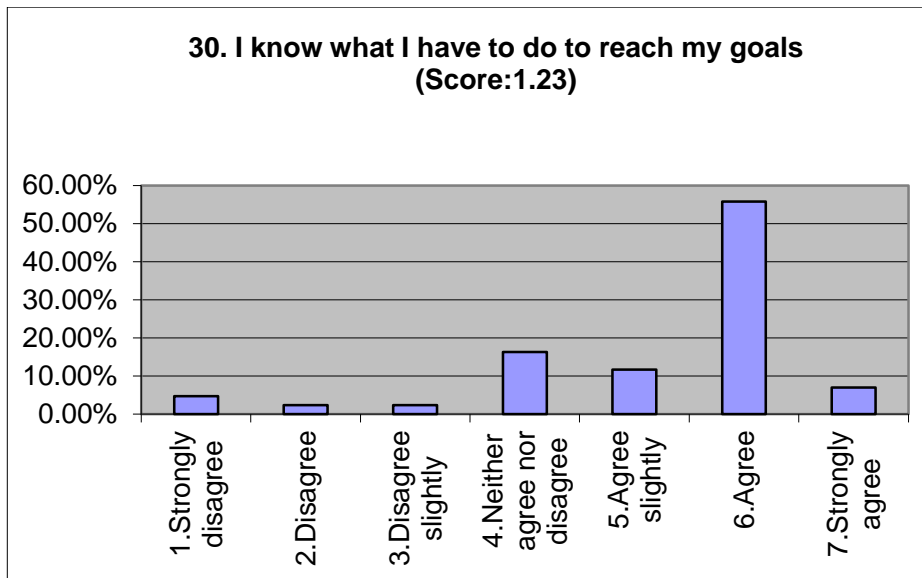


Figure 12: Graph showing LineCo1's overall survey results for question 30. Source: Author

Figure 12 shows that most respondents knew what they had to do to reach their goals. This is also a positive response.



Figure 13: Graph showing LineCo1's overall survey results for question 31. Source: Author

Figure 13 shows that most respondents feel committed to continue learning. The spread of responses is a little greater with over 35% giving a neutral or negative response.

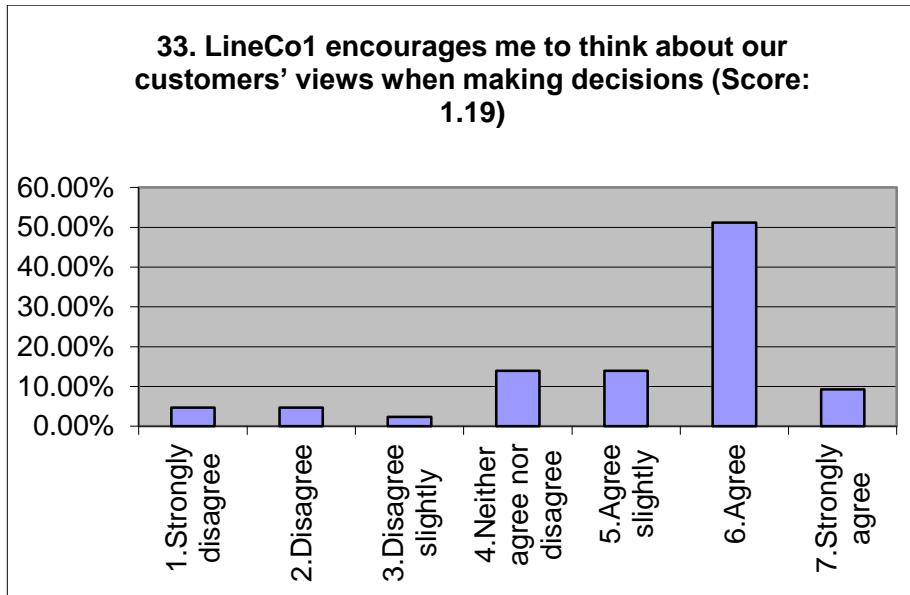


Figure 14: Graph showing LineCo1's overall survey results for question 33. Source: Author

Figure 14 shows that most respondents feel encouraged to be customer focused.

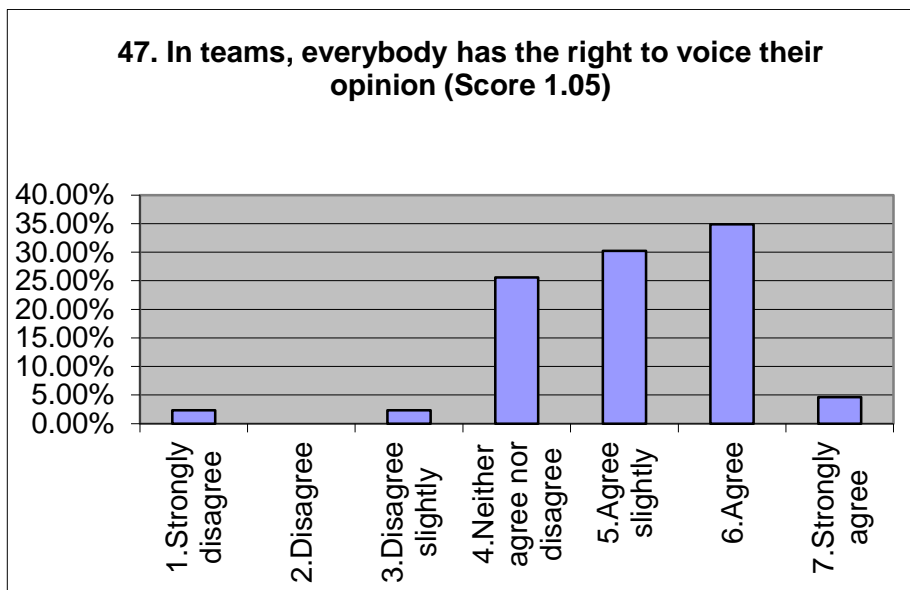


Figure 15: Graph showing LineCo1's overall survey results for question 47. Source: Author

Figure 15 indicates that most respondents felt they had a voice while working in their teams. This indicates that there is a feeling of safety when working in their team environment.

**Negative attributes:**

The graphs below show areas from the survey where there was a clear negative consensus of opinion.

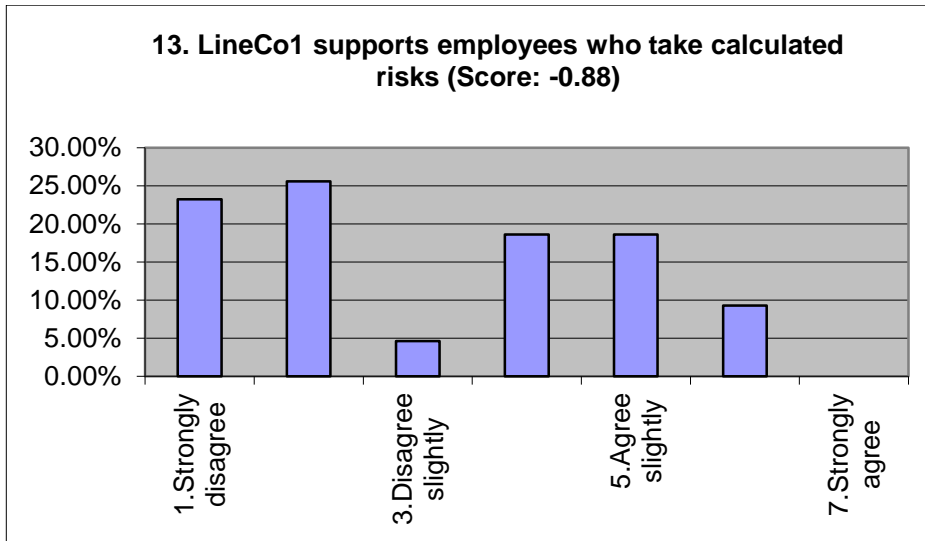


Figure 16: Graph showing LineCo1's overall survey results for question 14. Source: Author

Figure 16 is probably more a reflection of the safety-conscious nature of the industry than a reflection of the organisation not trusting employees to experiment and take risks.

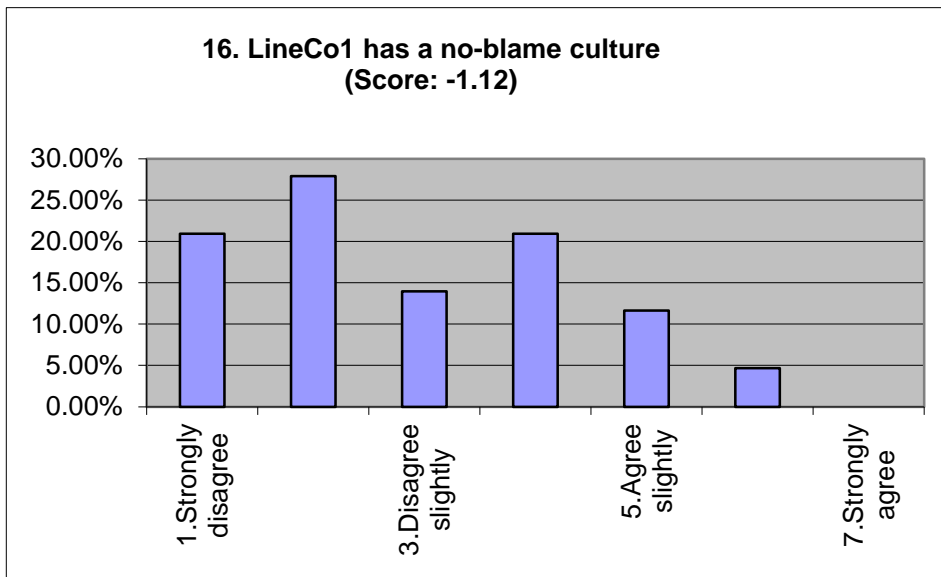


Figure 17: Graph showing LineCo1's overall survey results for question 16. Source: Author

Figure 17 shows that respondents feel that the organisation continually looks for people to blame. This supports data gained from interviews and informal chats.

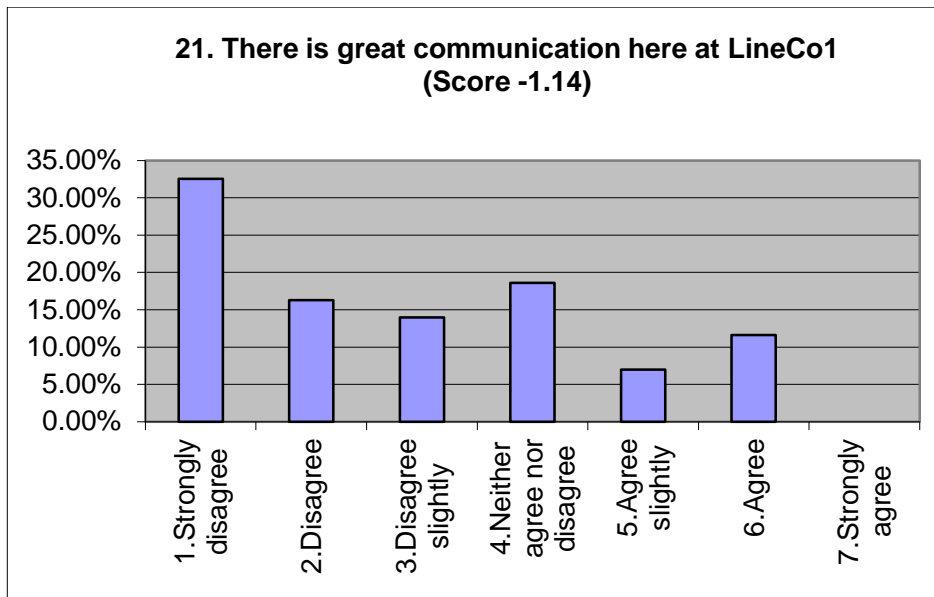


Figure 18: Graph showing LineCo1's overall survey results for question 21. Source: Author

Figure 18 shows the majority of respondents feel that communication is poor within the organisation and this supports data from interviews and informal chats.

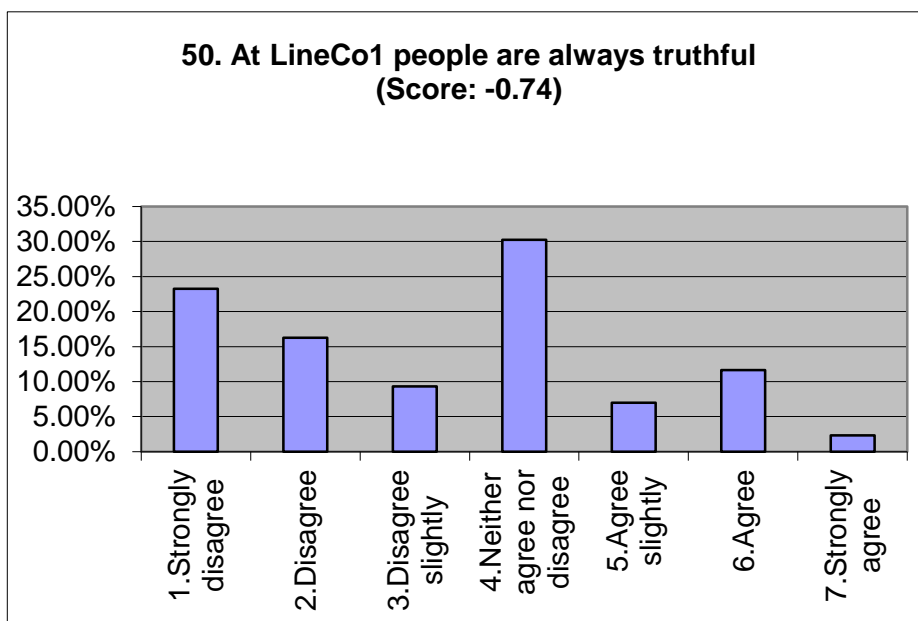


Figure 19: Graph showing LineCo1's overall survey results for question 50. Source: Author

Figure 19 indicates that the organisation and the individuals working within it have a poor commitment to the truth. This response could indicate organisational defensive routines caused by the blame culture.

The above sets of graphs include only those that show a clear consensus of opinion. The remainder of the graphs show no such consensus with opinions being clearly divided. This, of course, is reflected in the organisation's overall survey response score, shown in Figure 9, earlier.

Once the data from the survey responses was collated and analysed, a lengthy brainstorming session was initiated. This brainstorming session attempted to triangulate all the data collected over the previous days in order to isolate and identify the major issues within the organisation. Once these major issues had been identified, the data was used to map cause and effect. The cause and effect diagram is a major feature in the QSAM and this diagram becomes the organisation's 'story', which is then used to spark discussion when feeding back to the organisation.

It was hoped that this diagram would help to identify areas where interventions would yield the greatest leverage for change. These areas for change would also be fed back as suggestions to the organisation in the form of quick wins, medium-term wins and long-term wins.

The brainstorm by the investigators resulted in the following cause and effect diagram for LineCo1 shown in Figure 20, below.

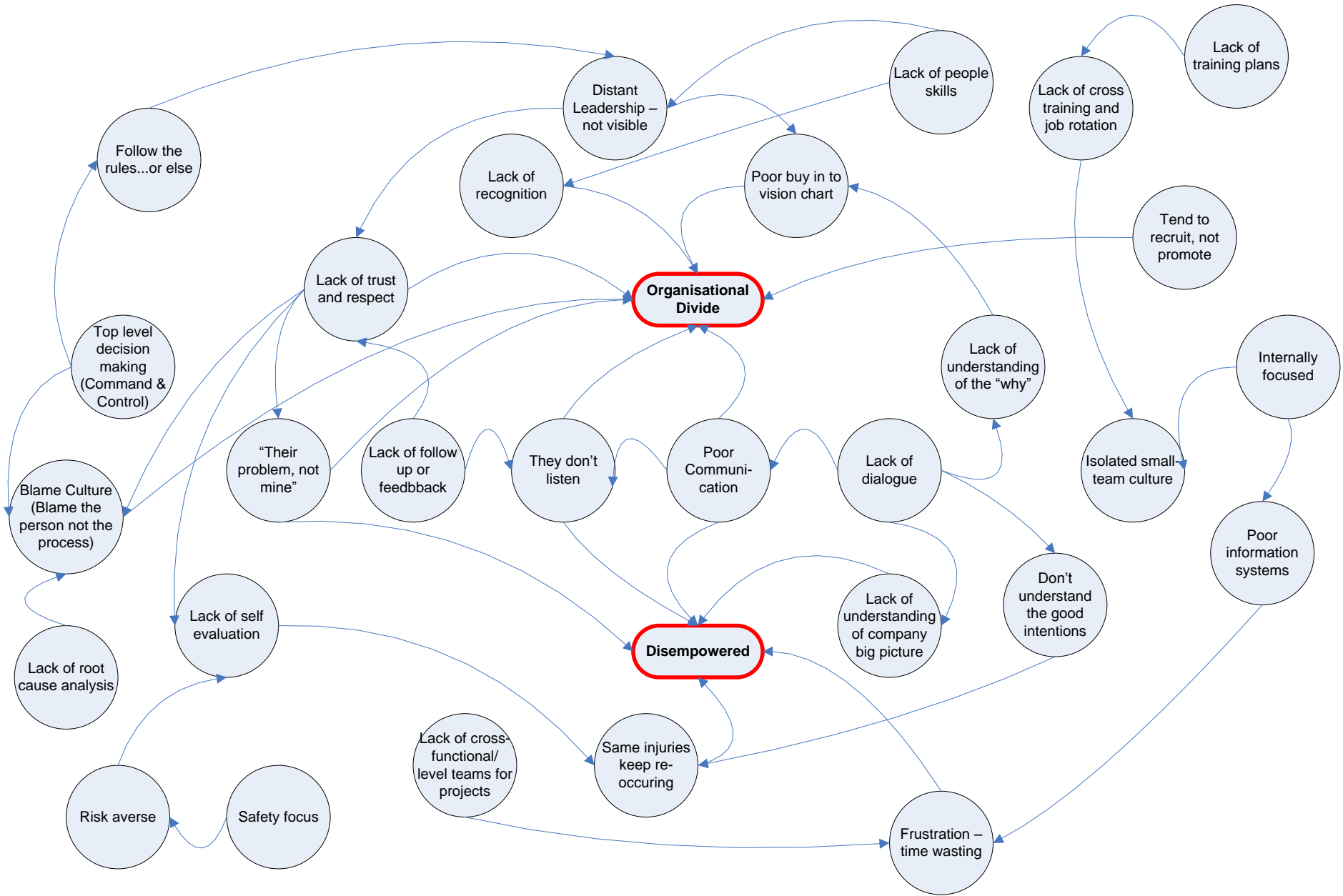


Figure 20: Cause & effect diagram for LineCo1. Source: Author

Using the diagram in Figure 20 shown above, the following story can be told. In essence, it should not matter where in the diagram you start, the same story will be told but it may be told in a different order. In this case, the story starts from right to left.

The lack of training plans within the organisation has led to a lack of cross training and job rotation which, in turn, has led to an isolated small team culture. This isolated small team culture is also caused by an internally focused organisation, an organisation which does not associate or cooperate much with other organisations.

This lack of cooperation may have resulted in the poor information systems currently in use by the organisation, especially in the tracking of their pole inventory (e.g. the size and number of screws, bolts, switches and isolators etc. on each pole). The lack of knowledge of exactly what is attached to each electricity pole means that the planning department is unsure as to what parts to stock the trucks with for each job. Consequently, there are many occurrences where trucks and crews arrive at a site with the wrong parts and equipment. This results in frustration and time wasting. The lack of cross functional/level teams for projects has resulted in projects not delivering the required results (e.g. the case where a new truck was commissioned, designed and delivered but turned out to be inadequate for the purpose) and has also contributed to frustration and time wasting, which are among the contributors to one of two identified major issues: the feeling of disempowerment.

The perceived lack of people skills displayed by the management team has led to the feeling of lack of recognition of employee efforts, a contributor to the second identified major issue: the organisational divide. The tendency to recruit rather than promote has led to the perception that there are no career paths available to employees within the organisation, creating resentment that has also contributed to the organisational divide.

Top level decision making (command and control) has led to a culture of 'follow the rules...or else', causing further resentment amongst employees and contributing to the perception that the leadership is distant and invisible. This impression is strengthened by the previously mentioned perceived lack of people skills displayed by the management team.

Distant and invisible leadership has led to a lack of trust and respect from both sides. The lack of trust and respect contributes directly to the organisational divide but also leads to the attitude that it is 'their problem, not mine' which contributes both to the organisational divide and to disempowerment.

The lack of trust and respect further contributes to a lack of self-evaluation which is also caused by risk adversity. This in turn, is the result of the safety focus of what is, in effect, a potentially dangerous industry to work in. The lack of self-evaluation by field workers has resulted in the same injuries recurring and this led to the feeling of disempowerment from the management team.

Top level decision making (command and control) has led to the blame culture within the organisation (blaming the person, not the process) which has been caused by both the lack of root cause analysis by management and employees alike, and the lack of trust and respect. The blame culture is one of the contributors to the organisational divide.

The lack of follow-up or feedback has led not only to the lack of trust and respect but also to the feeling on both sides that ‘they don’t listen’. This feeling, in turn is caused by poor communication within the organisation resulting from a lack of dialogue. The feeling that ‘they don’t listen’ and the perception of poor communication within the organisation have contributed both to the organisational divide and to disempowerment. The lack of dialog within the organisation has led to a lack of understanding why decisions are made. This, in turn, has resulted in the poor buy-in to the organisation’s vision chart. This poor buy-in has been compounded by the distant and invisible leadership and contributes further to the organisational divide.

The lack of dialogue also results in the frustration from the management team that employees don’t understand the good intentions behind some of the strict rules enforced within the organisation which, they believe, results in continued bad practices that cause the same injuries recurring. These recurring injuries, as stated previously, contribute to the feeling of disempowerment on the part of the management team.

This ‘story’, developed from the cause and effect diagram, was one of the major components of the feedback to the organisation which will be discussed further later on in this case study. The diagram reveals a number of suggestions for areas of possible change that were broken down into long, medium- and short-term wins as outlined below.

- ***Quick wins***

The perception of a distant and invisible leadership can be overcome with a change of habits on the part of the executive team if it decides to become visible and adopt a policy of “management by walking around”. Although it is labelled a quick win, it won’t be accepted by employees until they get used to seeing the managers around without there being an admonishment of some sort.

The perception of lack of recognition can be overcome by making a of publicly recognising and acknowledge jobs well done.

The perception of poor communication can be addressed by starting to dialogue with employees, discussing and explaining issues and strategies of resolution. Explaining and listening may then form the foundation leading to a balance between enquiry and advocacy.

Providing cell phones to foremen may well lead to a changing perception in terms of trust.

Giving employees a day off in order to attend the Annual Connection may directly help to mitigate the isolated small team culture and the resulting mind-sets existing within LineCo1. There may be a number of unforeseen positive ‘knock-on effects’ such as an exchange of emerging best practices or methods that may improve efficiency and/or reduce workplace injuries.

Implementing occasions whereby the organisation can socialise may help to start tackling the organisational divide at LineCo1 and the familiarity generated could dispel many of the assumptions/suspensions held by both sides in terms of the motives behind decisions or work practices.

Putting together training plans for all employees (including managers *leading by example*) will help to allow skills to be grown internally and may enable LineCo1 to promote from within rather than recruiting externally to fill vacancies. This may, in turn, create career paths that may motivate some employees.

- ***Medium term wins***

Much efficiency may be gained and more robust outcomes achieved from conducting projects using personnel from different teams and from different levels, thus mitigating the frustrations and perceptions of time wasting when unsatisfactory outcomes occur. This would also have a direct effect on the prevailing sense of disempowerment.

The apparent lack of cross training and job rotation was also identified from the chart as leading to the isolated small team culture at LineCo1. The solution of implementing a system of cross training and job rotation may seem obvious but there may be other additional ‘knock-on effects’ such as a more flexible workforce and a workforce that understands the issues existing within other departments, adding to a more holistic view of the organisation.

Keeping policies relevant and current and expanding HR policies to produce a more robust guide, followed by revisiting the mission, purpose and values chart as a more genuine shared vision may be quite effective at reducing the organisational divide at LineCo1.

Systemising self-evaluation for teams will help encourage root cause analysis which, together, would result in teams that self-correct, reducing the strain between employees and management and possibly also having an effect on accidents at the work place.

- ***Long term wins***

Investing in up-to-date information technology (such as a system for capturing pole inventory, which may be embedded into the GIS system) may also help in reducing wasted trips and sending out teams and trucks with incorrect parts and equipment to reduce the frustrations of time wasting.

Pushing decision making as far down the organisational chart as possible and thus changing the role of the executive team to become more facilitative leaders, would allow the executives time to concentrate more upon the strategic direction of the organisation.

Capturing and disseminating tacit knowledge would help to reduce the organisation’s vulnerability to retiring employees and would also reduce the reliance of the organisation upon the tacit knowledge of these “old timers”.

No method had been developed prior to the start of the LOQS of LineCo1 for scoring and plotting an organisation as a learning organisation. It was hoped that once the data

had been collected, analysed and reviewed, an idea for achieving this would reveal itself. This was not the case.

Instead, the investigators had to resort to manually (arbitrarily) placing a marker on each dimensional axis that indicated where the investigators believed the organisation would have scored had a scoring system been developed. No metric was created. The chart in Figure 21 below shows how LineCo1 “scored.”

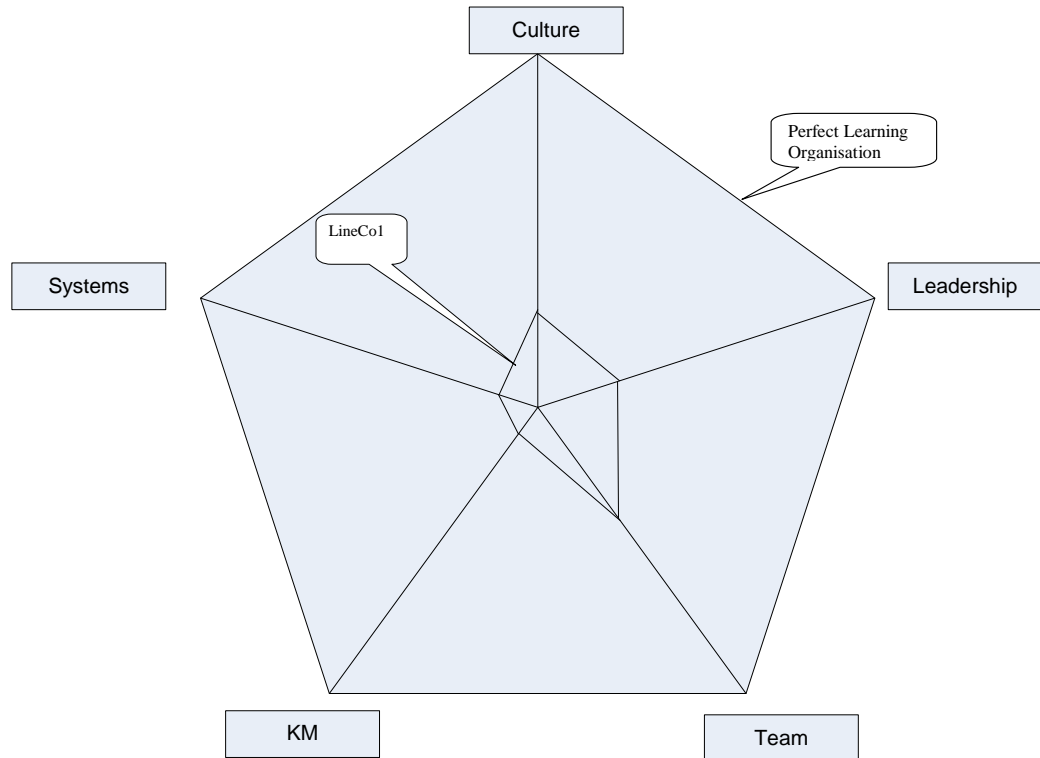


Figure 21: LineCo1's LOQS pentagon. Source: Author

LineCo1's strongest dimension was the team dimension indicating a higher degree of functioning team work and team learning. Despite the divide between the management teams and the field teams, LineCo1 did function as a lines company. Therefore, the culture of the organisation must be sufficiently functional in order to allow this to happen.

The leadership within LineCo1 did make decisions that were adhered to, however reluctantly, and, therefore, the organisation scored as it did in that dimension.

Weak communications, knowledge flow and knowledge management were reflected in the low score on the KM dimension, the unforeseen impacts of which are reflected in the low score in the systems dimension.

#### 4.2.4. Feedback to LineCo1

Feedback to the organisation took the form of a PowerPoint presentation scheduled for close of business on day 5 of the Quick Scan.

There were actually two presentations: one for all employees of LineCo1 (including the management team) followed by one for just the management team where employees were excluded.

As a courtesy to the CEO, the author gave a quick preview of the proposed presentation in order to make sure that he was comfortable with the material being presented to the staff. He had no objections.

In the first LOQS, feedback to the organisation occurred in two parts: one presentation to the whole organisation, and one to just the executive team.

The presentation was fully attended and ended with a challenge to the organisation: to eliminate the organisational divide by learning to communicate with each other by opening up a dialogue and exposing the assumptions that both sides had about one another as shown in Figure 22, below – (*upstairs meaning the organisation's management, and downstairs meaning employees*).

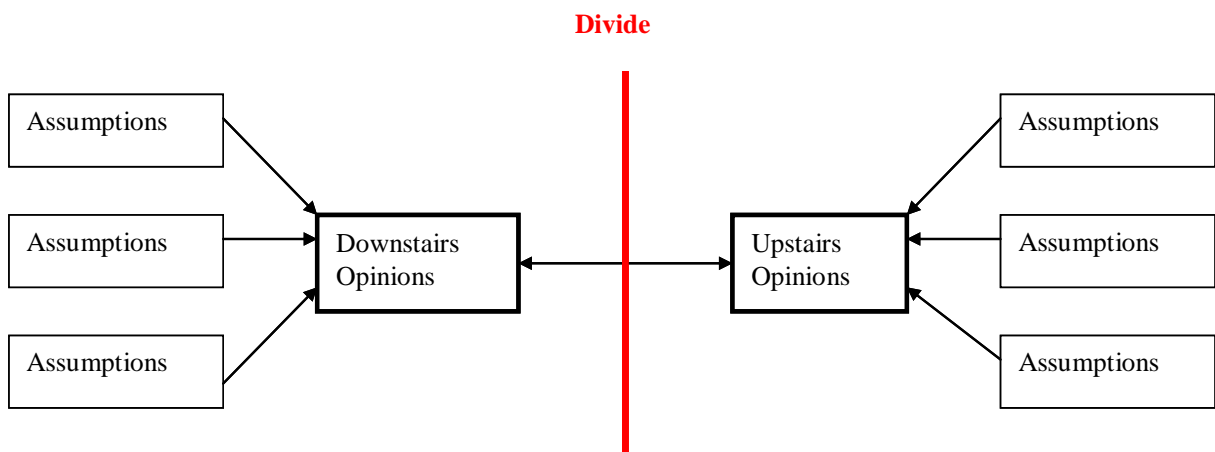


Figure 22: The divide between management and employees at LineCo1. Source: Author

The presentation was very well received.

The presentation to the executive team followed the first presentation and presented the findings in more detail. It was not as well received as the first presentation with members of the executive team clearly feeling quite defensive at times, justifying why things were the way they were at LineCo1.

Finally, a list of questions was put to the executive team in order to elicit some useful feedback about the LOQS process from the perspective of LineCo1's executives, as seen in Table 23, below.

Question	Answer
How intrusive or disruptive did the organisation find this process?	LineCo1 did not find the process particularly intrusive at all.
How would they like to see it done differently?	The management team had only one suggestion and that was in regards to the presentation to them. They were not really interested in the academic explanation of the dimensions of the learning organisation.
How could the survey be improved?	The management team felt that some of the questions in the survey could have been misunderstood. As an example, they highlighted the question; ‘LineCo1 supports employees who take calculated risks.’
How did they find the interviews?	The management team had no real comments about the interviews.
Were the findings presented in the presentation accurate?	The management team felt the issues presented were a true representation of where LineCo1 was at.
Did the LOQS team get it wrong anywhere?	The management team did not feel that the LOQS team had got anything wrong. They did, however, feel that some of the attitudes exposed by the investigation had historical origins and may well be a hangover from the ‘old ECNZ days.’ What they were referring to was the days before privatisation of the electricity industry, ECNZ being the state run Electricity Corporation of New Zealand.
Were there things the LOQS team missed?	The management team did not feel that the LOQS team had missed anything.
If so, how could these issues be addressed in future Quick Scans?	There were no comments in answer to this question.
How useful was the cause and effect analysis?	The management team felt the cause and effect diagram was very useful.
How useful were the graphics?	The management team had no real comments about the graphics.
How useful were the metrics presented?	The management team voiced surprise over the fact that the LOQS team had scored them so highly as a learning organisation.
How useful was the advice given?	The management team needed time to process the advice given. Somw parts would result in obvious wins, but others needed to be analysed more closely before they could comment.
How useful was the process as a whole?	The management team found the whole process to be very useful and provided a foundation on which dialogue and discussions could begin. The management team also felt that what would be useful were benchmarks in regards to how other lines

	companies approached issues, problems and strategies. They realised that since they were the first organisation to participate in the Learning Organisation Quick Scan there were no benchmarks to be had at this point but they would be interested in hearing from the LOQS team again once the whole study was complete.
Would they recommend other lines companies to participate?	LineCo1 would most certainly recommend other lines companies to participate and would be prepared to actively help with references if needed.

Table 23: Feedback from the executive team at LineCo1 with regard to the LOQS process. Source: Author

#### 4.2.5. Reflections on the LOQS at LineCo1

One of the purposes of conducting the first LOQS was to gain an understanding of the kind of data that would result from the process. The first LOQS also gave valuable insight into the sorts of people that the LOQS team would be dealing with in future. It was evident that the ability to vary the pitch of questions from person to person would be crucial due to the diversity of academic backgrounds of the people that investigators came across.

It was also evident that a number of elements of the LOQS may be superfluous whereas other elements were missing altogether, or did not work as intended.

The initial and final presentations to the entire organisation were included as they are an important feature of the QSAM and their inclusion was justified through its usefulness in gaining buy-in from the entire organisation and increasing the chances of enthusiastic participation. The aim of the LOQS is measurement. Neither of these presentations contributes much in terms of measurement and therefore can be seen as being somewhat superfluous. One of the changes for the next LOQS is to see whether sufficient participation can be secured through other forms of initial contact with employees. The other argument against including these two presentations was the fact that in LineCo1 they raised employee expectations in a way not intended, that desired change would come about as a result of participation.

Not having a method for converting the data into the final metric was an issue that required solving and it was clear that a significant amount of time had to be devoted to this issue. It represents one of the greatest challenges in developing the Learning Organisation Quick Scan process.

Selecting people to chat to was carried out in a haphazard fashion and it was clear that the process could be made far more efficient if the LOQS team could find a way of targeting people with the required expertise in a particular subject. The interviews themselves were far too unstructured and it became clear that the LOQS team were unsure of what they are looking for. Much thought is required for a solution. Lastly, it was very unclear as to what investigators were looking for while observing employees at work. Investigators need to clarify this situation for the next LOQS.

### **4.3. The second case – LineCo2**

The core business of LineCo2 is the provision of electricity distribution services to their region. As an electricity distribution company LineCo2 own, develop and maintain the electricity network of lines, cables, substations and associated infrastructure. Their network connects 80,000 customers to the national transmission and generation facilities. Most of LineCo2's revenue comes from invoicing electricity retailers for the provision of distribution services.

LineCo2 has about 169 staff: admin, management staff and field workers, consisting of cable jointers and line mechanics. Although LineCo2 are considered to be a local monopoly, they are exposed to a small degree of competition through tendering for contracts for the installation of reticulation (underground and overhead), service mains, electrical inspections, and arborist services.

LineCo2 Ltd is 100% owned by the LineCo2 Energy Trust, a community trust which is elected every three years. The long term capital beneficiaries of the trust are the local councils.

The engagement of LineCo2 as a participant of this research study was achieved through a cold call process starting with an e-mail to the CEO of the organisation. The initial e-mail included a brief introduction of the aims of the study and a brief introduction of the individual LOQS team members. The e-mail ended with a request for an appointment in order to give the LOQS team an opportunity to explain the study in more detail.

The CEO replied very promptly to the initial e-mail inviting the LOQS team to make an appointment with his personal assistant.

The meeting consisted of an informal chat between the LOQS team and the CEO, resulting in an agreement to participate.

The CEO raised only one concern: most of the members of the executive team were only recently recruited. Many new initiatives were either under way or in the planning stages. None of these would have borne fruit yet. The CEO was a little worried that LineCo2 may score less than it deserved. The investigators were able to assure the CEO that whatever the results showed, LineCo2's participation would be very useful for the development of the LOQS.

#### **4.3.1. Changes to the LOQS and preparation for Case 2**

An important conclusion reached while reviewing the successes and shortfalls of the previous case study was the realisation that the LOQS process really comprised two parts. The first part involved looking for evidence of the attributes of a learning organisation within the target organisation and the second involved looking for barriers to learning within the target organisation. Indicators of barriers to learning would be recognised as procedures or processes that do not work as expected; a communication channel that either does not exist or does not work as expected; or other areas within the business that cause worry, grief, concern or irritation. How the two parts could come together at the end when each dimension was to be scored was not yet understood.

The major challenge leading up to the second iteration of the LOQS was finding a method of scoring each dimension's attributes in as objective manner as possible.

For example, when examining the attribute, “A learning organisation selectively recruits its employees”, how is it possible to tell that an organisation has satisfied this attribute in order to earn a full score on it? The solution that was decided upon was to further divide each learning organisation attribute into sub-attributes or activities. As nothing on this subject could be found in published literature, a brainstorming session was required in order to be able to split each attribute into activities (sub-attributes) for that attribute. This brainstorming session took place using an informal focus group of selected members of the business world and was facilitated by the author. The focus group did not perform as well as was hoped and most of the sub-attributes were developed through a process of reflection by the author.

Continuing the example above, the attribute “A learning organisation selectively recruits its employees” could be split into the following activities:

- Recruitment is preceded by an investigation whether the position could be filled internally.
- Recruitment is preceded by an analysis of the knowledge needs of the organisation.
- Recruitment is preceded by analysis either to determine the type of person to either fit in, or to encourage a desired change in the organisation's culture.
- Potential candidates are assessed on their ability to learn.
- Potential candidates are assessed on their willingness to change and adapt.
- Assessment methods are grounded in researched best practices.

All 180 activities were collected together to form a large checklist that could be filled in at the end of the LOQS. Each activity could be scored based on the degree to which each activity is carried out within the target organisation:

- 5 – Always
- 4 – Usually
- 3 – Sometimes
- 2 – Seldom
- 1 – Never

Questions that were identified in the survey questionnaire as being confusing after the last case study were edited and a few more questions were added in order to try to better align the survey questionnaires to the final checklist. Other than these minor changes, the survey questionnaire would remain unchanged.

It was decided to trial a more structured approach to interviewing the executive team by following a set interview plan. This interview plan was developed to consist of 15 statements that would be read out to the interviewee one at a time. The interviewee would then be asked to score the degree of the organisation’s engagement in the activity mentioned in the statement, as follows:

- 5 – Always
- 4 – Usually
- 3 – Sometimes
- 2 – Seldom
- 1 – Never

The interviewee would then be asked to justify the score by recounting evidence of those activities engaged in by the organisation. There would then be a number of set probing questions that could be used to elicit further information. Examples of these statements are shown in Table 24 below.

<b>1. Rate:</b> LineCo2 selectively recruits employees based on organisational knowledge needs and organisational knowledge needs.	<b>Score:</b>
<b>Expand:</b> What sorts of things do you do to ensure this?	
<b>Probe:</b> a) Is recruitment preceded by an investigation of how the position could be filled internally?	
<b>2. Rate:</b> LineCo2 actively strives to maximise retention within the organisation.	<b>Score:</b>
<b>Expand:</b> What sorts of things do you do to ensure this?	
<b>Probe:</b> a) Do you feel there is a culture of trust and respect here at LineCo2? b) Do you feel that people enjoy working at LineCo2? c) Do you feel that people are proud of working for LineCo2? d) Do you have career pathways in place for employees? e) Do you have training plans in place for everybody?	
<b>3. Rate:</b> LineCo2 promotes a lifestyle balance within the organisation.	<b>Score:</b>
<b>Expand:</b> What sorts of things do you do to ensure this?	
<b>Probe:</b> a) Is counselling available to employees? b) Are mental health days offered? c) Is health insurance offered to employees and their families? d) Do social events include families? e) Are employees encouraged to avoid spending excessive time at work?	

Table 24: Example of the interview plan form incorporating an element of self-scoring developed for LineCo2. Source: Author

Employee interviews would be structured in the same way as for the executive team but with a little more freedom to pursue a more ‘ad hoc’ approach to explore any themes emerging indicating barriers to learning.

In the previous LOQS, informal chats were a little too random and far from being an efficient method of gathering relevant information. It was therefore decided to trial a more strategic approach to the use of informal chats. Any themes indicating barriers to learning elicited through the structured interviews of randomly selected employees would be followed up with probing questions to ascertain the best key people to talk to in order to find out more. These key people would be the ones targeted for the informal chats, and these chats would not be structured or planned in any way. It therefore became vital to schedule investigator meetings after each interview in order to share emerging knowledge of developing themes relating to barriers to learning and to compile a list of people to target for the chats.

The data gained from observations in the previous LOQS iteration were considered to be somewhat anaemic. It was not understood why this was the case, nor was it totally clear as to what sorts of data were expected from observation exercises. It was therefore decided to continue with observations in the same manner as previously and assess the usefulness of this data gathering technique after the second iteration of the LOQS test. The investigators were also keen to test the usefulness of meeting observations as there was no opportunity to do so in the previous LOQS.

The plan for document analysis would remain unchanged for this case study. As in the LineCo1 case study, the documents we wished to analyse at LineCo2 were as follows.

Organisational documents	Explanation
Policies and procedures	Policies and procedures would be examined in order to get a glimpse of the organisational memory of the organisation.
Training, personal and professional development documentation	Training, personal and professional development plans documentation would be examined in order to get an idea of the degree to which targeted employee development and learning is institutionalised within the organisation.
Newsletters	Newsletters would be examined in order to understand the sorts of information communicated to the stakeholders of the organisation and also to gain an insight into the culture of the organisation.
Annual reports	Annual reports would be looked at to further understand information reported to stakeholders.
Examples of periodic employee reviews	Periodic employee reviews would be examined to understand the nature of performance assessments and how they were made within the organisation as well as to gain an understanding of the nature of targets for individuals and how they were set.

Mission, vision and values statements	Mission, vision and values statements would be examined in order to understand the drivers behind the organisation culture, leadership and strategy.
---------------------------------------	--

Table 25: Document analysis plan for LineCo2. Source: Author

Although data from the document analysis in the last case study did not feature heavily in the off-site analysis discussions or in any sort of data triangulation, the LOQS team were convinced that this form of data gathering had the potential to provide useful data. A search in the published literature did not reveal any indications of the sorts of documentation a learning organisation may be expected to have.

The plan for the technology assessment would remain unchanged for this case study. Again, the aim of the technology assessment would be to assess whether any form of knowledge management is undertaken by the organisation. The researcher would also endeavour to ascertain whether practice fields in the form of simulators are used by the organisation for learning. The last part of this investigation would be to assess the extent to which information systems facilitate the free flow of information in and around the organisation and how information is analysed and used to inform decision making and planning.

#### 4.3.2. Planned timetable for Case 2

The timetable agreed between the LOQS team and LineCo2 for the second case study was as follows:

The uncertainty on the part of the investigators as to whether or not to forego an initial presentation to the workforce was made easier by an adamant declaration by the CEO of LineCo2 that such a presentation was considered undesirable due to the envisaged disruption to the organisation. The previous LOQS iteration gave a clear indication that the initial presentation was useful in gaining buy-in from the workforce to participate. In order to avoid non-participation, an introductory e-mail would be distributed to all employees instead. The degree to which this would impact the study would be measured by the response rate to the survey.

The onsite coordinator appointed by LineCo2 was the personal assistant to the human resources manager. As before, her role was to schedule the interviews, select interviewees to replace those that were randomly selected but would not be able to attend; schedule the field visits and meeting observations; book the office space that the LOQS team would need and locate all the documents that we wished to analyse. As in the previous case study, the internal coordinator would also be responsible for distributing the survey questionnaires to all employees on the first day and collecting them the following day.

As with the previous LOQS, a safety induction, site orientation and the issuing of loan personal protection equipment was scheduled early in the morning of day 1, prior to the start of the Quick Scan.

The meeting with the executive team was scheduled to take place between 9:00 AM and 10:00 AM which is when the investigators were expected to present and introduce the research study to them. The LOQS team would also quiz the executive team on

known ‘pain points’ within the organisation. Interviews with each of the management team members were scheduled for the rest of the morning. Interviews with randomly selected LineCo2 employees were scheduled for the rest of the day.

Interviews with selected LineCo2 employees would spill over the first part of the morning of day 2. The rest of the day was scheduled to include the site visits (field observations), informal chats, the technology assessment and document analysis.

Day 3 would begin with an observation of the health and safety committee meeting (the only meeting scheduled for that week). The rest of day 3 and 4 would be spent back at the university for the offsite-analysis of the data. As in the previous case study, this would start off by collating and analysing the data gained from the survey responses. Following that, the rest of the LOQS team would meet to triangulate the data and fill in the final learning organisation checklist.

Once the checklist was complete, it was hoped that (armed with this data) scores for each dimension could be developed and plotted on the learning organisation pentagon. The last part of the analysis would involve collating the themes (barriers to learning) and composing the cause and effect diagram. From this diagram, a list of recommended interventions could be compiled, again grouped into short-term wins, medium-term wins and long-term wins.

Once the analysis of the data was completed as described above, the findings would then be collated into a final PowerPoint presentation to be delivered back to the organisation.

The final presentation to the executive team was scheduled to take place on the afternoon of day 5. The composition of this presentation would not differ greatly in structure from the one given to the executive team at LineCo1 and is shown in Table 26 below.

<b>Presentation part</b>	<b>Explanation</b>
Introduction	The introduction would comprise a recap of why the LOQS team was there (what the research was about), and what we hoped to achieve; a reminder of how the data was gathered and an explanation of how the data was analysed.
Highlights from the survey responses and interviews	Only responses that indicated clear organisational consensus or those that indicated clear organisation division would be presented along with an explanation of the implications of these responses. Results from the interviews would also be used here to give greater richness to the findings and to give some sort of explanation of why respondents felt the way they did in the form of concrete examples. Once again, the presentation would include the graphic that would show the mood of the organisation.
Introducing the identified barriers to learning	Barriers to learning would be developed from the triangulation of all data collection methods.
Cause and effect	This is where the themes mentioned above would be

	shown in a cause and effect diagram which the LOQS team would run through in detail.
Learning Organisation pentagon	It was hoped that this metric would show the difference between the “perfect learning organisation” along with where on the chart LineCo2 as an organisation lay (this time with scores included), and an explanation as to why this was the case.
Recommendations to the organisation	Using the cause and effect diagram, the LOQS team would show where the leverage points for change lay. These leverage points would lead on to recommendations for change along with proposals of how these changes may be achieved.
Questions and answers	This is where the executive team would finally have the opportunity to pose their questions to the LOQS team who would, hopefully, be in a position to answer those questions. It was envisaged that this would be a very important part of the actual research as it was entirely possible that members of the executive team may have insights into the data that the LOQS team may have missed and these insights may be useful for subsequent case studies.

Table 26: Envisaged format of the feedback presentation to the executive team at LineCo2. Source: Author

As with the previous case study, the executive team would give feedback to the LOQS team as to how they have experienced the Learning Organisation Quick Scan process. This feedback would be used to modify the Quick Scan process for the next case study and the information we wanted would be unchanged:

- How intrusive or disruptive did the organisation find this process?
- How would they like to see it done differently?
- How could the survey be improved?
- How did they find the interviews?
- Were the findings presented in the presentation accurate?
- Did the LOQS team get it wrong anywhere?
- Were there things the LOQS team missed?
- If so, how could these be addressed in future Quick Scans?
- How useful was the cause and effect analysis?
- How useful were the graphics?
- How useful were the metrics presented?
- How useful was the advice given?
- How useful was the process as a whole?
- Would they recommend other lines companies to participate?

### 4.3.3. What the LOQS revealed about LineCo2

As this research methodology utilises an iterative multiple case study methodology, this section, as with Case 1, will present the findings as they were originally understood at the time of this particular Quick Scan.

The site orientation of LineCo2 occurred early in the morning of day 1 prior to the meeting scheduled with the executive team. The investigators were guided by the Health and Safety Manager around the newly opened LineCo2 headquarters, located in an industrial part of the city. The organisation had only recently moved into the purpose-built headquarters which was noted as having one of the highest energy efficiency ratings in the region. All known hazards were pointed out along the way.

As with LineCo1, there were two main buildings on site: the main office building with the executive team housed on the first floor along with conference and meeting rooms. The ground floor was more of an open-plan design divided into separate office business units including finance, planning and drawings, human resources, call centre, control centre and information technology. There was also a staff cafeteria, small offices, break-out meeting rooms and a large foyer. The second building, located on the other side of a large courtyard, contained workshops, stores, small works offices and parking for all LineCo2's trucks and utility vehicles.

The Health and Safety Manager was able to confirm that the operational processes of LineCo2 were very similar to those of LineCo1, only on a significantly larger scale. These are summarised as follows:

LineCo2's main activities include repairing faults to the network, preventative network maintenance, services to electricity retailers and extending the network (development).

- ***Faults***

Faults are reported to the small call centre team located within the head office building and this information is then relayed to the planning and design office which then dispatches teams of engineers (in trucks supplied with the appropriate equipment and parts) to repair those faults and restore connection to the affected customers. Teams must be available to respond to emergency situations 24 hours a day, 7 days a week and 365 days a year.

- ***Network Maintenance***

Network maintenance is scheduled to take place during quieter times to replace or service aging lines, poles and other equipment such as transformers etc. Teams of arborists are responsible for removing trees growing too close to lines.

- ***Services to electricity retailers***

Services to electricity retailers involve the disconnection of electricity to non-compliant customers for non-payment of bills and reconnection of services after disconnection.

- ***Extending the network***

Extending the network involves connecting new subdivisions, homes, streetlights, businesses or factories to the network and is the only area in which LineCo2 is exposed to any competition from competing lines companies as they often tender for the proposed work.

- ***Stores***

As with any lines company, the ‘stores’ are a critical feature for LineCo2 and must contain an adequate supply of equipment and parts.

- ***The Control Centre***

The control centre monitors and controls the distribution network using SCADA (Supervisory Control and Data Acquisition) systems. The control centre not only monitors the LineCo2 network but is also subcontracted to monitor the neighbouring LineCo1 network (in times of non-emergency).

At the end of the site orientation tour, the LOQS team were issued with high visibility vests and hard-hats which had to be worn during site visits and while wandering around the workshop buildings.

The initial meeting with the executive team took place at the start of day 1 of the Quick Scan where the investigators introduced themselves and gave an explanation of the aims and goals of the study. All of the administrative and organisational details were finalised at the same time. The executives were then asked by the LOQS team to outline any pain points within the organisation that the executive team may have wanted the investigators to focus on. The reply centred on the fact that the executive team were relatively new to their positions and that many initiatives were underway but were unlikely to have borne any fruit at such an early stage. It was expected that some residual ‘us and them’ mentality would still be prevalent on the shop floor.

As mentioned previously, one of the new features developed for this Quick Scan case was a very structured set of interview questions for the executive team and the following is a set of themes developed from these structured questions split into 14 different areas.

- ***Selective recruitment***

In the past, the human resources team has been quite dysfunctional, but this has changed in the last 6-months with a lot of new recruits in this area and new processes being developed and put in place. Jobs are very well defined in terms of requirements (position description) and these definitions have been driven by the knowledge needs of the company. In terms of cultural needs, there is a very structured interview process that is specifically designed to elicit examples of behaviours that the organisation would like to have. The organisation clearly articulates the fact that the interview process is a two way selection process where interviewees are encouraged to also interview ‘the organisation’. All vacancies are advertised internally first along with requests for expressions of interest and these are always considered in great detail before a decision to recruit externally is made.

- ***Maximisation of retention within the organisation***

The management team recognised that people will leave the organisation when they are presented with bigger and better opportunities. There is a strong desire to retain the people that the organisation wishes to retain but, unfortunately, not everybody fits into that category. There is an on-going concerted initiative to break down known silos within the organisation, the biggest issue, at present,

being the tensions between the design and estimation team and the delivery team. LineCo2 are attempting to achieve this through job rotation: seconding people from the delivery team to the design and estimation team for three-month terms. It is possible that some of these secondments may evolve into opportunities for those being seconded to change career paths should they wish to do so. Depending upon the success of this initiative, the same idea may be implemented for the maintenance planning team. Career paths within the organisation are in the process of being developed.

- ***Promotion of a lifestyle balance***

LineCo2 strive to offer flexible work arrangements. LineCo2 encourages healthy living, partly through policies for drug and alcohol and partly through other initiatives, such as fruit days (every Wednesday) where the organisation arranges for free fruit for all employees to be delivered to the headquarters. A workplace support person comes in every week and all employees can book appointments to talk through personal issues that they may have. LineCo2 tries to discourage excessive hours at work by producing reports identifying individuals that put in a lot of overtime. Constructive conversations with those individuals take place but in some cases it is difficult to change this behaviour as it is easy to become dependent on the additional income. LineCo2 encourages a strong social club which has 80%-90% of the organisation as members. The social club arranges events that are well attended. Many of those events include the whole family but one of the management team felt that there were not enough of these. LineCo2 contributes to health insurance schemes that employees are encouraged to join.

- ***Remuneration of skills and experience***

LineCo2 uses a rigorous job evaluation process that utilises 10 factors for remuneration, known as SP10 (the Strategic Pay Job Evaluation Methodology) whereby each job is sized, a price on the market is obtained through an externally contracted national organisation and they then match the person to that job. LineCo2 then apply a 30% flexibility rate determining how they remunerate staff where they pay +/- 15% of market rates depending on the individual. There are no automatic increments, and there are no steps or graduated progressions and learning is recognised at the monthly staff information sessions. Some of the executives explained that it was more than just learning that is valued most at LineCo2, it is the application of learning. Evidence that expertise is rewarded can be seen through examining the diversity in the rates of remuneration awarded for the same job.

- ***Commitment to continuous improvement/change***

LineCo2 has three key measures that are continuously being monitored:

- SAIDI (System Average Interruption Duration Index) – a measure of network reliability
- Cost per customer – a measure of operational cost and productivity
- NPAT (Net profit after tax)

Each employee then has a 5%, 10% or 15% of their salary at risk, depending on level, and a bonus is paid for employee contributions to improving these KPIs against targets. There are other incentivised bonus schemes such as one

initiative to reduce the cost of company vehicle maintenance: each vehicle is given a maintenance budget. Each dollar of that budget not spent is then divided – 50% going back to the company, and 50% shared between each member of the team attached to that vehicle. As a result, huge savings have been achieved for vehicle maintenance as the behaviour of those teams has changed. An example of this is that when a vehicle reverses, one of the vehicle passengers will get out of the vehicle, direct the vehicle driver and ensure that all is clear for the vehicle to reverse.

There are also staff forums in place, where individuals are selected by their peers to identify and raise issues, decide on recommendations on how to deal with these issues, and close them off when they have been dealt with. A recent focus, called Cost Busters, motivated by the recession, has identified areas where costs can be cut (e.g. telephone and electricity usage) which has so far cut these costs by \$50,000. LineCo2 recognises both ‘the employee of the month’ and the ‘team of the month’; each of which is worth \$750 for an employee.

To focus on business improvements, ideas forums have just been comprised of people from a slice of the entire organisation. LineCo2 is also involved in LEAP – an initiative involving 6 Australian and 6 New Zealand line companies to benchmark such things as network safety, reliability and speed.

- ***Positive attitude to risk-taking***

Traditionally, the electricity industry has always been risk averse due to the inherent dangers in the industry, but some members of the executive team cited several examples of the organisation’s willingness to take risks: The field crew of LineCo2 were all made redundant a few years ago and subcontracted back as contractors. A decision was made a couple of years ago to re-absorb them all into the organisation. Another example of a high risk venture is the fact that LineCo2 are examining opportunities to expand into the internet broadband market, an industry that they know little about but that would fit in with their knowledge of reticulation. LineCo2 are also examining opportunities to seek a partnership to electrify the railways between two cities in New Zealand. Additionally, LineCo2 are trying to expand from ‘just maintaining lines’ and are looking at obtaining resource consents for wind farms.

- ***Performance gaps as learning opportunities***

There are root-cause analysis processes around events that occur but these are mostly conducted from an engineering perspective. Additionally, there are often executive discussions taking place on what is and what is not happening in terms of business improvement and productivity gains.

- ***Well-developed communications processes that work***

The organisation holds monthly ‘Info Share’ sessions where employees are informed of management initiatives, strategies, industry changes, industry events, social club events and other company information. This is also when national certificates are awarded to apprentices or trainees, employee and team of the month are announced. Sometimes these events are preceded by a company breakfast cooked by the managers. LineCo2 also has what one of the

executive team described as one of the best developed intranet sites he has ever seen. This intranet site, known as 'Ingrid' is rigorously updated and contains information shared at the Info Share sessions, upcoming vacancies etc. There are also monthly newsletters containing similar information. LineCo2 also reports back to the trust and the AGM, and there are two customer seminars per year (by invitation only).

- ***Shared vision***

There has been no real effort expended to create a shared vision as the executive team felt that the mission and vision statement are 'owned' by the Board. The current mission statement is as follows: "Providing high quality reliable services to customers and achieving excellent returns, while growing the business to be a major regional utility".

The organisation places greater emphasis on its values which form part of performance appraisals and are pushed throughout the organisation all the time. These values are:

- Agility
- Do the right thing
- Build the business
- Care for others
- Every day, home safe

- ***Regards the LO as a desirable state***

None of the executive team could define or had any knowledge of what a learning organisation is.

- ***Facilitative management or command and control***

There was great variation in how each of the executive team described their own management styles. Some said they were facilitative, some said they were controlling and some said they were a bit of both. All said the organisation as a whole was a bit of both but the executive team felt that decision making was pushed as far down the hierarchy as possible. All the executives agreed that the leaders within the organisation varied in their ability to coach and mentor. The executive team felt that decision making within separate business units was autonomous.

- ***Learning approach to strategy***

There was no real learning approach to strategy, as strategy is 'owned' by the Board. Traditionally there has always been a top down approach to strategy building, which was still dominant, but they had started trying a bottom up approach as had LineCo1, using an external facilitator who also went out to various stakeholders to get their views.

- ***Tracking learning that occurs within the organisation***

This was one area where all of the executive team felt that LineCo2 had an opportunity for a great deal of improvement. Currently, at LineCo2, finding any information on any individual employee's learning is very difficult. An initiative is underway to create and populate a database that will track employees' qualifications and professional progress. It was estimated that this

project will take 1-2 years to develop and it is hoped that the database will also function as a schedule of competencies. LineCo 2 seemed well aware of the tension between setting performance-oriented goals and learning-oriented goals but at present the KPIs are very performance oriented.

▪ ***Places great importance on team work***

The whole of the organisation is comprised of teams and they are hierarchical. Teams are formed by identifying people with the skill sets required for the job that needs to be done. Cross functional teams is a new concept that is currently being trialled for the employee forums and the ideas forums. Teams manage their own conflict and role issues but need help from the HR manager occasionally. They do not, however, manage their own resources. These resources are put together into 'job packs' and are assembled by the design and estimation team. Teams do not have the autonomy to set their own goals. They are given a budget and time goals but how they decide to accomplish those goals is up to the individual teams and, in general, teams do not self-review.

▪ ***Invests in knowledge management systems***

The management team acknowledged that LineCo2 has a long way to go in the area of KM. There is a process mapping project under way that is showing some promise but too much at LineCo2 is reliant on key people. Too many processes are still considered to be 'black box' within the organisation. There is a very good GIS database, however, and a good vegetation database which are continuously being improved with major projects underway to see that this happens.

▪ ***Understands the concepts of systems thinking***

None of the management team had an understanding of systems thinking but nonetheless there were some initiatives within LineCo2 that did show evidence of some systems thinking. LineCo2 are in the process of putting together a graduate programme with other companies that would give university graduates an opportunity to spend some time with an electricity generator, an electricity lines company and an electricity retailer. Graduates emerging from such a programme would come away with a very strong CV.

LineCo2 have also initiated a brainstorming activity akin to scenario planning where it considered three scenarios for the impending recession:

- High impact upon income – action: hold salary increases and focus on cutting costs
- No reduction of income – action: review salaries again in October
- Growth of income – action: back date salary increases

LineCo2 are looking to examine the aspirations of younger personnel in a way that they believe will have enormous potential payback. If individuals express a desire to go on an overseas experience or to university, they will be encouraged to leave the company and travel, or go to university. But, by keeping in contact with these people until such time that they get married and/or have a family and return to New Zealand, LineCo2 would endeavour to get them to return to the organisation by creating opportunities for them.

As part of the strategy of using a strict interview plan when interviewing the executive team, each executive was asked to score themselves/LineCo2 against a number of statements. The results of this scoring are shown in Table 27 below.

<b>Exec Team Interview results</b>					
	<b>Manager</b>				
<b>Statement</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
1. LineCo2 selectively recruits employees based on organisational knowledge needs and organisational cultural needs	5	4	4	4	4
2. LineCo2 actively strives to maximise retention within the organisation	4	5	5	4	3
3. LineCo2 promotes a lifestyle balance within the organisation	5	4	4	5	4
4. LineCo2 strives to remunerate skill & expertise	4	5	1	4	4
5. LineCo2 encourages commitment to continuous improvement/change	4	3	4	5	4
6. Apart from issues of safety, LineCo2 has a positive attitude to risk taking	3	2	4	3	2
7. Performance gaps are regarded as an opportunity for learning	5		5	5	5
8. LineCo2 has very well developed communication processes that work well	5	5	4	5	3
9. LineCo2 has built a shared vision (purpose, mission and values)			4		3
10. LineCo2 regards the learning organisation as a desirable state		3	1	5	4
11. The leadership team within LineCo2 regards itself as being facilitative rather than command and control	4	3	3	4	2
12. LineCo2 has a learning approach to strategy			5	3	5
13. LineCo2 keeps track of learning that occurs within the organisation	3	5		2	3
14. LineCo2 places great importance upon team work	4		5	5	3
15. LineCo2 invests in knowledge management systems	2	4	5	3	5
16. I understand the concepts behind systems thinking	5		1		4

Table 27: Results of interview self-scoring results by management team of LineCo2. Source: Author

As previously mentioned scores denote the following:

- 5 – Always
- 4 – Mostly
- 3 – Sometimes
- 2 – Seldom
- 1 - Never

The blanks in the table represent areas where interviewers were not able to get round to the section in question because they needed time to explore avenues of interest that arose during the interview. At the time of gathering this data, it was not clear how the data would be used, or if it would be useful in the final learning organisation metric.

Unlike at LineCo1 where interviews with employees revealed a large consensus of (largely negative) opinion, there was far less consensus among the employees of LineCo2. Some of the interviewees expressed very negative feelings towards the organisation and the management team, whereas others expressed very positive views. The following points are only those where there was a clear consensus from the interviews and the informal chats. Also, unlike the interview process conducted at LineCo1, the interviews with staff were used to elicit information on key people to seek out for more information on issues identified from the interviews. It was those people who were targeted for the informal chats.

- ***New Executive Team***

The entire executive team was fairly new with many recent appointments to these positions. Interviewees who had not been with the company for more than 18 months did not really have anything negative to say about these people. Some interviewees who had been with LineCo2 long enough to remember the old executive team were still going through a bit of a grieving process resulting from the departure of the old CEO. Many felt the old CEO to be a very charismatic leader who was always very visible and knew not only the names of all employees, but also the names of spouses and children. He often wandered around the organisation, stopping to chat with all he came across. There was a feeling that the new CEO is very much more isolated.

- ***Tensions between the Design Team and the Field Staff***

The following is a description of the interactions between the design team and the field staff (kept, in this case, in the present tense).

The design team comes up with a 'job pack' containing the entire design information for a job and includes a comprehensive list of the parts and equipment to carry out that job, which is then put together for the field crew. The job pack is then handed over to the field crew and once the work is complete, they fill out the 'as-built' documentation which is then handed over to the GIS team (Geographical Information Systems) who input the as-built information into the GIS database. The accuracy of the as-built documentation is important as it goes back into the GIS system. It appears to members of the design team that the field crew do not understand the 'benefits' of putting effort into filling out the 'as-built' documentation and are therefore very negative about it. Once the job pack is handed over to the field staff, it is the responsibility of the field supervisors to check it and then execute the job. The design team feel that field staff are not taking any ownership of the job pack. All issues relating to the accuracy and completeness of the job pack are blamed on the design team.

Members of the design team feel that the field staff take any opportunity to 'put down' the design team and they feel that they are being forced to shoulder all the blame for things not always going to plan. This issue is clearly having a profound effect on the morale of some of the design team members. The head of the design

team maintained that there is a lack of feedback and interaction between the design team, the GIS team and the operations team (the field crew). He has, therefore, very recently initiated a periodic review of the as-built documentation between these teams taking place on the last Friday of every month. This coordination meeting is proving to be very useful as underlying issues can be discussed, recurrent problems analysed and opportunities for improvements suggested. Some of the field supervisors complained that the paper work that field staff are expected to fill out requires skills that they simply do not have, but they are required to do it anyway.

- ***Improvement processes, suggestions & ideas***

There are around 180 processes within LineCo2, all with process owners. Any suggestions to improve processes, or any issues that need to be resolved, are identified through AR (action-required) documents. The person in charge of the overall process improvements system is able at any time to view the status of the ARs. Unfortunately, he believed that this process is not working too well at LineCo2 as many of the ARs are put together with little knowledge and understanding of the reasons behind some of the processes and, furthermore, the AR documents are often used as an opportunity to further criticise the design team. Some of the field supervisors commented that most of the ARs come through by e-mail and they asserted that some of them are ‘nonsense’ as they bear no relevance to what is actually happening in the field. They also called for more team-based interactions between the field staff and the asset investment and performance group. Many interviewees believed that any suggestions or ideas that require capital expenditure and process changes are seen to be very difficult to implement.

There are no structures or processes to escalate these ideas and it is hard to find support for them. As such, suggestions and ideas seem to be stifled within the organisation. Some of the field supervisors expressed frustration over the bureaucracy involved in actioning improvement ideas and suggestions, especially in relation to equipment and ‘gear’. These suggestions are supposed to be brought to the technology meeting (chaired by the distribution technology specialist who reports to the assets investment manager. This is a meeting where supervisors from all the field units can get together to discuss and action suggestions but, unfortunately, these meetings are very irregular and very little happens as a result. They also complained of there being no formal forum (like a strategy meeting) where improvements to processes can be discussed and actioned. When an idea comes up, the initiator is left on his/her own to try to justify cost/benefits and navigate through the bureaucracy. They found this to be very de-motivating and ideas are often cast aside as a result. Many interviewees commented on a ‘general disconnectedness’ between workers’ expertise and suggestions, and that this expertise seldom found its way back into standard operating procedures.

- ***Vision***

Several interviewees asserted that LineCo2 is a ‘world class’ organisation in many areas such as ‘cost spent’ and data quality. But the Board has restricted the vision, limiting it to be regionally focused and this has caused the organisation’s vision to be very uninspiring. Many interviewees didn’t actually know what the vision was.

- ***Risk Taking***

Some interviewees stated that LineCo2 used to be a very innovative organisation willing to take risks. They felt that there seems to be a more risk-averse attitude within LineCo2 more recently. The focus used to be on profit maximisation but has recently changed to be almost completely focused on cost minimisation.

- ***Learning***

Many interviewees commented on the fact that LineCo2 actively encourages people to seek knowledge from sources external to the organisation. LineCo2 seems to be good at supporting employees taking external courses.

- ***Communication***

Some of the field crew commented on the Info Share meetings and felt that they were of very little value, mostly about ‘charts and graphs’ and had little relevance to their work (*Note: This could be due to a systemic lack of understanding of how their work impacts on key KPIs and parameters of the organisation*). Some of the interviewees commented on mixed messages coming out of the Info Share meetings. The example given related to the last meeting where on one hand the management team were talking about a net profit of \$45,000,000 and then went on to talk of a salary freeze. Some commented on the lack of cross group communication. Some commented on the lack of after-action discussion or brainstorming. Others commented that communication from workers seemed to stop at supervisor level and never got any further.

- ***Working at LineCo2***

The vast majority of interviewees stated that they really enjoyed working at LineCo2. One said that on weekends, ‘he simply couldn’t wait until Monday’.

As planned, two observers from the LOQS team were accompanied on field visits by the Health and Safety Manager. As observers, we were scheduled to visit two sites: one having a team working on overhead lines maintenance and the other having a team installing underground cables. On arrival at the overhead line site, it became that the field crew had finished the work that they had been scheduled to do and were in the process of packing up to leave. The investigators were not able to get out and talk to the team but were able to observe the supervisor taking pictures of the finished project with a digital camera. On further investigation, it was revealed that a project was underway to allow these pictures to be imported into the GIS system in order to improve knowledge of exactly what parts had been used for any particular job.

The team at the second site was working on installing underground cables as part of a ‘beautification project’ to remove all overhead lines from that particular residential area of Hamilton. On reaching the site, the field crew were very careful to run through the ‘orange folder’ with the observation team, highlighting all the identified hazards in the area, what actions we were to take to avoid being hit by passing cars and pointing out where investigators were permitted to go and which areas should be avoided. The field crew were working in conjunction with other contractors, one responsible for digging the holes, another responsible for carting away dirt, gravel and other wastes such as broken concrete. A third contractor was responsible for reconstructing the footpaths and roads with concrete borders and asphalt. Another LineCo2 team were responsible for removing redundant poles and lines once sections of the underground cabling became live. The observers were

able to familiarise themselves with the job pack, which in this case, contained accurate information and had everything the field crew required to complete the project within the following two weeks. The observers were also able to view the as-built forms that the field crew were expected to complete. None of the crew mentioned any problems or concerns about filling out the required documentation.

One of the LOQS team was able to sit in and observe the health and safety representatives' monthly meeting. The meeting was chaired by the health and safety manager. Observations from the meeting follow.

Minutes from the previous meeting were reviewed and agreed as being a true and accurate record.

A number of graphs were presented reporting progress against a number of KPIs. These KPIs were as follows:

- TIR (Total Incident Rate) per 200,000 man hours
- Number of incidents by type, the types being:
  - Injury
  - Damage
  - Near miss
  - Vehicle
  - Theft
  - Improvement
- Number of injuries by severity
- Injury incidents by injury type, these being:
  - Strain/sprain
  - Cut/scratch/bruise
  - Burn
  - Crush
  - Other
- Injury incidents by body part
- Number of vehicle incidents by type, these being:
  - Reversing
  - Side swipes
  - Other party
  - Fail to stop in half clear distance
  - Frontal
  - Near miss
  - Theft from vehicle
  - Other

Meeting attendees then talked about each incident and discussed the action taken as a result of the incident since the previous meeting. What was learned from each incident was discussed and incidents seemed to be split into the following categories:

- Injuries
- Damage
- Near misses
- Vehicles
- Thefts

- Improvements (defined as matters arising from complaints from the public, such as holes that had not been filled in after work had been completed and causing injury to a member of the public etc.).

The meeting finished with a discussion and a vote to approve a request from a local group of graffiti artists to paint a ‘mural’ on one of the walls of a substation. The request was approved.

The observer made the following notes about impressions gained from observing the meeting.

All attendees participated in the discussions and seemed to have an equal voice. The stats kept were impressive and data from these enabled year-on-year comparisons which seemed to inform decision making. From the number of reports presented, it was clear that LineCo2 had a climate of encouraging incidents to be reported. This could only be achieved if there were no negative consequences for staff reporting incidents. The meeting was clearly learning focused and the learning that occurred seemed to be used to inform decisions on changing processes to reduce further incidents.

The next part of the LOQS investigation involved an analysis of samples of documentation available at LineCo2. The following data were captured.

- ***Policies and procedures***

The following policies were examined (only two could be located):

**Communication policy** – articulated the drivers, goals and expectations of both internal and external communication within LineCo2.

**HR policy** – this 42-page document seems to be an overarching policy containing many sub-policies. These included:

- Changes to work hours
- Leave entitlements
  - Annual, sick and special leave policy
  - Other leave options
- Reward and recognition
  - Remuneration
  - Benefits policy
  - Employee of the quarter award
- Recruitment
- Performance management
- Training and development
  - Training and development policy
  - Short term projects and secondment policy
  - Study leave and assistance policy
- Employee wellness and LineCo2’s environment:
  - Workplace support service
  - Health and safety policy
  - Drug and alcohol policy
  - Drug and alcohol testing
  - Smoke free workplace policy
  - Equal opportunities policy
  - Discrimination and harassment policy
- Exit policy

- Use of company resources
  - Computer and mobile phone policy
  - Vehicle policy
- Carrying out LineCo2's business
  - Expenses and travel policy
  - Personal presentation policy
  - Gifts and entertainment policy
  - Delegated authority policy
- Managing the employment relationship
  - Employee conduct policy
  - Managing work performance
  - Incapacity due to illness
  - House rules
  - Disciplinary policy
  - Disciplinary procedures
  - Disciplinary model
  - Grievance policy

Although very comprehensive, the policies seemed to be written in such a way as to be enabling rather than restrictive, communicated a sense of caring and seemed to be aimed at building people.

- ***Forms***

- **Performance and development forms**

- These had just been constructed and were in the process of being implemented. They were developed around LineCo2's values and summarised training and development undertaken the previous year and identified training and development needs for the coming year.

- The forms asked the employee to articulate their aspirations through the following questions:

- What do you want to be doing in 2 to 5 years' time?
      - Is there a specific role you have in mind?
      - What skills and competencies will you need for that role?
      - How can we help you get there?

- The form also consisted of an achievement plan for the next 6 months (and the following 6 months) in the form of individual goals and KPIs, targets and objectives and how they are all to be measured. The performance and development forms clearly showed alignment with company goals and confirmed what was articulated in an interview with the executive team. As with the policies, these forms are constructed with the aim of building people.

- **Skill and competency assessment form**

- Again, these had just been constructed and were in the process of being implemented with the aim of compiling a schedule of competencies for each employee. These are to be filled in by both the employee and his/her manager together and included the following fields:

- Technical skills
  - Rating (1, 2 or 3)
  - Agreed comments
- Specific position skills
  - Rating (1, 2 or 3)
  - Agreed comments
- Other skills (skills that the individual has but may not be utilised in their current position)
  - Rating (1, 2 or 3)
  - Agreed comments

These forms back up and show further evidence of what was mentioned during the executive team interviews.

### **Training and development form**

This form was to be filled in when a suitable training event had been identified for an individual employee, the applicant was asked to fill out the following:

- Title of training
- Trainer
- Link to business objectives
- Reasons for training request
- How will this training assist and develop you in your job, professionally and personally?
- What value will it add to your job in LineCo2?
- Is there a link to your personal development plan and business objectives?

This form is evidence that training at LineCo2 can be for professional and personal development and has links to performance and development plans while still requiring the applicant to define some sort of relevance to the employee's job at LineCo2.

- ***Company Newsletter***

The company newsletter is published monthly, is colourful, professional looking and contains the following sections:

- A column from the CEO
- Social club news
- Employees of the quarter
- Team of the quarter
- Upcoming events
- News snippets
- Upcoming projects
- Customer feedback update
- Details of staff leaving and new staff starting
- Staff promotions
- Staff announcements (births, deaths and marriages)
- Policy changes

The newsletter looked very informative, relevant and demonstrates the effort put into building a close-knit culture at LineCo2.

A review of the data systems revealed the following:

- Internet connection is not as strictly locked down as with LineCo1. The intranet (Ingrid) is a very comprehensive source of company information and is also set up as a portal into other systems.
- There is a GPS tracking system for all vehicles and on persons working alone (hosted at Innovation Park in Hamilton). The GPS automatically triggers an alarm when people and vehicles are at an abnormal angle.
- MAXIMO is the name of the system used to develop job packs, cost and plan resources for each job, and the SCADA systems gather and store live data from the electricity lines distribution network. The GIS system contains exact coordinates of lines, transformers, substations and poles.
- A knowledge system is in place for IT issues, but it is not kept up to date and is not very often used. However, a data warehouse is used to store a wide range of business specific data in time slices, enabling business intelligence reporting.
- The data systems at LineCo2 are a cohesive set of business enabling systems that are constantly being reviewed and updated to add value. All LineCo2's servers are in the process of being virtualised to lower operational costs and improve disaster recovery.

#### **4.3.4. Offsite analysis of the data**

All of day 3, day 4 and half of day 5 were allocated for the offsite analysis of the data.

The first step was to analyse the responses from the survey questionnaire, 80 out of 169 of LineCo2' staff (including the management team) participated in the survey which equated to a 47.5% response rate. The survey questionnaire consisted of 55 statements which each participant could tick on a 7-point Likert scale indicating the degree to which they agreed or disagreed with the statement as shown below:

- 1 - Strongly disagree
- 2 - Disagree
- 3 - Disagree slightly
- 4 - Neither agree nor disagree
- 5 - Agree slightly
- 6 - Agree
- 7 - Strongly agree

All the responses were recorded onto a spreadsheet for collation and analysis. This data was analysed in two ways: firstly, the percentage of responses (strongly disagree to strongly agree) for each statement was recorded and graphed. Secondly, each statement for each participant was given a score. Three points was given to the 'best possible answer', two points was given to the 'next best possible answer', one point was given to the 'third best possible answer', zero points was given to a neutral answer, etc., down

to minus three points being given to the ‘worst possible answer’. The organisation’s score for each statement then became an average of all respondents’ scores. An overall organisational survey response score could then be worked out as shown in Figure 23 below.

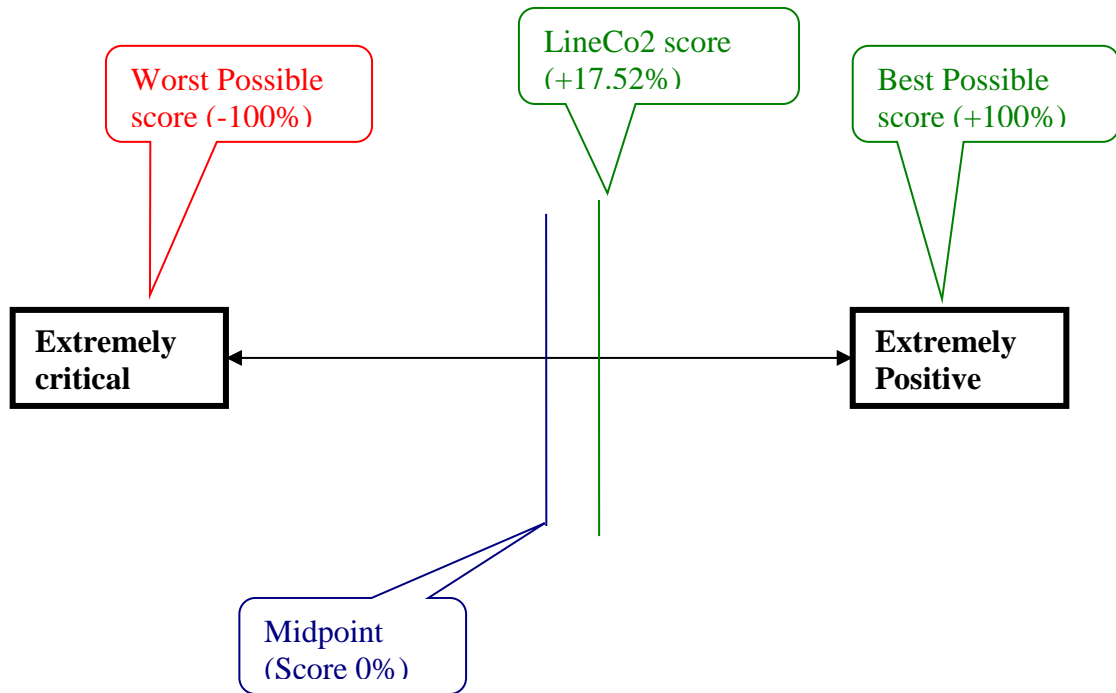


Figure 23: The mood of the organisation (LineCo2) from the survey results...Source: Author

Figure 23 above gives a graphical representation of the overall mood of the organisation from the survey responses. If all respondents had given the ‘best possible response’ to every statement, the overall result would have been +100% (extremely positive). Or if all respondents had given the ‘worst possible response’ to every statement on the questionnaire then the overall result would have been minus100% (extremely critical). LineCo2’s overall score was +17.52% which indicates a fairly positive mood.

Scoring each statement from -3 to +3 also allowed the LOQS team to identify the problem attributes (statements with the lowest scores) and positive attributes (statements with the highest scores) and select the outlier graphs for presentation back to the organisation for discussion.

The graphs selected for presentation are shown below.

**Positive attributes:**

The graphs below show areas from the survey where there was a clear positive consensus of opinion.

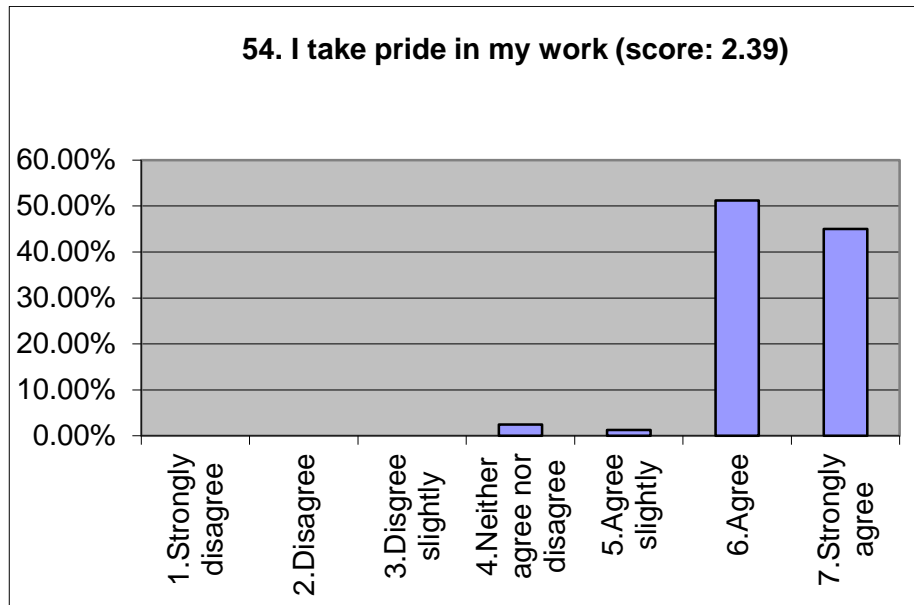


Figure 24: Graph showing LineCo2's overall survey results for question 54. Source: Author

Figure 24 clearly shows that employees at LineCo2 take great pride in their work. Survey responses show a high degree of consensus with over 90% of respondents agreeing with the statement.

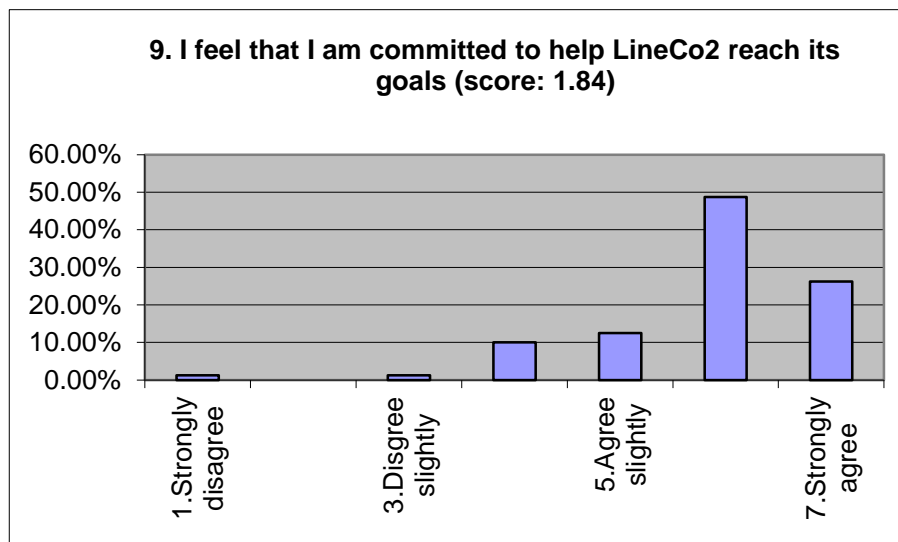


Figure 25: Graph showing LineCo2's overall survey results for question 9. Source: Author

Figure 25 shows that employees at LineCo2 feel committed to help the organisation reach its goals. Again, a very high degree of consensus can be observed with over 80% of respondents agreeing with the statement.

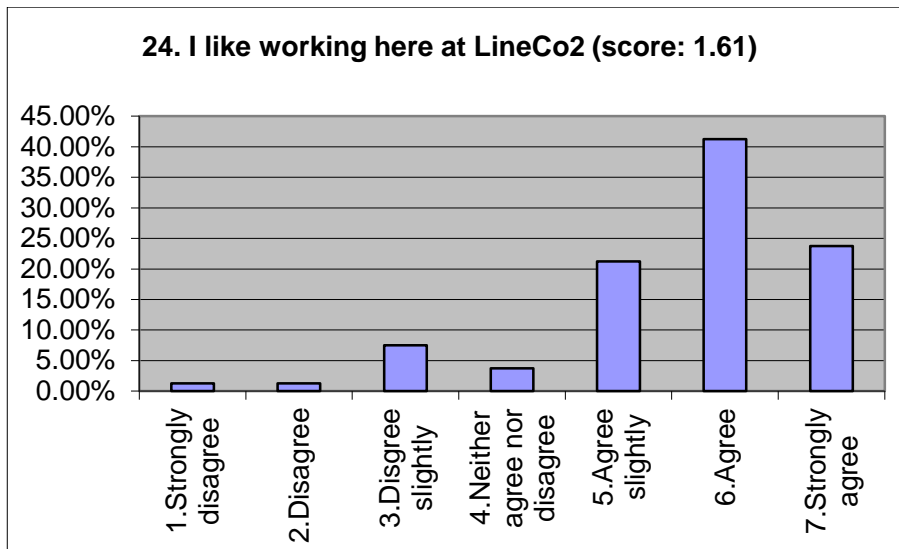


Figure 26: Graph showing LineCo2's overall survey results for question 24. Source: Author

The graph shown in Figure 26 indicates that very few employees felt that they did not like working at LineCo2.

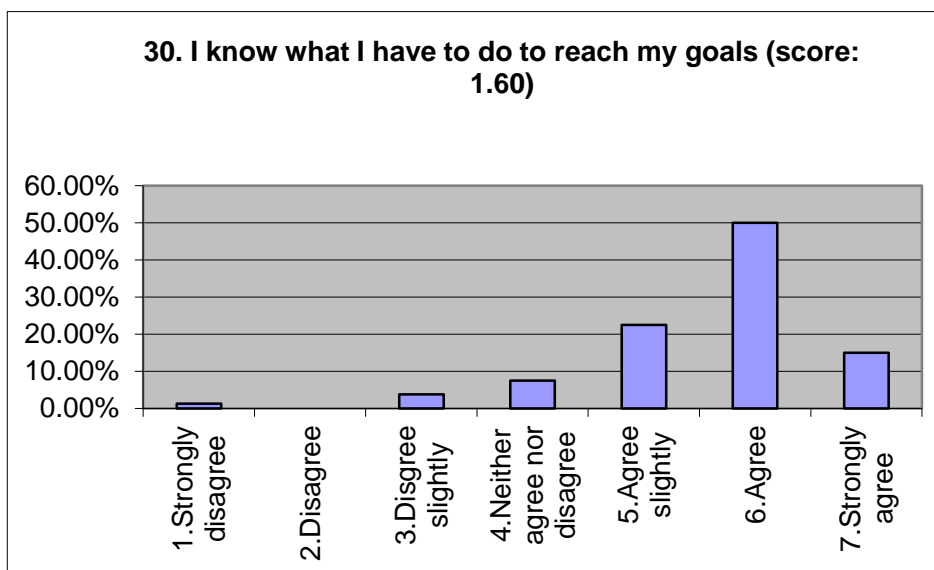


Figure 27: Graph showing LineCo2's overall survey results for question 30. Source: Author

Figure 27 shows that employees at LineCo2 know what they need to do to reach their goals.

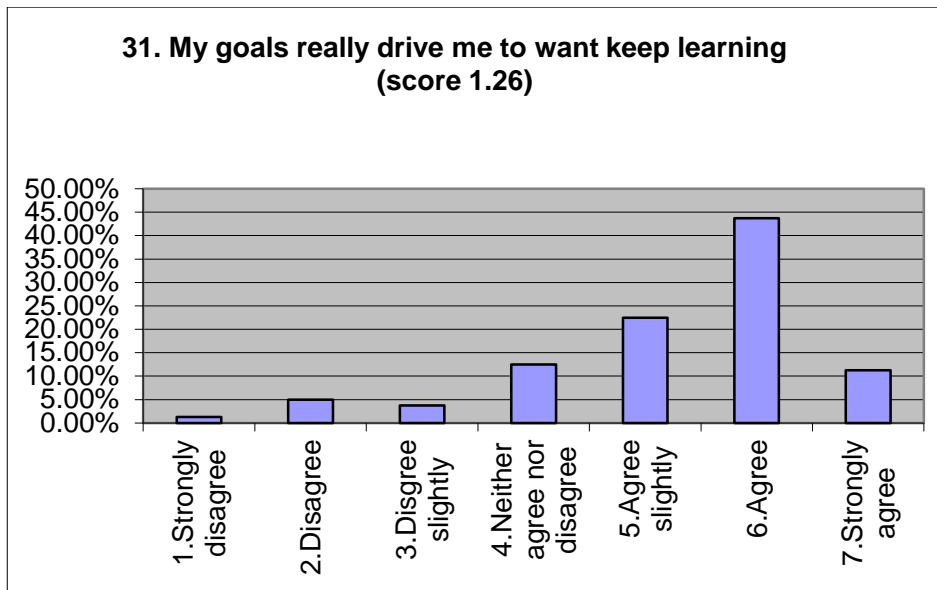


Figure 28: Graph showing LineCo2's overall survey results for question 31. Source: Author

The graph shown in Figure 28 reveals that employees at LineCo2 feel driven to want to keep on learning.

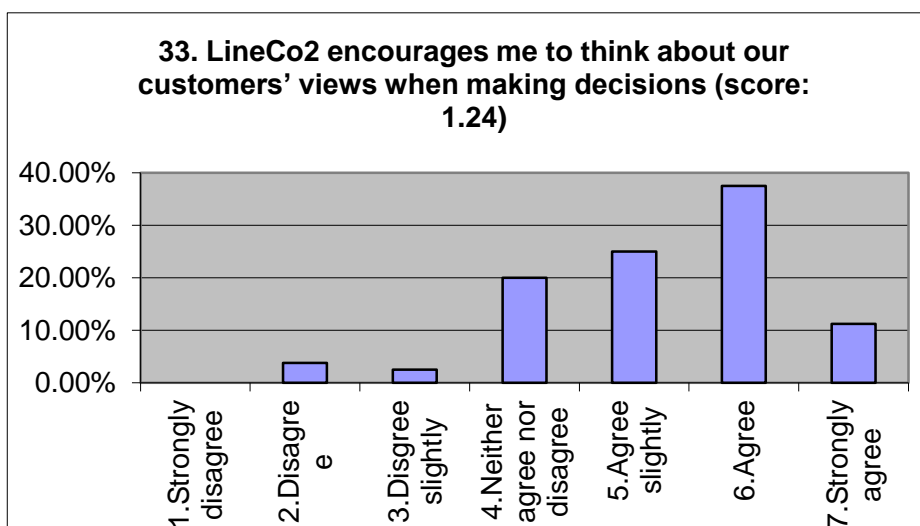


Figure 29: Graph showing LineCo2's overall survey results for question 33. Source: Author

The graph in Figure 29 shows that employees at LineCo2 are encouraged to be customer focused.

Other positive responses from the questionnaires were:

- LineCo2 likes people to take initiative – Score +1.03
- At LineCo2, people help each other to learn – Score +1.08
- We openly share our successes within LineCo2 – Score +0.98

### Negative attributes

The graphs below show areas from the survey where there was a clear negative consensus of opinion.

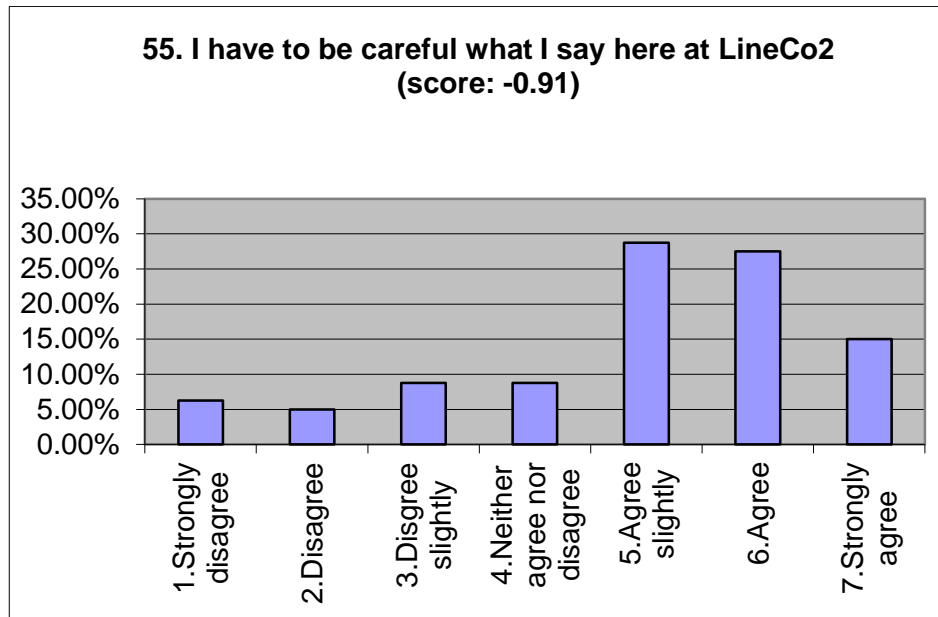


Figure 30: Graph showing LineCo2's overall survey results for question 55. Source: Author

The graph in Figure 30 shows that a 20% minority of employees at LineCo2 feel they must be a little guarded in what they can say.

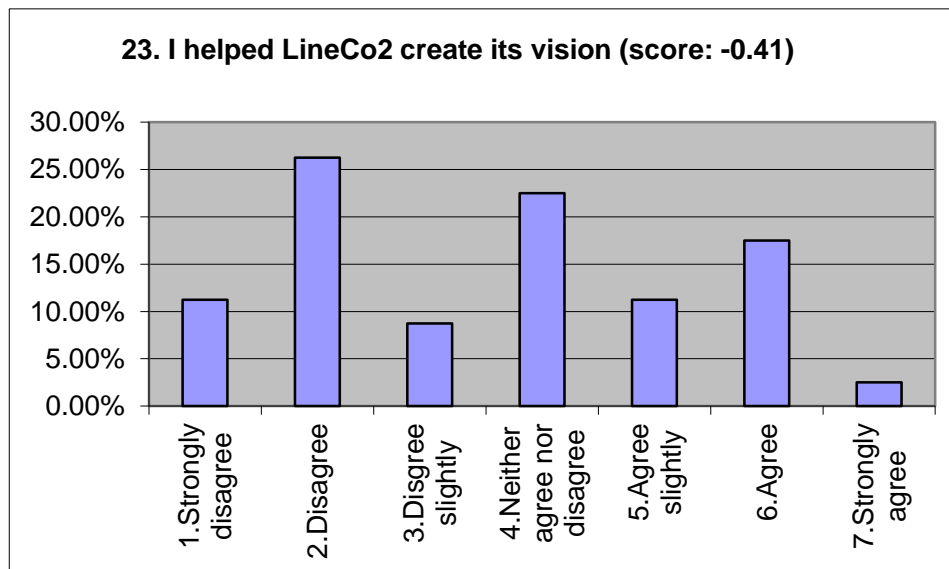


Figure 31: Graph showing LineCo2's overall survey results for question 23. Source: Author

Figure 31 indicates a wide range of opinion as to whether employees were involved in the creation of LineCo2's vision.

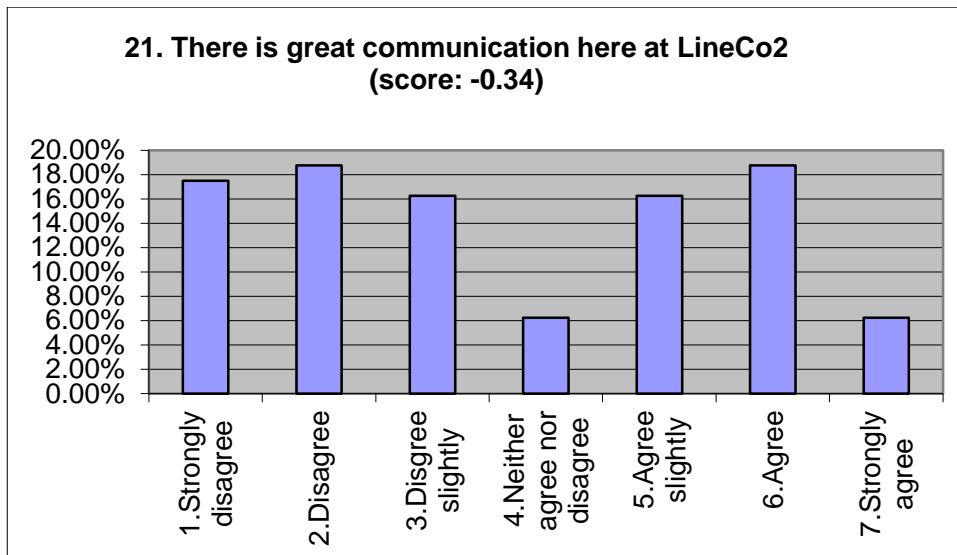


Figure 32: Graph showing LineCo2's overall survey results for question 21. Source: Author

This graph in Figure 32 shows mixed feelings as to how good communication is at LineCo2.

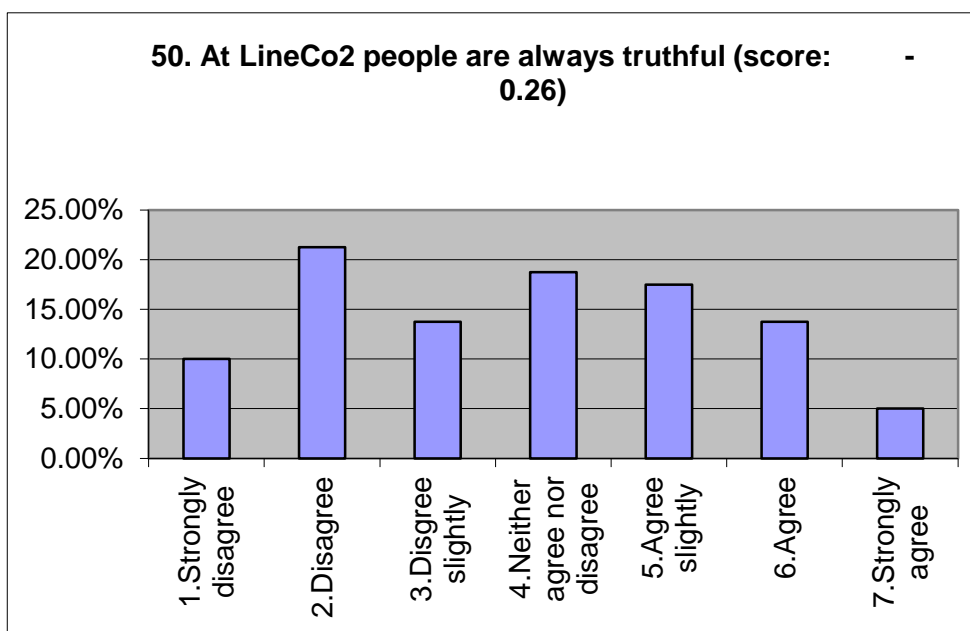


Figure 33: Graph showing LineCo2's overall survey results for question 50. Source: Author

The graph in Figure 33 shows mixed feelings as to how truthful employees are at LineCo2.

Only the first of the negative graphs showed any significant consensus of opinion. When looking at the last three graphs, there is no real consensus at all. The rest of the responses were similar (i.e. no consensus) but they mostly were weighted slightly towards the positive.

Once the data from the survey responses were collated and analysed, a lengthy brainstorming session was initiated. This brainstorming session attempted to triangulate all the data collected over the previous days in order to isolate and identify the major issues within the organisation. Once these major issues had been identified, the data was used to map cause and effect. The cause and effect diagram is a major feature of the QSAM and this diagram becomes the organisation's 'story', which is then used to spark discussion when feeding back to the organisation. It was hoped that this diagram would help to identify areas where interventions would yield the greatest leverage for change. These areas for change would also be fed back as suggestions to the organisation in the form of quick wins, medium term wins and long term wins. The brainstorm by the investigators resulted in the following cause and effect diagram for LineCo2 shown in Figure 34 below:



Figure 34: Cause and effect diagram for LineCo2. Source: Author

The major issue identified from the interviews and the informal chats was the tension between the field crew and the design team. Using the diagram above, the story around this issue can be told as follows: the lack of processes or forums to recognise and assess new ideas causes the upward flow of ideas, information and new knowledge to disappear. This, in turn, indicates poor knowledge management. The cost mind-set causes too detailed requirements for consumables in the job pack and, therefore, incorrect specification of small value items. Incorrect specification of small value items is also caused by insufficient pole information which, in turn, is caused by the reluctance to fill out the as-built forms. Incorrect specification of small value items and the reluctance to fill out the as-built forms both lead to a blaming attitude between

business units, which results in the poor knowledge management. The blaming attitude between units indicates the misuse of the AR (action required) process to have a dig at the design team which in turn leads to a culture polarisation and, hence, poor knowledge management. Poor knowledge management also results from a lack of learning capture from other organisations.

This ‘story,’ developed from the cause and effect diagram, was one of the major components of the feedback to the organisation which will be discussed further later on in this case study. It also led to the identification of the following suggestions to the organisation:

- Take consumables (e.g. bolts and electrical tape) out of the job pack. Relax the tight specifications and make them the responsibility of the field crews
- Leadership intervention to fix the relationship between field crews and design team
- Move design team into the field area to facilitate internal communication and team building
- Create/improve the process for the upward flow of ideas (slush fund)
- Improve the IS GIS capability (graphic pictures of each pole) to allow for direct input/query from line trucks

The challenge for the LOQS team was to come up with a way of using the check list to produce a learning organisation metric for each dimension that could be plotted on the pentagon. The LOQS team attempted this by listing each sub-attribute (LOQS activity) of each dimension and scoring them in the same way that the executive had scored themselves/LineCo2:

- 5 – Always
- 4 – Mostly
- 3 – Sometimes
- 2 – Seldom
- 1 – Never

Triangulating all the data collected from interviews, survey responses, informal chats, document analysis, observations and technology review, the LOQS team rigorously debated each sub-attribute before agreeing on a score for each. Once complete, an average of each score was calculated for each dimension and then plotted. The result of this exercise is shown in Figure 35 below.

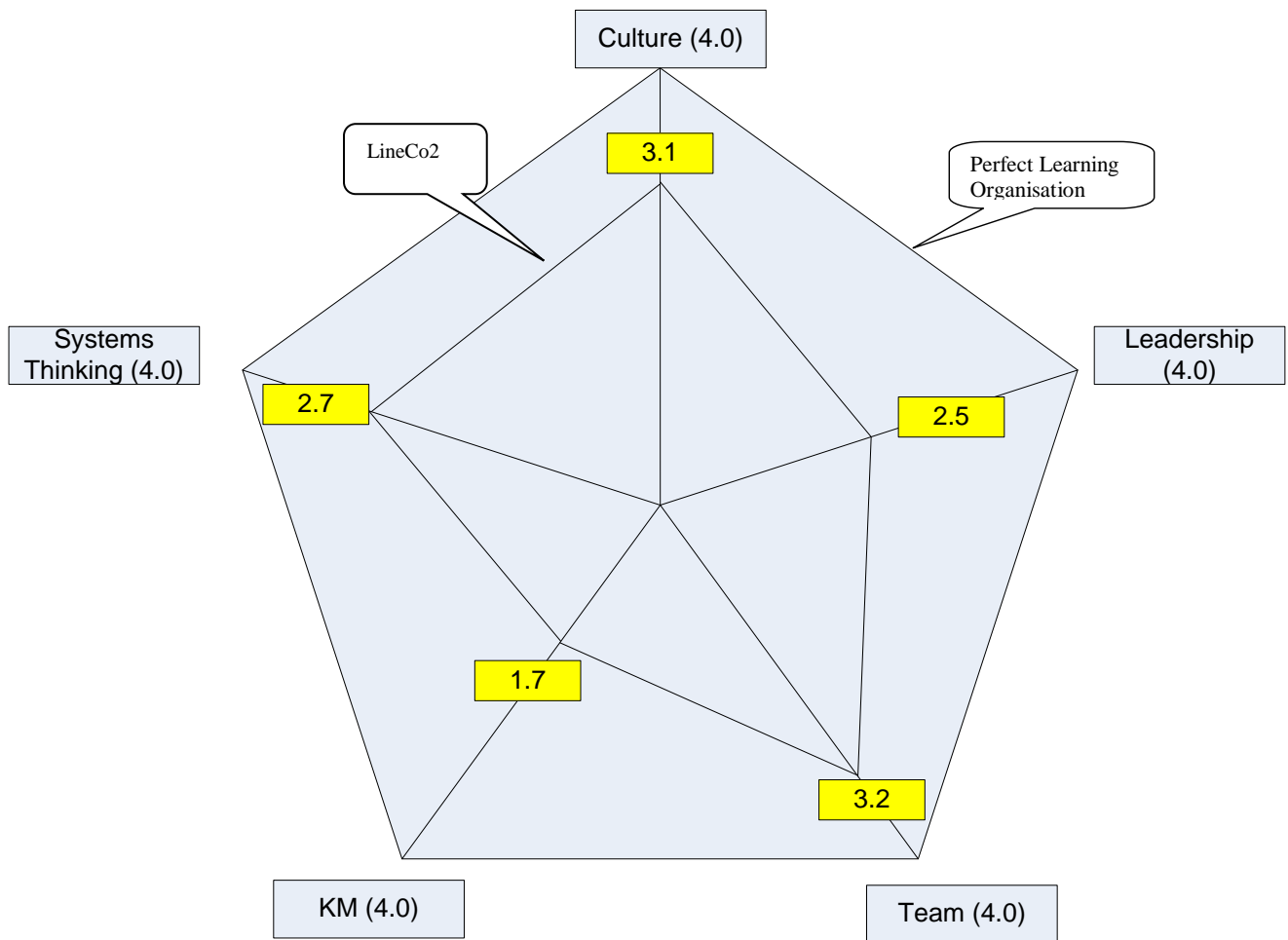


Figure 35: The LOQS Pentagon for LineCo2. Source: Author

The difference between this diagram and that produced for LineCo1 is the fact that scores were calculated directly from the gathered evidence. These scores were then plotted as shown in the above diagram. The evidence from the Quick Scan shows that LineCo2's strengths lay in its team work and culture. Its weakness lay in the area of knowledge management.

#### 4.3.5. Feedback to LineCo2

Feedback to the organisation took the form of a PowerPoint presentation scheduled for close of business on day-5 of the Quick Scan.

This time, there was only one presentation which was for the executive team.

The presentation to the team covered the following topics:

- A reminder of who the LOQS team were and what we hoped to achieve
- A reminder of what the LOQS team were looking for and how we gathered the data
- Results of the survey
- What the results meant
- The cause and effect diagram along with a thorough explanation

- The overall results of the investigation in terms of the learning organisation metric – the Pentagon
- An overview of suggested interventions

The presentation went smoothly and the only feedback received during the presentation took the form of constant nods from the audience. Finally, a list of questions was put to the executive team in order to elicit some useful feedback about the Quick Scan process from the perspective of LineCo2's executives. This feedback is summarised in Table 28 below:

Question	Response
How intrusive or disruptive did the organisation find this process?	LineCo2 did not find the process particularly intrusive at all but they did state that if the LOQS team had asked for more than a week of LineCo2's time, we would not have secured their participation.
How would they like to see it done differently?	The executive team would have liked to have seen how the survey responses differed between business units.
How could the survey be improved?	The executive team had no comments on this aspect of the study.
How did they find the interviews?	The executive team had no real comments about the interviews either.
Were the findings presented in the presentation accurate?	The executive team felt the issues presented were a true representation of LineCo2's current situation.
Did the LOQS team get it wrong anywhere?	The executive team did not feel that the LOQS team had got anything wrong. They did, however, feel that some of the attitudes exposed by the investigation had historical origins and may well be a hangover from the 'old ECNZ days.' What they were referring to was the days before privatisation of the electricity industry...ECNZ being the state run Electricity Corporation of New Zealand.
Were there things the LOQS team missed?	The executive team did not feel that the LOQS team had missed anything.
If so, how could these be addressed in future Quick Scans?	There were no comments in answer to this question.
How useful was the cause and effect analysis?	The executive team felt the cause and effect diagram was very useful. The CEO commented how all of a sudden he understood how the cost mind-set may have contributed to the tensions identified within the organisation.
How useful were the graphics?	The executive team had no real comments about the graphics.

How useful were the metrics presented?	The executive team had no comment on the metrics.
How useful was the advice given?	The executive team felt that the advice given would be relatively easy to implement and that they could see some direct benefits from doing so.
How useful was the process as a whole?	The executive team for LineCo2, as with LineCo1, would be very interested in seeing some benchmarks. They voiced an interest in the LOQS team returning to present some of those benchmarks once they had been compiled.
Would they recommend other lines companies to participate?	LineCo2 would most certainly recommend other lines companies to participate and would be prepared to actively help with references if needed.

Table 28: Feedback from the executive team at LineCo2 on the LOQS process. Source: Author

#### 4.3.6. Reflections on the LOQS at LineCo2

The following comments represent a list of lessons learned from reviewing the second case immediately after the final presentation to the second participant organisation. This list of lessons will initiate an investigation of changes required in preparation for the third case study.

An introductory presentation to employees is a major feature of the QSAM as it creates a buy-in amongst employees to participate. It is time consuming, however, and it is disruptive to the organisation to bring together all employees and take time away from normal operations. Not being convinced that the benefits outweighed the costs, the investigators were considering skipping the initial presentation when the CEO of LineCo2 voiced a strong preference to forego the initial presentation. Even though great effort was made to mitigate the downside of not having such a presentation – announcing the imminent start and explaining the purpose of the LOQS to the organisation through newsletters and the intranet – there was a drop in response rates from the survey questionnaire when comparing LineCo1 with LineCo2.

Nothing else seemed to be affected. There was no reluctance on the part of any employees to talk to investigators, employees still went out of their way to be helpful and no objections were raised by anybody about being observed. There were too many other possible confounding factors to draw the conclusion that the initial presentation would be vital in future LOQS audits, e.g., LineCo2 was significantly bigger in terms of employee numbers, geographical region size, numbers of customers. It may well be the case that LineCo2's employees were much busier. Another factor could have been the fact that both the management and the employees of LineCo1 felt that all was not well with their organisation and both sides wanted an external party to talk to. The decision was made to continue to forego the initial and final presentations to the workforce, and limit presentations to the executive team.

The structured interview plan, the accompanying forms and the self-scoring element worked well. Due to unfamiliarity with the forms, the other investigators reported that

the plans were difficult to stick to. What could be trialled for the next case may be a mixture of a cut down set of statements and a planned preparation session prior to the next Quick Scan so that the other LOQS team members have the opportunity to familiarise themselves with the forms. The other members of the LOQS team also expressed the desire to have a better interview plan for employees, similar to those used for the executive team. As a result of this feedback, it was deemed prudent develop similar interview plan forms for employees, also utilising a self-scoring element. Both sets of future interview forms will be better aligned to the final checklist. Furthermore, the feedback from the other investigators indicated a need for a more scripted introduction to give to interviewees at the beginning of the interview. It was clear from the investigators that even though great effort was made by LineCo2 to introduce and explain the LOQS, many participants turned up to interviews without knowing why or what the LOQS was about. Scheduling time for the LOQS team to talk in between interviews and reflect upon the information gathered also worked well. But nobody took notes during these chats and these meetings were not recorded. This needs to be addressed for the next Quick Scan because remembering what was said during these meetings while, at the same time absorbing so much information from the LOQS, proved to be too challenging.

The survey questionnaire still needs significant refinement. Very little effort had been made to align questions to the final checklist and, at times, it was hard to connect a response against a learning organisation dimension. Feedback from the organisation indicated that it would be useful to ask the respondent to identify which business area they work in (i.e., management, office staff or field crew). This will allow the LOQS team to gauge the variation in the mood of the organisation across business units. It may also be useful to ask respondents to indicate how long they have worked with the organisation so that the mood of new employees, medium-term employees and 'old timers' can be analysed. This may impact upon employees' willingness to participate in the survey as this information could, potentially, increase the identifiability of respondents. This needs some reflection before a decision is made for the next Quick Scan.

Targeting people to talk to from data collected at the interviews worked well. This strategy revealed information that could not have been gathered any other way. This strategy must be carried over for the next Quick Scan.

The document analysis for LineCo2 was very revealing and was used to much better effect in this case study. For this Quick Scan, the document analysis was used to corroborate information given at the management team interviews. But what is still missing is some research on what documentation a learning organisation should be expected to have. Nothing seems to exist in published literature and it may become necessary to brainstorm an answer to the question: what documentation should a learning organisation be expected to have and make use of?

Having two investigators going together onto a field site in order to observe worked better than each observing different sites because discussions could take place during observation and having two different perspectives gave what seemed to be a richer interpretation. But one field observation was not enough. Being accompanied on site by a member of the management team should not be repeated on future LOQS audits as the field workers seemed a little more guarded than expected and it seems likely that

behaviours observed were not a true reflection of what may have been observed had another employee been the guide.

It is too early at the conclusion of the second Quick Scan to start developing benchmarks of scores or measures. What can be developed, however, is a collection of good practices that can be used as recommendations in future LOQS executive team feedback sessions. The visual representation of the LineCo1's vision would have been a good example of a good practise had there been a genuine attempt to develop it as a shared vision, but this was not the case. In LineCo2, however, the following good practices were observed and noted as future examples:

- Sharing budgeted money not spent on vehicle maintenance
- Seconding employees from the field crew to the design team
- Creating a schedule of competencies
- The documentation of employee aspirations
- Fruit days
- Employee assistance programmes
- Cross functional ideas forums
- Branching out into other areas of business to add value to the organisation

There is a lot more work to be done in this area.

The method employed for analysing survey responses and the triangulation of data to develop the cause and effect diagrams worked well. But at the end of the second LOQS, there still was no workable method for translating the data collected into scores for each dimension. Developing the activities, dimensional sub-attributes of a LO seemed to be a big step in the right direction but using this data to set scores against the final checklist did not work as expected. This process took far too long and the setting of these scores still seemed to be far too subjective, requiring too much debate. A better method of using dimensional attributes needs to be developed and, perhaps, a method of scoring as the LOQS unfolds must be developed.

The main challenge remains to come up with a system of scoring that is independent of the researchers involved. More thinking, more research, possibly more mathematics needs to take place before this objective is realised.

#### **4.4. The third case – LineCo3**

LineCo3 owns, manages and operates a distribution network in a largely rural area south of a main NZ city, covering an area of approximately 2,220 km<sup>2</sup>. The number of retailer customers served by the network is approximately 35,730, the maximum coincident system demand approximately 95 MW and annual delivered energy after losses, 458 GWh. Electricity assets owned by LineCo3 consist of all network equipment involved in the distribution of electricity to end users, including approximately 2,970 km of lines and cables, 9 major zone substations, more than 3,300 distribution substations and all associated control, communications, ancillary and protection equipment. LineCo3 Ltd is owned by the LineCo3 Consumer Trust. The Trust holds the shares on behalf of the consumers who are the beneficiaries. The management of the company report to a Board of Directors that is appointed by the Trust.

Unlike the two previous organisations that participated in this Learning Organisation Quick Scan study, LineCo3 is split and has diversified into a number of separate business units.

The Network - the main network includes the operation and maintenance of the electricity network. LineCo3 claims to be one of the fastest growing and most reliable electricity networks in New Zealand.

Construction - LineCo3 construction is the contracting division of LineCo3 and is responsible for completing major capital works for electricity network utilities. Capital works projects have been carried out on time and on budget throughout their catchment area. With some districts experiencing rapid growth, the LineCo3 construction team has developed close relations with developers with the aim of being able to offer cost effective LineCo3-managed programmes to reticulate subdivisions. Construction also offers individuals building single homes or adding outbuildings the same services and expertise. LineCo3 construction also deliver 'state-of-the-art' telecommunications infrastructure.

The workshop - an important division of LineCo3 is a successful fabrication and automotive business operating under the name of 'the workshop'. Originally set up to manage the fleet, and build equipment for LineCo3, the workshop now also serves the public and businesses within the local district. The automotive section has mechanics specialising in truck and diesel as well as automotive repair and maintenance. The workshop offers services including anything from warrants of fitness for private vehicles to fleet maintenance packages operated on behalf of some of the area's businesses. The fabrication section of the workshop also specialises in customised ute (utility vehicle) and trailer body manufacture. The workshop operates a mobile service that deals with car repairs and offers fabrication for such things as farm equipment repairs.

Fibre optic cable network - LineCo3 provides a fibre optic network serving the local areas, with connections through to other fibre networks. This offers the opportunity for customers in the area with serious data or communication requirements to connect to a network capable of operating at speeds of up to 1000 Mbps for both sending and receiving data. LineCo3 provides its expertise at owning and operating critical infrastructure. Services that use the network are provided by a number of different retailers.

Hearing relay - LineCo3 runs and operates a hearing relay, providing free services enabling deaf, hard of hearing and speech impaired communities to use the telephone. These services are split into the following:

- **TTY to Voice or Voice to TTY** - A TTY user dials a toll-free number to the hearing relay and types his/her conversation to a relay assistant (RA) who then reads the typed message to a Voice User (hearing person). The RA relays the hearing person's spoken words by typing them back to the text phone (TTY) User.
- **Voice Carry Over** - The Voice Carry-Over (VCO) allows deaf or hearing-impaired people who prefer to use their own voice to speak directly to the party they are calling. The RA will type the voice responses back to the VCO user who reads the typed message on the TTY screen.
- **Hearing Carry Over** - The Hearing Carry-Over (HCO) allows people who are speech impaired to use their hearing abilities to listen directly to the standard phone user. The RA voices the typed responses from the HCO user to the hearing person, who then speaks directly to the HCO user without RA interaction.
- **Speech to Speech** - Speech-To-Speech (STS) allows a person with speech impairments to have support when using the telephone to ensure clear understanding. A specially trained relay assistant (RA) will listen and will repeat as needed the speech impaired person's conversation to the standard phone user.

LineCo3's headquarters employs about 130 staff.

The engagement of LineCo3 as a participant in this research study was achieved through a cold call process which started with an e-mail to the CEO of the organisation. The initial e-mail included a brief introduction of the aims of the study and a brief introduction of the individual LOQS team members. The e-mail concluded with a request for an appointment in order to give the LOQS team an opportunity to explain the study in more detail. A follow up call to the CEO of LineCo3 was made a couple of days later. This was a brief call where author repeated the aims of the study. The CEO had heard of the study and agreed to participate immediately. An appointment was made for two members of the investigation team to meet with the CEO to go through the details of what the LOQS team required of LineCo3.

As with LineCo2, the CEO made it clear that LineCo3 was not interested in an introductory presentation or a feedback presentation to the workforce, as he considered these presentations had the potential to be far too disruptive to the organisation. Any presentations would have to be limited to the executive team.

#### **4.4.1. Changes to the LOQS and preparation for Case 3**

The two-pronged approach to the Quick Scan, developed prior to Case 2 was retained. The first prong involved identifying attributes about the target organisation that could be used as evidence to grade them on a 'learning organisation continuum'. The second prong involved identifying issues that represent 'barriers to learning'.

The idea of splitting each of the five dimensions' attributes into sets of activities was considered a success based on experiences gained from Case 2. What did not work well

was transferring scores across to the final checklist. This process took too long with far too much argument over what the activities actually meant and the degree to which the participant organisation actually accomplished an activity. The major issue was that there was still far too much subjectivity in setting a score for each activity and the main challenge remained of devising a system of scoring that is independent of the researchers involved. As part of the strategy to reduce the time needed to populate the final checklist, the list of activities (sub-attributes) was refined, clarified and rationalised down into a manageable list. Furthermore, mini-checklists were created for each of the information gathering phases:

- Survey checklist
- Management interview checklist
- Employee interview checklist
- Document analysis checklist
- Meeting observation checklist
- Field observation checklist

These checklists contained lists of activities that could then be scored when collating and analysing information gained from each of the individual information gathering techniques. To some degree, it was hoped that these mini-checklists could be (at least partially) populated as the investigation proceeded and/or at the various investigator meetings and at the end of each day. Only activities that could be examined using data from the relevant information gathering techniques were included in the mini-checklists. These attributes could then be scored from 1- 5 as follows:

- 5 – Always
- 4 – Usually
- 3 – Sometimes
- 2 – Seldom
- 1 - Never

An example of part of one of these checklists is shown in Table 29 below. The complete checklist can be seen in Appendix 7b – Management interview mini-checklist at the back of this thesis.

Attribute	Evidence exists	Comments
Recruitment is preceded by an investigation of how the position could be filled internally		
Recruitment is preceded by an analysis of the knowledge needs of the organisation		
Recruitment is preceded by analysis either to determine the type of person needed to fit in, or to encourage a desired change in the organisation's culture		
Potential candidates assessed on their ability to learn		
Potential candidates are assessed on their willingness to change and adapt		
Candidate assessment methods are grounded in researched best practices		
The organisation has a system of protean contracts that evolve as employees develop		
Learning pathways (plans) are in place for each organisational member		

Table 29: The management interview checklist as developed for LineCo3. Source: Author

Of course, a sub-attribute could appear in one or more of these checklists, which would then facilitate the triangulation of data when it came to the final part of the analysis phase. In some cases, such as with the two observations checklists, the actual checklists became the plan of what the LOQS team were hoping to see and could be filled out either during or after the observation. The same was true of the document analysis checklist, which could be filled in as evidence for an attribute was identified in the organisations documentation. In the cases of the two interview checklists, these checklists guided the construction of the interview plans. The checklists would be filled out when all the interviews were complete and, sometimes, partially filled in between interviews. The survey analysis checklist could only be filled out when the analysis of the survey responses was complete. The checklist also helped in rearranging and rewording some of the survey questions so that the survey could be totally aligned with the final checklist. In fact, all data gathering plans were now completely aligned with the final checklist, which was one of the problems identified from Case 2.

Survey questions were re-arranged slightly, some of the wordings of the questions were changed and a slight rationalisation of the number of questions occurred in preparation for Case 3. An instructions and information to participants section was added and each participant was asked to identify which business unit they worked for. They were also asked to state how long they had been with the organisation. It was hoped that asking for this additional information would not further reduce the response rate by making participants feel that they could be more easily identified from the way they answered.

One of the issues identified from the previous Quick Scan in Case 2 was the fact that because there was no introductory presentation to the workforce, the LOQS team could not assume that each interviewee knew what the study was about prior to turning up to the interview, which is why a detailed document was produced for the LOQS team instructing them exactly how to introduce themselves (and the study) to interviewees at the start of the interview. This documentation functioned not only to ensure that all investigators conducted interviews and informal chats in the same way, but also to make it easier to add a fourth investigator to the team should that become necessary in the future. The interview forms were given to investigators well in advance of the third case in order for them to become totally familiar with the processes from the start. For both the structured interviews and informal chats, investigators were reminded to leave 10-minutes at the end of each interview to record their reflections. Investigator meetings were scheduled as often as possible so that any new key information could be shared as soon as possible.

One of the successes of the previous LOQS was the more structured approach to interviewing the executive team by constructing a very detailed interview plan which would not be deviated from. 15 statements would be read out, one at a time. As before, the interviewees would then be asked to score themselves (or the organisation) on the statement read to them. The scoring options remained the same and were as follows:

- 5 – Always
- 4 – Usually
- 3 – Sometimes
- 2 – Seldom
- 1 – Never

The interviewee would then be asked to justify the score by recounting evidence of activities carried out by the organisation. There would then be a number of probing questions relating to the initial statement which would be asked. This process would then be repeated for the next statement, and so on. For this iteration of the LOQS, the same format would be used again, with some minor modifications to the statements. Additional probing questions were added to the interview form.

A similar style of interview plan was developed for employees, due to the success of the executive interview plan at the previous LOQS and as a result of feedback from LOQS team, who found it difficult improvising employee interviews. Different sets of statements were used for this interview plan and were derived from the employee interview checklist. Probing question options were also made relevant for employees. Employees chosen to be interviewed would also be asked to score the organisation in much the same way that the executive team were:

- 5 – Always
- 4 – Usually
- 3 – Sometimes
- 2 – Seldom
- 1 – Never

These interviewees would also be asked to justify the score by recounting evidence of activities carried out by the organisation. An example of part of the newly developed employee interview plan is shown in Table 30 below:

<b>1. Rate:</b> There is a culture of trust and respect here at LineCo3.	<b>Score:</b>
<b>Expand:</b>	
<b>Probe:</b> <ul style="list-style-type: none"> <li>a) Would you say that LineCo3 has a no-blame culture?</li> <li>b) Do you feel that LineCo3 promotes a life-style balance?</li> <li>c) Is it stressful working here at LineCo3?</li> <li>d) Do you feel that LineCo3 attends to issues of care and concern?</li> <li>e) Are there lots of perks on offer when working at LineCo3? What are they?</li> </ul>	
<b>2. Rate:</b> LineCo3 has a command and control structure.	<b>Score:</b>
<b>Expand:</b>	
<b>Probe:</b> <ul style="list-style-type: none"> <li>a) Do you feel that there is a culture of openness and transparency in decisions made by management?</li> <li>b) Do you feel that you are able to voice an opinion without fear of retribution?</li> <li>c) Do you feel that LineCo3 has a tolerance of mistakes, that mistakes are regarded as an opportunity for learning and not something that should be punished?</li> <li>d) Do you feel that LineCo3 has a tolerance of experimentation: do you feel that you can try new things out or different ways of doing things?</li> <li>e) Are successes openly shared here at LineCo3?</li> <li>f) Are failures openly shared here?</li> <li>g) Do you feel that managers are accessible here at LineCo3?</li> <li>h) Do you feel that managers are visible here at LineCo3?</li> <li>i) Do you ever get to see them out in the field?</li> <li>j) Do you feel that LineCo3 encourages you to take initiative?</li> <li>k) Do you feel that you are able to make your own decisions at work?</li> </ul>	

Table 30: Example of part of the interview plan form incorporating an element of self-scoring developed for LineCo3. Source: Author

The number of statements used for employee interviews was less but with more probing question options in order to retain some ability to improvise the interview. It is important to note that this method of interviewing was designed only to elicit evidence

of learning organisation attributes. Informal chats would be the device for finding barriers to learning existing within the target organisation.

As stated previously the strategy for gathering data from informal chats would be exactly the same as carried out during the LineCo2 Quick Scan. They would not be simply random chats with people that the investigator team happened to bump into but would be aimed at specifically targeted people identified through the formal interview process. Regular investigator team meetings would ensure that the same people were not targeted for informal chats twice (by more than one investigator).

Producing observation mini-checklists did help to clarify the sorts of data that were expected from observations. Observing people at work in the field (if applicable to that industry) would, in some cases, be more of a help for an investigator to gain a greater understanding of the industry in question than to gather specific data for the LOQS audit. It must be remembered that field crews in the Electricity Lines Industry are responsible for covering very large areas. For a LOQS audit, it is only feasible to schedule observation visits of teams that happen to be working at a site not too far from the organisation's head office. Depending on the scale of the job, teams could range in size from a single fault-man to several large teams of line mechanics and/or cable jointers and could even be operating in cooperation with other teams of workers from other industries, such as traffic management teams or roading teams, building teams, arborist teams etc. Each possible scenario would give investigators various opportunities to gather different types of observation data and, therefore, a large element of luck would determine the richness of data gathered from observations. Observations could function as an opportunity to see team members or teams interacting together, or they could just be a variety of informal chats with field workers in an environment away from that of their own headquarters. It was deemed vital, however, that observations be carried out without a manager present so as to reduce the risk of observing behaviour modified because a manager was present. Also, not having a manager present would result in more candid chats with field crew members. Having two observers present at observations worked well in the previous LOQS, as it enabled discussions to occur between the observers, and helped to keep a good flow of questions during the chats with the field crew in action. Also, it was felt that a lot was gained from meeting observations at LineCo2 and it was hoped that more than one meeting could be observed at LineCo3.

The plan for document analysis would remain unchanged for this case study. As in the LineCo2 case study, the documents we wished to analyse at LineCo3 were as follows.

<b>Organisational documents</b>	<b>Explanation</b>
Policies and procedures	Policies and procedures would be examined in order to get a glimpse of the organisational memory of the organisation.
Training, personal and professional development documentation	Training, personal and professional development plans documentation would be examined in order to get an idea of the degree to which targeted employee development and learning is institutionalised within the organisation.

Newsletters	Newsletters would be examined in order to understand the sorts of information communicated to the stakeholders of the organisation and also to gain an insight into the culture of the organisation.
Annual reports	Annual reports would be looked at to further understand information reported to stakeholders.
Examples of periodic employee reviews	Periodic employee reviews would be examined to understand the nature of performance assessments and how they were made within the organisation as well as to gain an understanding of the nature of targets for individuals and how they were set.
Mission, vision and values statements	Mission, vision and values statements would be examined in order to understand the drivers behind the organisation culture, leadership and strategy.

**Table 31: Document analysis plan for LineCo3. Source: Author**

In contrast with LineCo1, the documentation at LineCo2 really did give triangulating support for what was said at the management interviews and document analysis revealed some very useful evidence of initiatives underway, especially in the area of HR. The results of document analysis at LineCo2 led to the addition of two more LO dimensional activities to the document analysis check list:

- The organisation uses and maintains a schedule of competencies within the organisation.
- The organisation uses and maintains a schedule of employee goals and aspirations.

The above examples show how the LOQS as a measurement system continued to develop with each iteration.

The plan for the technology assessment would remain unchanged for this case study. Again, the aim of the technology assessment would be to assess whether any form of knowledge management is undertaken by the organisation. The researcher would also endeavour to ascertain whether practice fields in the form of simulators are used by the organisation for learning. The last part of this investigation would be to assess the extent to which information systems facilitate the free flow of information in and around the organisation and how information is analysed and used to inform decision making and planning.

#### **4.4.2. Planned Timetable for Case 3**

The time table agreed between the LOQS team and LineCo3 for the third case study follows.

As there would not be an introductory presentation to the workforce at LineCo3, it was important to ensure that everything possible would be done to fully inform and forewarn employees at LineCo3 that a LOQS audit test was imminent, that it was to be part of a research investigation and to outline exactly what was required (or hoped for) of participants. The HR Manager at LineCo3 made the commitment to inform all the managers who in turn would inform all those reporting to them. Both LineCo2 and LineCo3 were significantly bigger organisations than LineCo1 and the CEOs of these

two organisations felt that an introductory meeting with all employees would be too difficult to arrange logistically and would be too disruptive for the organisations.

The onsite coordinator appointed by LineCo3 was to be the HR manager himself. His role for the Quick Scan would be to schedule the interviews; select interviewees to replace those that were randomly selected but would not be able to make it; schedule the field visits and the meeting observations; book the office space that the LOQS team would need and locate all the documents that we wished to analyse. As in the previous case study, he would also be responsible for distributing the survey questionnaires to all employees on the first day and to collect them at the end of the last on-site day.

In the previous two Quick Scans, the entire LOQS process took place in the space of a week, day 1 being on the Monday and day 5 being on the Friday. Due to other prior commitments that some of the LOQS team had made, the Quick Scan schedule was amended slightly to look as follows:

- Day 1 – Monday
- Day 2 – Wednesday
- Day 3 – Friday
- Day 4 – Saturday
- Day 5 – the following Monday

The site orientation was planned for early in the morning of day1. Investigators would be issued with loan protective gear including fluorescent high visibility vests and hard hats. No safety briefing was planned as LineCo3 decided that investigators would be accompanied by a LineCo3 employee on field observations. Again, the two observers would not visit separate sites but would visit all the sites together. The meeting with the executive team was scheduled to take place between 9:00 AM and 10:00 AM. Interviews with each of the executive team members were scheduled for the rest of the morning. Interviews with randomly selected LineCo3 employees were scheduled for the rest of the day.

Interviews with selected LineCo3 employees would spill over the first part of the morning of day 2. The rest of the day was scheduled to include the site visits (field observations), informal chats and document analysis.

Day 3 and 4 would be spent back at the University for the off-site analysis of the data. As in the previous case study, this would begin by collating and analysing the data gained from the survey responses. Following that, the rest of the LOQS team would meet to triangulate the data and fill in the remaining parts of the LOQS checklist. Once the checklist was complete, it was hoped that scores for each dimension could be developed and plotted on the learning organisation pentagon. The last part of the analysis would involve collating the themes (barriers to learning) and composing the cause and effect diagram. From this diagram, a list of recommended interventions could be compiled, again grouped into short-term wins, medium-term wins and long-term wins. Once that analysis of the data was completed as described above, the findings would then be collated into a final PowerPoint presentation to be delivered back to the organisation.

The plan, at this stage, was that the morning of day 5 would be spent putting the final touches to the final presentation. The LOQS team would then deliver the presentation to the executive team. The envisaged format of these presentations would not really be any different from the two previous presentations and is outlined in Table 32 below.

<b>Presentation part</b>	<b>Explanation</b>
Introduction	The introduction would comprise a recap of why the LOQS team was there (what the research was about), and what we hoped to achieve; a reminder of how the data was gathered and an explanation of how the data was analysed.
Highlights from the survey responses and interviews	Only responses that indicated clear organisational consensus or those that indicated clear organisation division would be presented along with an explanation of the implications of these responses. Results from the interviews would also be used here to give greater richness to the findings and to give some sort of explanation of why respondents felt the way they did in the form of concrete examples. Once again, the presentation would include the graphic that would show the mood of the organisation.
Introducing the identified barriers to learning	Barriers to learning would be developed from the triangulation of all data collection methods.
Cause and effect	This is where the themes mentioned above would be shown in a cause and effect diagram which the LOQS team would run through in detail.
Learning Organisation pentagon	It was hoped that this metric would show the difference between the “Perfect Learning Organisation” along with where on the chart LineCo3 as an organisation lay and an explanation as to why this was the case.
Recommendations to the organisation	Using the cause and effect diagram, the LOQS team would show where the leverage points for change lay. These leverage points would lead on to recommendations for change along with proposals how these changes may be achieved.
Questions and answers	This is where the executive team would finally have the opportunity to pose their questions to the LOQS team who would, hopefully, be in a position to answer those questions. It was envisaged that this would be a very important part of the actual research as it was entirely possible that members of the executive team may have insights into the data that the LOQS team may have missed and these insights may be useful for subsequent case studies.

**Table 32: Envisaged final presentation plan for LineCo3. Source: Author**

As with the previous case study, the executive team would give feedback to the LOQS team as to how they have experienced the Learning Organisation Quick Scan process. This feedback would be used to modify the Quick Scan process for the next case study and the information we wanted would be unchanged:

- How intrusive or disruptive did the organisation find this process?
- How would they like to see it done differently?
- How could the survey be improved?
- How did they find the interviews?
- Were the findings presented in the presentation accurate?
- Did the LOQS team get it wrong anywhere?
- Were there things the LOQS team missed?
- If so, how could these be addressed in future Quick Scans?
- How useful was the cause and effect analysis?
- How useful were the graphics?
- How useful were the metrics presented?
- How useful was the advice given?
- How useful was the process as a whole?
- Would they recommend other lines companies to participate?

#### **4.4.3. What the LOQS revealed about LineCo3**

This research methodology utilises an iterative multiple case study methodology. As in the previous two cases, this section will present the findings as they were originally understood at the time of this particular LOQS iteration.

The site orientation of LineCo3 occurred early in the morning of day 1 prior to the meeting scheduled with the executive team. The investigators were guided by the Human Resources manager who led the LOQS team around the newly refurbished LineCo3 headquarters, located in the centre of the local town. The organisation had only just moved into a refurbished extension of the building and all known hazards were pointed out to the LOQS team during the tour. In contrast with LineCo1 and LineCo2, requirements for wearing personal protective equipment around the depot were a little more relaxed and the LOQS team were not required to wear hard hats or high visibility vests while wandering around the headquarters, as long as ‘common sense’ prevailed.

The extension to the main building formed the new entrance to the organisation’s headquarters. Empty prefabricated huts that housed the executive team during the refurbishments were still located in front of the main entrance (hiding the main entrance from the street) and had not yet been removed. The extension/entrance was a two storey building with the executive team offices located on the first floor. The ground floor housed the main reception (the customer care team), conference rooms and other offices, as well as a large IT room where the knowledge services team were located. The hearing relay team (also part of the customer care team) were also located in the ground floor not far from the main reception. A long extension then opened up into the long corridor of the old building off which was the main lunch room which contained a fully licensed bar. More offices were located further down the corridor where the finance team were located. The corridor then opened up into stores and rooms housing the planning team (known as business development), the construction team and the network team. Across a small courtyard another building housed ‘the workshop’ which contained an engineering team and a mechanical team. The workshop was the name given to LineCo3’s automotive repairs and maintenance teams.

The initial meeting took place at the start of day 1 of the Quick Scan where the LOQS team introduced themselves and gave the executive team an outline of the reasons for and the aims of the study. All the administrative and organisational details were finalised at the same time. The executive team had no questions to ask of the LOQS team so the investigators ended the meeting by asking for an outline of any pain points within the organisation that the executive team wanted investigators to know about. In reply to this, the CEO stated that there were no pain points within the organisation as LineCo3 was not in pain.

As with the previous LOQS, a very structured set of interview questions for the executive team was used and the following is a set of themes developed from these structured questions split into 14 different areas:

- ***Selective recruitment***

Up until very recently, there had been some quite acute skilled staff shortages within the industry, so no real selective recruitment took place and, like other line companies, LineCo3 would take on anybody “who appeared to be breathing”. Due to the recession, LineCo3 has been able to pick and choose a little and this has begun to make a difference. LineCo3 had no structured approach to assess potential new recruits within the organisation any methods that might be used would vary from business unit to business unit.

- ***Maximising retention***

The CEO stated that he tried to see things from an industry perspective and retention within the industry is high. He said that LineCo3 is over-represented in the industry when it comes to training and he felt that LineCo3 trains people for the industry and not just for the organisation. At LineCo3, they only try actively to keep those people they want to keep. The HR manager explained that until very recently, the organisation had always had a high staff turn-over of about 17% - 20%. The attitude seemed to be that LineCo3 did not actively strive to maximise retention; ‘it just seems to take care of itself’.

There were mixed opinions on whether there is a culture of trust and respect at LineCo3. Some managers said it was lacking; some said that it was improving; some said there seemed to be a problem with honesty within the organisation. One of the managers explained that there were issues around trust that stem from LineCo3 having problems delivering on commitments that it makes. Career paths are in place for some people but not for everybody. One manager stated that career paths are put in place for those that want one, but another explained that LineCo3’s ability to put career paths in place was limited by its size. The CEO, however, was confident that training plans are in place for everybody. One of the executive team stated that he had training plans in place for people reporting to him but this has been his own initiative as the HR department didn’t have proper documented training plans at all. There were mixed responses as to whether LineCo3 had processes in place to identify natural leaders: some said yes, some no. One manager explained that vacancies for the more senior positions were very often filled by recruiting from outside the organisation and that no real promotion through the ranks ever really took place.

- ***The promotion of a lifestyle balance within the organisation***

One manager stated that a lifestyle balance was actively encouraged at LineCo3 as the organisation was run by people that demand it. Another manager explained that although a lifestyle balance was actively promoted within the organisation, it was inconsistently applied. Inconsistent responses to this question were further highlighted by another manager stating that the nature of the electricity industry made promoting a lifestyle balance difficult, due to emergencies happening any time night or day, regular shift work, etc. Another executive team member stated that his own lifestyle typically involved a lot of sacrifice and weekend work. LineCo3 dealt with issues of care and concern by contracting EAP Service Ltd, EAP standing for Employee Assistance Programmes – so all employees have access to a wide range of counselling services that LineCo3 sponsors. There was consensus regarding the encouragement of socialisation after work. LineCo3 has its own licensed bar that it opens on Fridays. There was also an active social club which regularly arranged activities.

- ***Skills based pay as opposed to position based pay***

One manager stated that remuneration was driven by market rates. Another said that salaries and increases were set in advance but there was a little room for flexibility. Another manager said that no normalised scale existed across the company other than for field staff belonging to unions. There was also a mixed response to the question whether learning and expertise were recognised and rewarded. Some said yes, some no. One manager stated that although learning (personal and professional development) was actively supported by the company financially, it was not supported with time. For some reason, those involved in further study seemed very reluctant to talk about it.

- ***Commitment to continuous improvement/change***

One manager stated that LineCo3 had no strong goals or direction. Another manager stated that continuous improvement was achieved through a process of collaboration. Another manager explained that commitment to continuous improvement seemed very haphazard at LineCo3, that processes were not formalised or systematised but that LineCo3 seemed to have employed the right kind of people who were able to ‘pull it off’. Most agreed that LineCo3 was extremely siloed and that there was still a large amount of residual ‘us and them’ attitude between these silos. But there did seem to be less friction between these silos than in many years. Another manager explained that continuous improvement at LineCo3 is limited to fault review meetings held monthly and the safety meeting, also held monthly. Feedback within LineCo3 was not done particularly well and the organisation needed to focus on rectifying this. There did exist an open office policy where people can come forward with suggestions but there was no fixed processes for collecting ideas, providing feedback and then implementing these ideas (other than for safety issues). Another manager explained that there seemed to be a diminishing culture of sharing, recognising differences and contributing at LineCo3.

- ***A positive attitude to risk-taking***

A number of managers highlighted LineCo3’s diversification into other areas as being evidence of a willingness to take risk. Another manager explained that

LineCo3 had to be very conservative in taking risks as it is heavily bound by legal guidelines due to the regulated nature of the industry. While the executive team seemed keen to explore new ventures, there has been a swing in attitude by the Board towards conservatism and trying to get focus back on core business – one example of this was the ISP venture that LineCo3 had invested in. The Board recently pulled the plug on this venture. The executive team were working actively to preserve what they have left in terms of diversified ventures. One manager stated that LineCo3 did have a tolerance of mistakes and experimentation but there existed an entrenched blame culture with a lot of finger pointing when things go wrong, causing people to run for cover. ‘Networks’ tends to blame ‘construction’ for all the difficulties they encounter. Most agreed that although LineCo3 encourages people to take initiative, the fear of getting it wrong tends to hold people back. Successes were openly shared at company meetings but failures tend to get rationalised away and people in LineCo3 found it hard to admit failure.

- ***Performance gaps as an opportunity for learning***

No evidence could be found to support this attribute and this statement elicited no comments from any of the executives at interview.

- ***A well-developed communication process that works***

All managers agreed that communication within the executive group was very good, with the exception of the CEO whom most regard as being a terrible communicator. They complained that whenever he did communicate, it was very hard to understand him. Newsletters are sent out to all employees on a weekly basis and there were monthly meetings for the whole group which were compulsory. Most of the executives agreed that the leadership team is accessible to employees physically but effective communication seemed to be hard. There seemed to be an unwillingness to communicate up the hierarchy. No formalised or regular cross-functional meetings took place and meetings between functions only occurred when they were needed. Meetings within business functions were better organised but function differently within each business unit. All agreed that communication during social events was good, but events are generally poorly attended.

- ***A co-constructed shared vision (purpose, vision and values)***

No ‘official’ vision existed at LineCo3 at all – one of the managers admitted that on one occasion the CEO had stated privately that visions ‘are for tree-huggers’. There was an unofficial vision, however, which everybody seems to know and that was “keep the lights on”.

- ***Regards the Learning Organisation as a desired state***

None of the executive team professed to know what a learning organisation was. There had never been an attempt to elicit employee aspirations at LineCo3 and record them.

- ***Facilitative Leadership rather than ‘Command and Control’***

Most of the management team agreed that leadership style at LineCo3 tended towards the facilitative. Decision making within business units varied

enormously and sometimes ‘the situation’ dictated a ‘command and control style’. Some of the executive team articulated the belief that people in general wanted more command and control leadership. Some managers explained that although decision making was generally pushed as far down the hierarchy as possible, too often people were chastised for getting it wrong. Most of the executive team quite openly stated that leaders within LineCo3 would like to think that they acted as mentors and coaches but lacked the ability to truly do so. There was a mixed response as to whether leaders at LineCo3 role modelled learning. Some said they do when it suits them, others answered with an emphatic no. All agreed that decision making within different business units was very autonomous.

- ***A learning approach to strategy***

One of the executive team stated that sufficient resources had not been allocated for what is ideally needed to make this happen but the organisation was involved in benchmarking exercises. There was open information sharing with other organisations, people are sent to conferences and all of this actively contributed to strategy development. Most of the executive team agreed that there were no policies in place that articulated the organisation’s value of learning. Most of the executive team also agreed that LineCo3 regularly provided employees with access to business and strategic information. The executive team agreed that LineCo3 did not engage in scenario planning and that LineCo3 tended to be reactive rather than proactive. Most agreed that there was insufficient redundancy within the organisation to allow sufficient time for learning.

- ***Keeps track of learning that occurs within the organisation***

Some managers stated that the organisation actively kept track of learning that occurred within and this was the responsibility of the HR department. The HR manager stated that the organisation did not keep track of learning nearly to the extent that it should.

- ***Places great importance upon team work***

The executive team agreed that team work is in the nature of the industry and LineCo3 was structured along these lines. Teams are focused on the ‘provision of the product’. Teams did manage their own conflict but there was far less conflict within the organisation than had previously been the case. One manager explained that there had been a gulf between the network team and the construction team which had largely dissipated but there was still a residue of this, mainly due to competitive tension. Teams do manage their own resources but had to keep within budgetary constraints. Most of the executive team agreed that teams did not self-review but the manager of the relay team declared that the relay team does self-review. There was also a mixed response to the question whether teams within the organisation collaborate: some said they did so better than in the past while others said that collaboration between teams did not occur as much as it should (this being due to too many silos).

- ***Investment in knowledge management systems***

The CIO of the organisation explained that at LineCo3, people felt threatened when knowledge was shared and this was probably due to the siloed nature of the organisation. There was a knowledge management system within the organisation but there was reluctance and only ad hoc involvement in populating it. There was also a wealth of knowledge available on the intranet for those who sought it but not many people ever did. Some of the executive team did not know that there was a knowledge management system at LineCo3. One of the executive team stated that the organisation was over-reliant on a number of key people who had a large amount of knowledge in their heads but the organisation had not put in place systems or processes to transfer that knowledge to other people or capture it in any way. All agreed that it needed to happen as a matter of urgency.

- ***Understanding the concepts behind systems thinking***

None on the executive team interviewed professed to have any knowledge of these concepts. One of the management team stated that LineCo3 was exceptionally bad at performing root cause analysis, especially in the area of accident investigation. He also said that LineCo3 did not manage for the long term. In fact, he felt that LineCo3 tended to manage for the next monthly report (extremely short term focus). Some interesting information did come across when interviewing the CEO when he explained the reasons for the diversification projects within the organisation which did show some evidence of systems thinking:

- The reasons for agreeing to branch out into NZ Relay came about as he saw this as a very good opportunity to keep a group of people occupied during normal work times. He could use these people to man the phones during times of emergency such as freak weather incidents etc.
- The reasons for branching out into the motor repair trade came about through difficulties in finding workshops that could design, develop and repair trucks and other specialised vehicles. So LineCo3 developed these skills in-house and then opened up these services to the general public in order to keep these employees occupied and further develop their skills and experience during their quieter times. This venture has proven to be a very lucrative additional source of income.
- The reasons for expanding into the fibre optic side of things were that almost exactly the same set of skills and resources is required to extend the fibre optic network as is needed to extend the electricity network. So it seemed a logical extension to the organisation to branch out in this area and required very little additional training to accomplish.

As explained earlier, a new approach to interviewing employees was trialled for this LOQS iteration, using a very structured set of interview questions similar to those used for the executive team. A small sample size was selected for this trial (4 people) so the views expressed would need to be verified using data collected from informal chats.

The material obtained from the executive team interviews was split into themes – this could be done as the entire executive team was interviewed. Here, as only a small sample of employees was interviewed in this fashion, it was deemed impossible to

develop themes, so it was decided to record the results of the interviews by interviewee in bullet point fashion.

- ***Interviewee 1 (Customer Care Team)***

- There is no culture of trust and respect
- Very hierarchical – no one wants to rock the boat
- A lot of finger pointing
- There are perks offered at LineCo3: a pool table and free coffee, nothing else
- There is not enough openness and transparency in decisions made
- People think long and hard before voicing an opinion
- There is a lot of red tape involved in order to get an idea to fly...very bad at implementing ideas
- Successes are not shared enough at LineCo3
- Taking initiative is forced upon you
- There is a lack of consultation at LineCo3
- Managers tend to make decisions for people who do not report to them
- There are learning plans in place – but it is very new and no learning has yet begun
- No performance reviews
- There is good communication on the ground floor; don't know about managers
- The CEO is extremely competitive, especially in netball
- There is no time for team self-review
- People tend to be swamped and stressed at LineCo3
- Has never attended a cross functional meeting, but they do happen once a month

- ***Interviewee 2 (Workshop Team)***

- There is a culture of trust and respect in many cases
- Management are chasing more money and are putting prices up which is slowing down work
- Can't really voice your opinion for fear of being labelled a trouble-maker
- There is a blame culture – lots of finger pointing
- Life style balance seems to be up to individuals
- Perks are fast disappearing
- Can still use company equipment for private work (building a house)
- There is a command and control structure
- There doesn't seem to be any follow-up or accountability and people push the limits as a result
- People don't reveal their mistakes – they try to fix it themselves instead
- There is no thanks for going the extra mile
- No openness and transparency in decision making
- Voicing an opinion will come back to bite you
- Making mistakes is sometimes punished
- There is a tolerance for experimentation – things are left to the individual
- Successes are not openly shared
- Failures are sometimes shared – it seems to depend on the manager
- Managers are physically accessible to employees but they don't seem to take things on board

- Managers are quite visible
- People are encouraged to take initiative
- People can get away with doing the bare minimum
- If you are good at what you do, you are more or less stuck where you are
- It is hard to get ahead at LineCo3
- LineCo3 say that they are committed to continuous improvement but nothing seems to come of it
- No career paths
- No cross training
- Socialising is one of the good bits at LineCo3
- Managers do not act as coaches and mentors
- Never been asked what he wants out of life
- There are yearly performance reviews
- He has had no goals set for him at his reviews
- Terrible salary review this year – no consultation or negotiation (as promised) – just a letter; people are considering joining union as a result
- No problem getting resources for work
- There are no forums for discussing ideas
- Very hard to get ideas up to managers
- There is no process of transferring tacit knowledge from oldies, many of whom are about to retire – this is going to get LineCo3 into big trouble – nobody is learning from them
- Sometimes communication is good
- A lot of people run their own jobs – makes it easy for managers who take the credit which they don't deserve
- There are a lot of really good employees that LineCo3 should be striving to keep, but they don't – many of them are actively seeking to leave which will be a huge loss to LineCo3
- A lot of small stuff is contributing to discontent
- The CEO is seen out and about a bit
- There is great teamwork in his department
- Collaboration only happens across departments on a needs basis, not regularly
- Teams manage their own conflict – there are a lot of really good guys which does help. People have to manage their own conflicts as managers do not have the spine to stand up
- Teams get to manage their own resources for the smaller stuff
- Teams come together to discuss current practice but it seems to be up to each individual
- Teams do self-review but more so when things are not going well
- When everything is good, nothing is said
- Don't know anything about a vision
- No managers really shine as being good
- People who are really good at what they do are not well utilised
- Many managers are stuck in their ways and would benefit from working somewhere else
- LineCo3 should do their core business well before venturing out with other stuff
- Construction does not seem to be performing well
- There is a lot of “us and them” attitude at LineCo3
- People are not rewarded for long service

- There seems to be a lot of conflict around wages
- ***Interviewee 3 (Construction)***
  - Happy with his immediate supervisor; he listens to ideas, encourages initiatives, provides feedback and is open
  - He talks with other field crew members who are not so happy with their supervisors
  - Team work within his department is good but is problematic between departments
  - Pay does not seem to be based on performance; this is a problem for him
  - Training requirements must be initiated by the employees but the organisation does seem to be inclined to give approval
  - There are issues with other contractors doing a poor job and LineCo3 employees having to fix the problems
  - This last issue is getting better through better communication with contractors and their management taking on board what LineCo3 employees have to say
- ***Interviewee 4 (Construction)***
  - Experiences many issues with wrong equipment being booked out for jobs
  - When returning to stores to get the correct equipment, it is often not available
  - He feels he has to do things the way he is told by Network. Nobody listens to suggestions or makes any changes
  - The network team puts work out to tender, the construction team has to respond to the tender which is also open to other contractors. This is creating a lot of tension and mistrust
  - He is tired of doing all the planning for the work only to have the work given to another contractor
  - Networks are only thinking about money and not from a long term efficiency perspective
  - The cheapest tender is not always the better and he is sick of fixing other contractors' problems
  - Since this method was introduced, it has changed his way of working...he feels frustrated, he believes the organisation is becoming splintered and this has reduced his enjoyment of working for LineCo3

The evidence gained from these interviews will be further analysed and then used for data triangulation when filling out the mini-checklists.

As explained earlier, the interviews were used to target individuals to get information needed to build a complete picture of the organisation. The focus of the interviews was to gain evidence of attributes of a learning organisation, whereas the focus of the informal chats is to gain an understanding how the organisation works in order to identify practices that act as barriers to learning. The following is the picture that was built up as a result of information gained from these informal chats.

- ***Separate business units***

The organisation has been designed to function as separate and independent business units, especially the construction field team, which is considered to be a profit centre, and the LineCo3 network team. Within the construction field team, there are subunits that are also considered to be profit centres, such as:

The projects team, consisting of line mechanics, cable jointers and underground workers (hole-diggers), project managers and project estimators

The reactive faults team

The vegetation team

The high voltage electrical services team

The mechanical services team (automotive repairs) including the:

- engineering team
- mechanical team
- properties team

- ***Independent profit centres***

Structuring these business units as independent profit centres has created a situation where the business units need to be cost and revenue conscious. This has altered the way the managers view their work and behaviour. For example, every job in the construction field team is estimated according to guidelines and specifications. The jobs for the LineCo3 network team designers are not automatically given to the construction field team but instead go through a competitive bidding process which works as follows:

The LineCo3 network team designers obtain the respective construction field team project manager's opinion of the scope of a design or job (this mostly happens only for large capital projects and not for the usual general work such as reactive faults). The estimators in the construction field team produce an estimation using the design manual supplied to the LineCo3 network team designers. The estimation takes into account such things as labour, materials, tools and equipment. If the contract is won by an independent contractor, the job is normally awarded to them. If the contract is won by the construction field team, then the job is assigned to a field crew. Any incorrect estimation of materials etc. is handled within the construction field team. If there are any disagreements, these are between the field crew and the estimators and are thus kept within the construction field team. As such, these conflicts rarely involve the LineCo3 network team and as a result there is little motivation for the LineCo3 network team designers and the field crew to get together to review specifications for materials and labour, or to feedback improvement ideas. Informal chats revealed no evidence of this ever happening.

- ***Business units are autonomous***

The leadership within these business units are autonomous and, therefore, decisions and initiatives are made autonomously. There have been some good initiatives implemented within these individual business units, such as the use of a performance review system within the construction field team or the use of the Kolbe Scale for measuring desired behaviours within the LineCo3 network team. Another example is that there is a way of escalating ideas within the

construction field team: project managers meet with their field staff once a month to discuss ideas. Project managers then meet with their general manager where key initiatives can be discussed. But these initiatives happen in isolation within business units because they are, in effect, silos and best practices are not implemented across the organisation.

- ***Resulting tensions***

Because of the need for cost and revenue consciousness, tensions have arisen between field crew and front line managers as standardisations have had to be brought in. Field crews have to deal with cost rationalisations of materials, labour hours spent on a job, and more cost effective ways of doing a job. Some frontline managers tend to push standardisations in order to meet the cost parameters of a job and they do not work cooperatively with their field crews.

- ***Lack of overarching vision, direction, purpose and procedures***

There is a lack of participation in contributing to the overall goals and objectives of the organization. The budget is set up as a mechanistic process and is not zero based. After the budgeting is done, the company goals and objectives are set and there is a disconnection between these two processes. There is a lack of participation (below senior management) in coming up with these goals and objectives. In addition, there is a lack of overall company vision, direction and purpose and there is no effective evaluation of capital expenditures. Any initiatives that are out of budget are not encouraged by management.

No field or meeting observations took place. No data systems review took place either but the following documentation was reviewed as part of the document analysis phase:

**Policies and procedure** – the following policies were examined; only a few could be located:

- **LineCo3 Employee Assistance Programme (EAP)** – This is a service that is contracted out to an external organisation that provides counselling and specialist services to employees who can either refer themselves, be referred by management, or automatically be referred after a critical incident or trauma. All information, collected by this outside agency, is confidential and LineCo3 has no access to it. Reasons for referral include:
  - Alcohol
  - Drugs
  - Gambling
  - Family
  - Relationships
  - Financial problems
  - Redundancy
  - Outplacement
  - Health
  - Wellbeing
  - Psychological
  - Emotional
  - Critical incident

- **Cell phone policy** – this policy merely stipulated that each business unit has their own policy.
- **Company vehicle policy** – including the following sections:
  - Care of vehicles
  - Vehicle inspections
  - Misuse of vehicles
  - Accidents
  - Infringements
  - Security
  - Accessories
  - Use of private vehicles
- **Computer security policy**
- **E-mail and internet services policy**
- **Safety policy**
- **Harassment in the workplace policy**
- **Drug and alcohol policy**

It is interesting to note that this was all there was in terms of LineCo3 policies. There was nothing about:

- Changes to work hours
- Leave entitlements
- Reward and recognition
- Recruitment
- Performance management
- Training and development
- Exit policy
- Carrying out LineCo3 business
  - Expenses and travel policy
  - Personal presentation policy
  - Gifts and entertainment policy
  - Delegated authority policy
- Managing the employment relationship
  - Employee conduct policy
  - Managing work performance
  - Incapacity due to illness
  - House rules
  - Disciplinary policy

Nor could any evidence of such policies be found within the different business units.

Other documents reviewed included:

- Annual report 2009
- Statement of corporate intent
- LineCo3 asset management plan
- LineCo3 trust ownership report
- The LineCo3 induction manual – a very short document containing a number of forms (e.g. IRD forms, Kiwi Saver, social club membership) and a very brief checklist of information to give to new employees.

After a thorough review of these documents, there was nothing of real value that could be used for data triangulation.

#### **4.4.4. Offsite Analysis of the data**

All of day 3, day 4 and half of day 5 were allocated for the offsite analysis of the data.

An analysis of the responses from the survey questionnaire took place. 64 out of 130 of LineCo3's staff (including the management team) participated in the survey which equated to a 49% response rate.

The survey questionnaire consisted of 55 statements and each participant was asked to tick on a 7-point Likert scale the degree to which they agreed or disagreed with the statement as shown below:

- 1 - Strongly disagree
- 2 - Disagree
- 3 - Disagree slightly
- 4 - Neither agree nor disagree
- 5 - Agree slightly
- 6 - Agree
- 7 - Strongly agree

All the responses were recorded onto a spreadsheet for collation and analysis. This data was analysed in two ways. First, the percentage of responses (strongly disagree to strongly agree) for each statement was recorded and graphed. Secondly, each statement for each participant was given a score. Three points was given to the 'best possible answer'; two points was given to the 'next best possible answer'; one point was given to the third best possible answer; zero points was given to a neutral answer, etc. down to minus three points being given to the 'worst possible answer'. The organisation's score for each statement then became an average of all respondents' scores.

An overall organisational survey response score could then be worked out as shown in Figure 36 below.

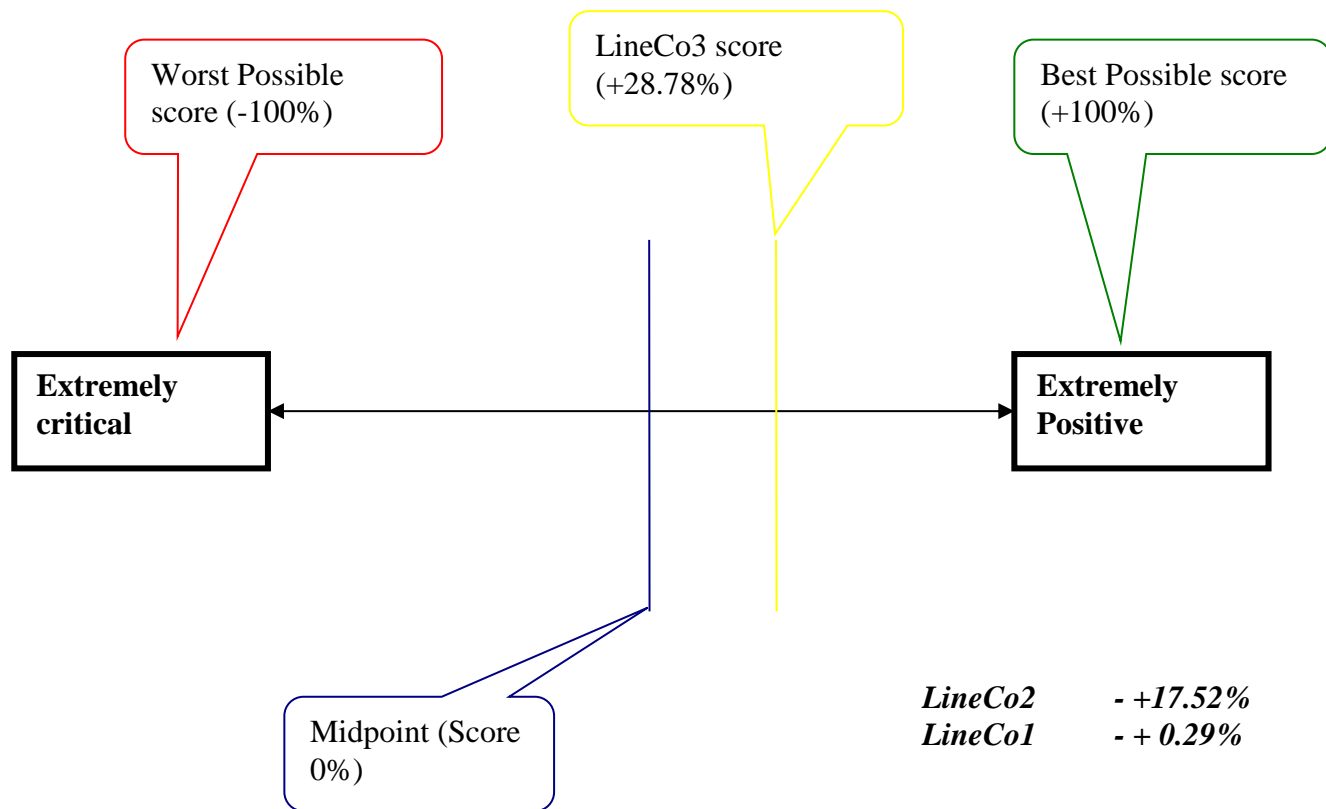


Figure 36: The mood of the organisation (LineCo3) from the survey results. Source: Author

The diagram in Figure 36 above gives a graphical representation of the overall mood of the organisation from the survey responses. If all respondents had given the ‘best possible response’ to every statement, the overall result would have been +100% (extremely positive). Or if all respondent had given the ‘worst possible response’ to every statement on the questionnaire then the overall result would have been -100% (extremely critical). LineCo3’s overall score was +28.78%, significantly higher than the companies examined in the previous two cases, which indicates quite a positive mood.

Scoring each statement from -3 to +3 also allowed the LOQS team to identify the problem attributes (statements with the lowest scores) and positive attributes (statements with the highest scores) and select outlier graphs for presentation back to the organisation for discussion.

One of the lessons learned from the previous LOQS was the desire from the executive team to see the data split into different business units. The investigators also decided it might be useful to see the data split between the lengths of time an employees had been with the organisation. The survey questionnaires were re-engineered to collect the data to make this analysis possible.

Response results were displayed in three different ways:

- A graph showing the overall responses
- A graph showing responses by business unit. These were split into:
  - Management
  - Field staff
  - Office staff
  - Other (these people were identified as those who either did not indicate where they came from (which were very few) or those who came from 'The Workshop').
- A graph showing responses by the length of time an employee has been with the organisation.

An example of how these graphs were displayed to the executive team can be seen in Figure 37, showing the overall response distribution; Figure 38: showing the response distributions by business units and Figure 39, showing the response distribution by the length of time employees had been with the organisation. Viewing the graphs in this way made it possible for a quick visual analysis of any patterns emerging e.g., employees who had been with the organisation the longest time had the most pessimistic responses; or, employees in the field staff gave the most optimistic responses etc., shown below.

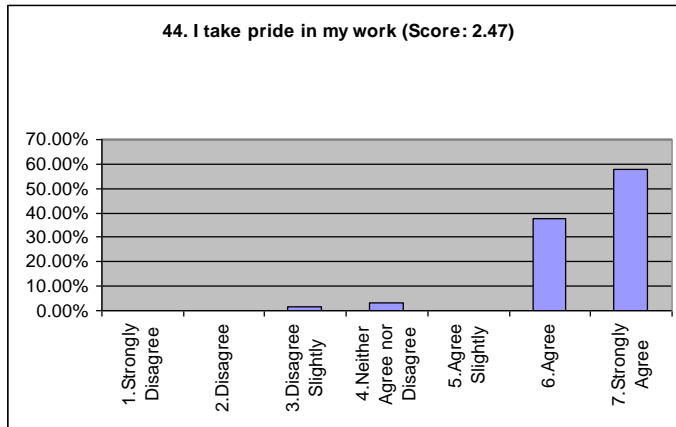


Figure 37: Graph showing LineCo3's overall survey results for question 44. Source: Author

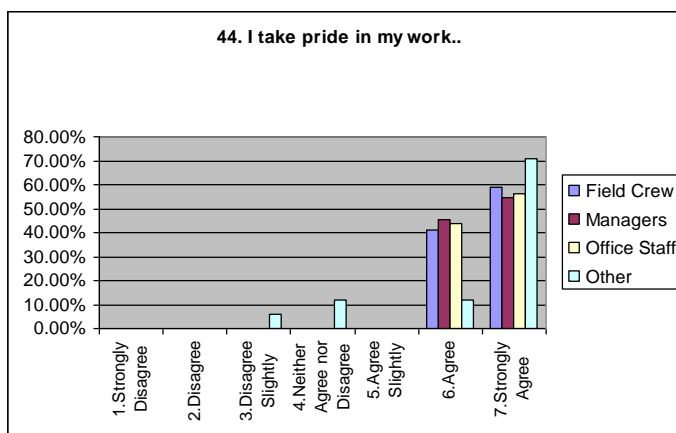


Figure 38: Graph showing LineCo3's survey results for question 44 by business unit. Source: Author

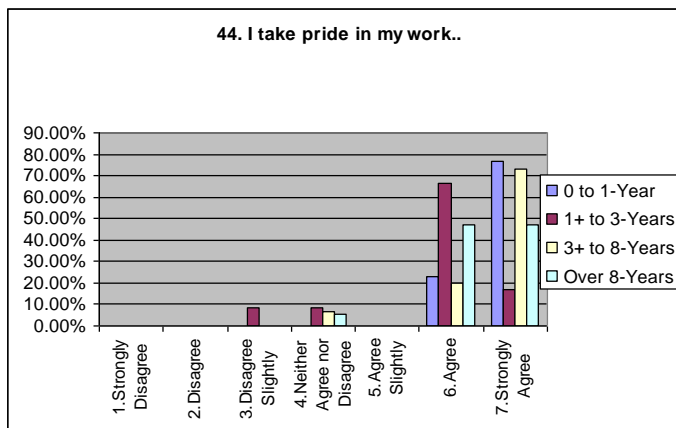


Figure 39: Graph showing LineCo3's survey results for question 44 by length of employment. Source: Author

In this case, it is interesting to note that there are no real differences in the results between business units but those that were most positive were those who had been with the organisation for less than a year.

The rest of the survey results showing a consensus of opinion were shown to the executive team and are presented here in tabular form in Table 33 below. The actual

graphical representations can be seen in Appendix 8 – Graphical representation of survey responses (LineCo3).

Question #	Statement	Overall score	Comments
22	I like working here at LineCo3	+1.97	There are no significant differences between business units but the most positive are those who have been with the organisation for a year or less.
9	I feel I am committed to help LineCo3 reach its goals	+1.95	Again there are no significant differences between business units but the most positive are those who have been with the organisation for a year or less.
28	I know what I have to do to reach my goals	+1.70	Here there is no significant difference between those who have been with the organisation for different lengths of time but the least positive seem to be those working in the field crew.
29	My goals really drive me to want to keep learning	+1.40	Here there are no significant differences between business units or those who have been with the organisation for varying lengths of time.
32	LineCo3 likes people to take initiative	+1.39	Here, the least optimistic are the field crew and those that have been with the organisation the longest.
33	At LineCo3, people help each other to learn	+1.31	The least optimistic are those that work in the 'Other' section of the organisation but there are no significant differences among those who have worked with the organisation for differing lengths of time.
41	At LineCo3, people are always truthful	+0.27	What is interesting to note here is the wide range of the perceptions of managers. Again, least optimistic are those that have been with the organisation the longest.
19	There is great communication here at LineCo3	+0.11	Again, it is interesting to note the wide range of opinion amongst managers. Most positive are those that have been with the organisation the least amount of time.

Table 33: Survey response highlights from LineCo3. Source: Author

Once the data from the survey responses was collated and analysed, a lengthy brainstorming session was initiated. This brainstorming session attempted to triangulate the data collected through interviews, informal chats and document analysis in order to identify the major issues that may contribute to barriers to learning. Once these major issues had been identified, the data was used to map cause and effect. The cause and effect diagram is a major feature in the QSAM and this diagram becomes the organisation's 'story,' used to spark discussion when feeding back to the organisation. The point of this diagram is to help identify areas where interventions could yield the greatest leverage for change. These areas for change would also be fed back as suggestions to the organisation in the form of possible wins. The brainstorm by the researchers resulted in the following cause and effect diagram for LineCo3.

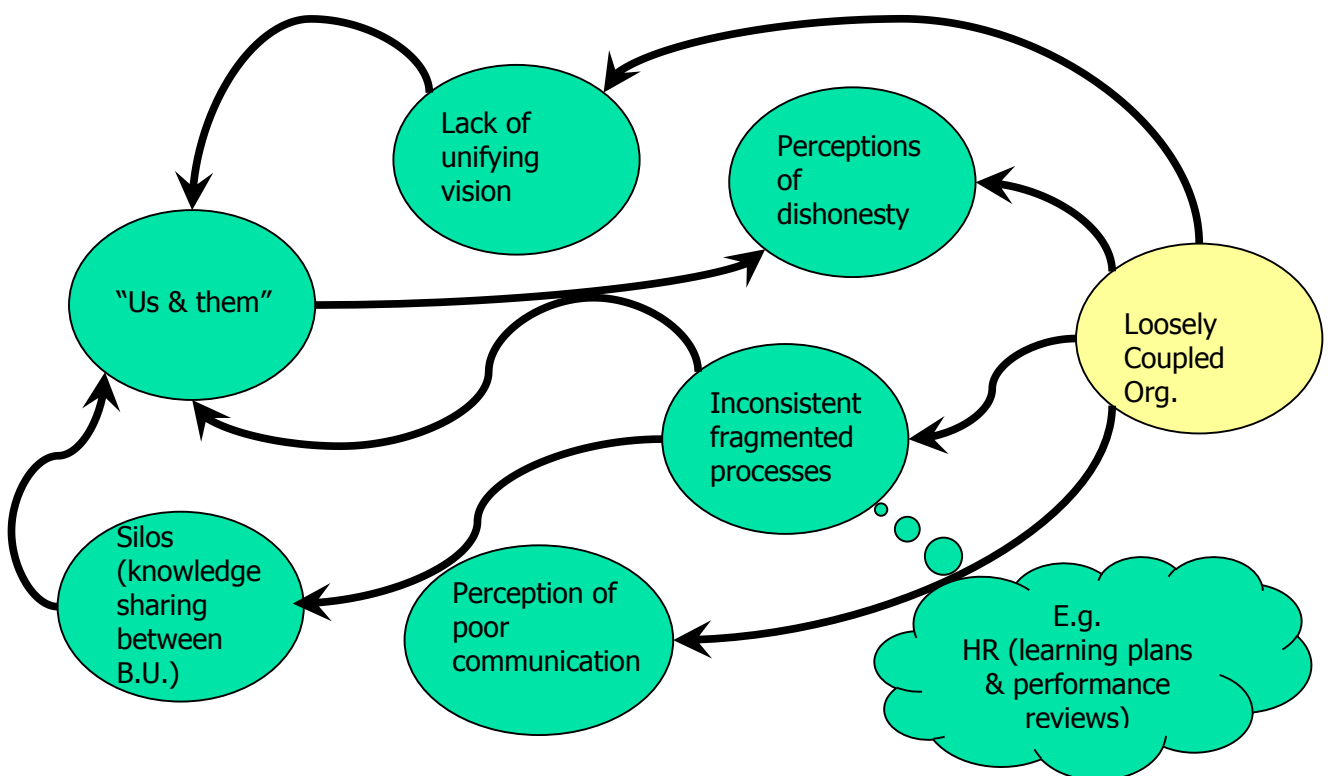


Figure 40: Cause and effect diagram for LineCo3. Source: Author

By choice, LineCo3 is a loosely coupled organisation. This has had many benefits and has allowed LineCo3 to easily diversify into different areas of business, each of which contributes in a non-intuitive but innovative way, back to the organisation's core business. The investigators considered this a clever arrangement and reflected that, whether by purpose or design, it shows evidence of a fair degree of systems thinking. But as described earlier in the analysis of the conclusions from data gathered from the targeted informal chats, there are some drawbacks from the way the loosely coupled structure has been implemented at LineCo3. The organisation has neglected to create a unifying vision and this has led to an 'us and them' attitude amongst some members of some of the business units. This has resulted in perceptions of dishonesty. In its implementation, the loosely coupled organisation has produced inconsistent and fragmented processes (policies, training plans, performance reviews and HR initiatives)

which have led to some isolated silos (and, hence, a lack of knowledge sharing between business units). Both the inconsistent and fragmented processes and the silos contribute to the ‘us and them’ perception. Also, the way LineCo3 has implemented its loosely coupled structure, has resulted in the perception of poor communication within the organisation.

This ‘story’, developed from the cause and effect diagram was one of the major components of the feedback to the organisation which will be discussed further later on in this case study. It also led to the identification of the following suggestions for the organisation:

- Discuss, debate and decide the desired direction of the organisation
- Develop a unified vision as the guiding light
- Institutionalise the policies and processes to drive change

Having a discussion of where LineCo3 wants to go will focus possible future diversifications. Previous diversifications can be considered to have occurred in a haphazard fashion. Developing the vision, if done well, can unify the organisation and guide future direction. Institutionalising policies and processes can ensure good communication throughout the organisation and ensure that knowledge, ideas and changes can flow in a cohesive manner to the benefit of the whole organisation.

Each of the activities (sub-attributes) included in the mini-checklists for each of the information gathering techniques employed was graded using the evidence collected through these techniques. They were graded as follows:

- 5 – Always
- 4 – Mostly
- 3 – Sometimes
- 2 – Seldom
- 1 – Never

The questionnaire responses also had an associated mini-checklist aligned with the final (master) checklist.

Each statement on the questionnaire was graded from -3 to +3 (examples of which can be seen in the charts selected earlier).

If the score from all the survey responses for a statement scored:

- Over 2.5 – the checklist score became 5 (Always)
- Between 1.5 and 2.49 – the checklist score became 4 (Mostly)
- Between 0.8 and 1.49 – the checklist score became 3 (Sometimes)
- Between 0.2 and 0.79 – the checklist score became 2 (Seldom)
- Under 0.2 – the checklist score became 1 (Never)

Before these scores could be set in stone, however, each graph had to be visually checked in order to take into account the spread of responses. If the graph showed half the respondents replying agree, and half of them scoring disagree, then the graph would have been graded at zero, which would score 1 on the checklist. This is clearly not correct and with the spread being taken into account in the visual checking component

(VCC) of the questionnaire analysis, the checklist score would be adjusted to 3 (sometimes).

The master checklist was then updated with the scores from all of the mini-checklists and an average taken of all the scores to arrive at a final score for each dimension. Agreement on upward or downward adjustment of activities scored was arrived at through debate amongst investigators. Before the scores could be plotted, each dimension's score was reduced by 1.0, so that the maximum score became 4 which allowed a minimum of zero, rather than 1.

The result of this exercise is shown in Figure 41, below:

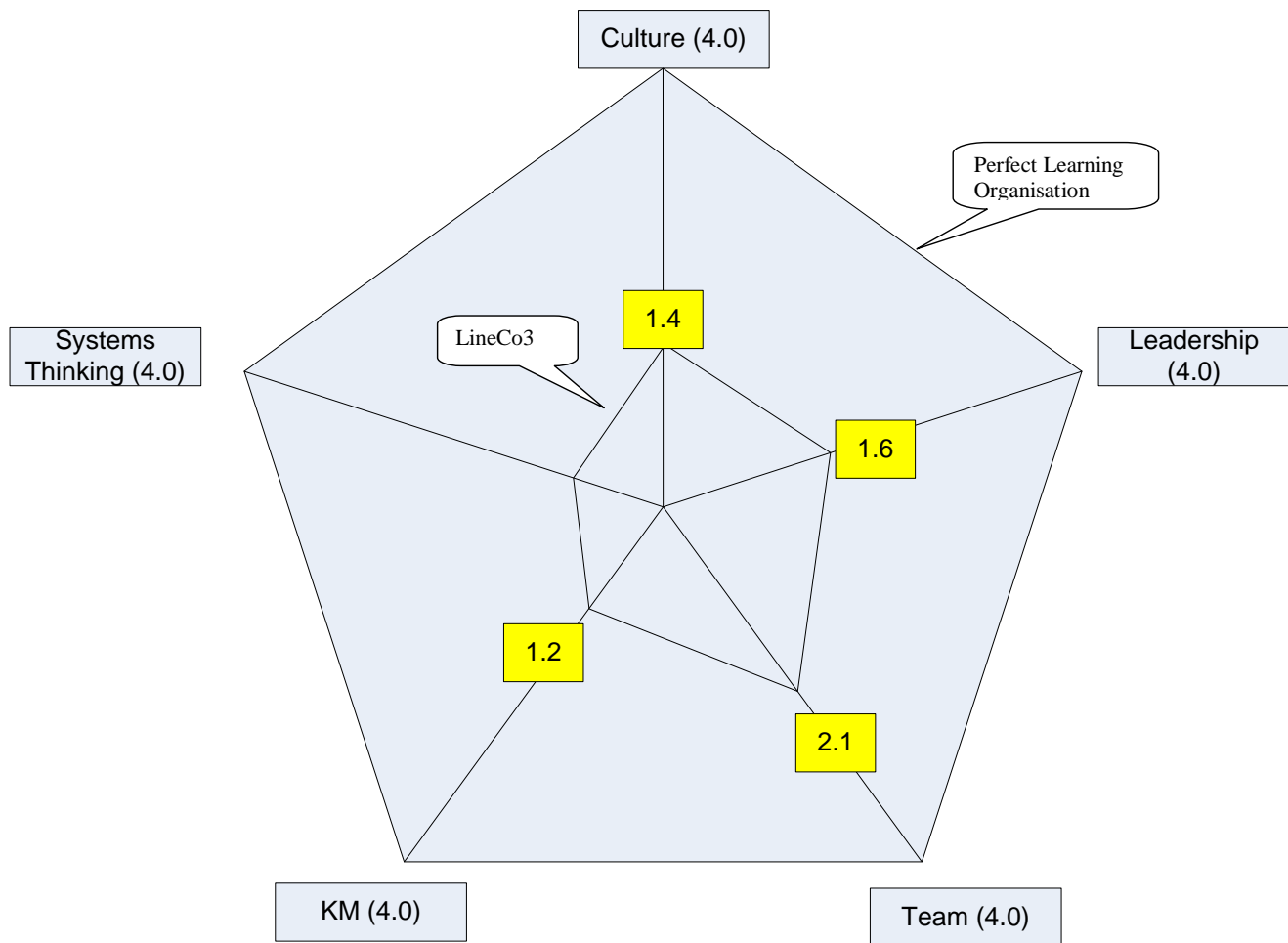


Figure 41: The LOQS Pentagon for LineCo3. Source: Author

The maximum scores for each dimension is 4 and this graph shows that LineCo3's strengths lay in the team and leadership dimensions. Weaknesses lay in areas of knowledge management and systems thinking.

#### 4.4.5. Feedback to LineCo3

Feedback to the organisation took the form of a PowerPoint presentation scheduled for close of business on day 5 of the Quick Scan. As with LineCo2, there was only one presentation which was for the executive team.

The presentation to the team covered the following topics:

- A reminder of who the LOQS team was and what we hoped to achieve
- A reminder of what the LOQS team were looking for and how we gathered the data
- Results of the survey
- What the results meant
- The cause and effect diagram along with a thorough explanation
- The overall results of the investigation in terms of the Learning Organisation metric, the Pentagon
- An overview of suggested interventions

The presentation was accompanied by some hand-outs, which included a list of dimensions and attributes and a definition of a learning organisation. A list of questions was then put to the executive team in order to elicit some useful feedback about the Quick Scan process from LineCo3's perspective.

Question	Response
How intrusive or disruptive did the organisation find this process?	LineCo3 did not find the process particularly intrusive at all but, as with LineCo2, they did state that if the investigators had asked for more than a week of LineCo3's time, participation would not have been secured.
How would they like to see it done differently?	The executive team would have liked to have seen a more granular breakdown of the survey responses that separated all their business units.
How could the survey be improved?	The CEO would have liked some of the modifiers removed from the survey statements. The example he gave was the statement: 'At LineCo3, people are always truthful'. He felt that the word 'always' may have caused respondents to mark lower than they would otherwise have done. He felt that the questionnaire should avoid modifiers. The executive team enquired as to whether the LOQS team felt that the process suffered from not being able to conduct observations. This topic will be dealt with later on in this report.
How did they find the interviews?	The executive team had no real comments about the interviews.
Were the findings given in the presentation accurate?	The executive team felt the issues presented were a true representation of

	LineCo3 present situation.
Did the LOQS team get it wrong anywhere?	The executive team did not feel that the investigators had got anything wrong. They were very surprised that the survey results were as positive as they were – they had expected far worse. The CEO expressed great surprise that, from some of the graphs, there was such a variety of opinions expressed by the executive team – this comment caused some discomfort among a few members of the executive team, some of whom felt it necessary to justify their opinions.
Were there things the LOQS team missed?	The executive team did not feel that the LOQS team had missed anything.
If so, how could these be addressed in future Quick Scans?	There were no comments in answer to this question.
How useful was the cause and effect analysis?	The executive team did not express a view either way but there was clearly some scepticism.
How useful were the graphics?	The executive team had no real comments about the graphics.
How useful were the metrics presented?	The executive team had no comment on the metrics.
How useful was the advice given?	The executive team did not comment on the advice given.
How useful was the process as a whole?	As with the other two organisations investigated, the executive team for LineCo3 would be very interested in seeing some benchmarks. They voiced an interest in the LOQS team returning to present some of those benchmarks once they had been compiled.
Would they recommend other lines companies to participate?	LineCo3 were a little non-committal in promising to give recommendations to other lines companies on our behalf, but they did say that they were happy to have participated in the research.

Table 34: Feedback from the executive team at LineCo3 on the LOQS process. Source: Author

#### 4.4.6. Reflections on the LOQS at LineCo3

The mini-checklists were successful. It allowed sub-attributes to be checked off as the investigators came across evidence for them. The lists also provided a little more focus for the investigators as to what to look for and upon analysis of the data, it became very clear when evidence for an activity had been identified through more than one data gathering technique, i.e. by data triangulation.

The mini-checklists made it a lot easier to fill in the master checklist and attach scores. The final score for each dimension was simply an average of each score given to

activities (sub-attributes). The big challenge was to translate the scores from the survey responses in to a score in the survey-response mini-checklist in a way that was compatible with the scoring system used in the other mini-checklists. A little work still needs to be done to see if the calculations used were valid and reasonable. Having each sub-attribute scored prior to the LOQS team discussion was a very useful starting point to those discussions and sped up the process of settling upon final scores significantly. The discussions could centre around whether LOQS team members felt that the scores could be adjusted upwards or downwards based on information that they had and that had not been factored in as yet in the scoring. At this point, it was important to realise that having an element of subjectivity in scoring activities is unavoidable, but pre-scoring the activities prior to discussions did help to reduce the amount of subjectivity. Targeting people to conduct informal chats with (as discovered with the LineCo2 Quick Scan) proved to be a very effective way to identify and gain a deeper understanding into barriers to learning. It was the use of informal chats that rescued the Quick Scan at LineCo3 from failing. The regular investigator team meetings during day1 and day 2 proved to be important in order for LOQS team members to come together and report back on information that they had gained, reflect on this information as a group and develop strategies going forwards. One meeting should be scheduled mid-morning, one at lunch, one mid-afternoon and one at the end of the day.

A near fatal error was made in this iteration of the LOQS in that each of the investigators assumed that LineCo3 was organised, structured and functioned much the same as the other lines companies participating in the previous case studies. As a result, at the end of day 1 and much of the way through day 2 of the LOQS, investigators remained confused over the degree of inconsistencies in the data collected through interviews and informal chats. Time was rapidly running out for the LOQS and the decision to forgo meeting and field observations and the technology assessment in favour of using targeted informal chats to attempt to clarify the confusion was a good one. The lesson learned here was the importance of targeted informal chats in finding out how the target organisation is structured and fits together. Future LOQS iterations must focus on finding out this information first before looking for barriers to learning.

For some of the LOQS team, the very structured interview plans for employees worked well, while for others it did not work at all. This was because each researcher had different objectives for the interviews. Some were looking for evidence of attributes of a learning organisation, some were looking for barriers to learning and others were trying to find out how the organisation worked. Of course, the interview plans were geared only to gathering evidence of the attributes of a learning organisation. There needs to be two completely different types of interview. One should focus on finding evidence for attributes. The interview plan for this type of interview does, indeed, need to be highly structured and there needs to be an element of self-scoring at these interviews (not all interviewers implemented the self-scoring aspect in their interviews at LineCo3, which made an analysis of self-scoring impossible). The other type of interview should have multiple objectives: to gain more insight into how the organisation works, to identify barriers to learning and to identify key people that need to be targeted for informal chats.

The strategy used in the first three Quick Scans was that each LOQS team member did a bit of everything. This has not proven to be very efficient and efficiency is the key to gaining a detailed picture of an organisation in two days (the larger and more complex an organisation is, the more of a challenge this becomes). Each LOQS team member

should have different roles that must to be worked out prior to the next LOQS iteration. They may look something like this (and it may be necessary to add a fourth member to the investigating team):

- Investigator 1 – focuses on looking for evidence of attributes of a learning organisation, interviews the executive team, interviews a couple of employees and conducts the document analysis.
- Investigator 2 – also focuses on looking for evidence; will focus on meeting observations, field team observations and looks at the use of technology to facilitate the free flow of information within the organisation.
- Members 3 and 4 – focus on gaining more insight into the workings of the organisation and looking for barriers to learning by interviewing selected employees and managers, identifying targets for informal chats and conducting these informal chats.

As previously articulated in the previous two Quick Scans, document analysis would be far more effective and efficient if a list of documents a learning organisation should be expected to have; could be identified and used as part of the mini-checklist for document analysis. Based on interviews with the HR Managers for the previous two organisations, and based on an article recently published by Taylor & Templeton, the following list of expected documents can be developed (more work needs to be done on this list prior to the next Quick Scan). Comprehensive HR policies should exist that include:

- Processes for developing training and development plans for everybody, including managers
- Processes for compiling a schedule of competencies for each employee (so that the organisation is aware of competencies that employees possess but may not be utilised by the organisation)
- Processes for documenting employee aspirations so that these can be taken into account when developing training plans, promoting employees within the organisation or seconding them to other business units
- Processes of seconding people to other business units
- Policies and processes for extensive succession planning
- A policy articulating the organisation's commitment to learning, which involves the symbolic behaviour of managers which influences member learning
- A policy articulating the organisation's tolerance for failure, which involves policies that do not punish (but even reward) errors
- A policy articulating the organisation's commitment to the workforce, a policy guiding behaviour that will lead to increased member commitment to the organisation

Other documents, such as examples of training and development plans etc., should also be present. Not only do checklists have to be altered to include these documents but amendments need to be made to activities (sub-attributes) and attributes of the dimensions to encompass these.

In the five LOQS dimensions previously used, the systems dimension, in terms of activities, is by far the smallest and therefore the hardest to score. It has also been the hardest to explain and justify when giving feedback to executive teams. When developing his 5 disciplines, Peter Senge articulated his belief that systems thinking is the one discipline that functions as the glue that holds all the other disciplines together.

But a systems dimension may not be a dimension in its own right at all. Systems thinking should be prevalent in all dimensions and it might be worth reflecting this by trying to absorb the system attributes into the other dimensions, reducing the number of dimensions to four. Much experimenting and reflection on this change needs to be carried out prior to the next LOQS iteration. If the dimensions are reworked as mentioned above, the final graphic would change from being a pentagon to being a diamond. Work would therefore need to be done to revise the dimensions, attributes, activities (sub-attributes) and checklists to incorporate this new thinking prior to the next Quick Scan. This list of changes represents no more than a fine tuning of the methodology as the same sorts of data seems to be produced by each method, indicating that saturation has been reached and that the next iteration will be the final test.

## **4.5. The final test of the LOQS – LineCo4**

LineCo4 Limited, trading as LineCo4, is the power lines company that delivers electricity to businesses and homes across three of the North Island's most popular regional tourist destinations. LineCo4 is one of the five largest electricity power lines companies in New Zealand and is responsible for the design, development, operation and maintenance of electrical power lines in these three regions. Various electricity generating facilities send the energy that has been created to The National Grid (operated by Transpower). LineCo4 then collects the power from specific supply points (grid exit points) to distribute via its power line networks. LineCo4 distributes electricity to a supply area that covers approximately 11,000 square kilometres - from remote rural areas to highly populated urban areas. Electrical energy is transferred through power lines that extend for more than 9,000km across the three regions to reach over 105,000 connected consumers on behalf of the electricity retailers. LineCo4 delivers approximately 1,700 GWh of electricity annually and LineCo4 has been serving the community and providing a service in this industry sector for over 80 years. The organisation is wholly owned by the LineCo4 Power Consumers' Trust and, like LineCo3, LineCo4 is made up of fairly distinctive and separate business units.

**LineCo4 Ltd** - includes the operation and maintenance of the network. LineCo4 also provides management services to a neighbouring lines company.

**LineCo4 Contracting Services Ltd** - is the contracting division of LineCo4 and is responsible for completing major capital works for electricity network utilities. LineCo4's contracting services has immediate plans to move into three new areas: vegetation control, civil works and fibre networks (in preparation for a bid to partner the government in its ultra-fast broadband roll-out and as part of LineCo4's venture into smart network technologies). LineCo4 has been involved in the fibre reticulation of its region, vegetation control and civil works, and plans to make these services available external parties requiring these services.

**LineCo4 Fibre** - provides business customers' connections for those customers whose sites are on or close to the backbone routes established for the electricity networks or for customers for whom an economically viable spur extension is identified.

**TransformerCo** - is one of two manufacturers of distribution transformers in New Zealand and a major manufacturer in Australia.

**LineCo4 Insurance Ltd** - is to be set up to insure LineCo4's electricity distribution assets.

The engagement of LineCo4 as a participant of this research study was achieved through a cold call process which started with an e-mail to the CEO of the organisation. The initial e-mail included a brief introduction of the aims of the study and a brief introduction of the individual LOQS team members. This e-mail was passed on to the general manager (HR) who then arranged for a teleconference with the lead investigator. The aims and methods to be used in the final LOQS test case were presented to the LineCo4 representatives during the teleconference which ended in an agreement to participate.

### **4.5.1. Changes to the LOQS and preparation for Case 4**

Although the final LOQS methodology was described in the last chapter, the following sections explain the changes made to the LOQS process since Case 3, and the reasons for those changes.

The two pronged approach to the Quick Scan developed prior to Case 2 was retained: the first prong involved identifying attributes about the target organisation that could be used as evidence to grade them on a 'learning organisation continuum'. The second prong involved identifying issues that represent 'barriers to learning'. The major impact of this approach was the formation a new strategy for interviewing which is covered in greater detail below.

Questions that were identified as being confusing or ambiguous in survey questionnaires carried out in the previous case studies were amended for clarification. A couple of new questions were added to provide data that were not sufficiently provided for in the previous three cases. As in the previous case study, each participant was asked to identify which business unit they worked for and how long they had been with the organisation. The purpose was to facilitate the analysis of the differences in responses from different business units and differences in responses that could be correlated by the length of time respondents had worked for the organisation. Correlating responses in this way will further help to reveal and pinpoint problem areas within the target organisation.

The major change for the final case study will be to conduct the survey prior to the start of the LOQS, with survey questionnaires being sent to the participant organisation and returned about a week before the LOQS team go onsite. There are two reasons for this decision: first that the research team will be starting the LOQS armed with a good indication of the overall mood of the organisation, potential areas of good practice and potential problem areas, allowing researchers to 'hit the ground running'. Additionally, this will allow the offsite analysis phase to be organised more efficiently, giving more time for the analysis of the large amounts of data that the LOQS produces. An electronic version of the survey questionnaire will be developed and sent to all those within the participant organisation who have access to a computer, and paper copies will be sent to the organisation's HR department for distribution to those employees without access to a computer.

Another new element for the last LOQS case study will be a mini phone interview of one of the members of the executive team, prior to going onsite, in order to gain an understanding of the organisational structure and how all the business units fit together. It is hoped that this will mitigate the risk of encountering similar problems and confusion to those experienced at LineCo3 resulting from the lack of understanding of the structure of that organisation.

Reflections of what went wrong at the last case study revealed that the two pronged approach for the LOQS made it necessary to conduct a number of different types of interviews. Tthe structured interviews for managers and employees (including self-scoring) will be retained to search for evidence of learning organisation activities engaged in by the target organisation. These interviews will be carried out by only one of the investigators. Data from these interviews will contribute directly to the final LOQS score.

The second type of interview will be unstructured, designed to look for evidence of broken or sub-optimal processes that function as barriers to learning for the organisation. The purpose of these interviews will also be to reveal the names of people possessing key knowledge of these areas, who will be able to provide more detailed explanations in regards to those broken or sub-optimal processes through improvised

informal chats. Data from these interviews will primarily be used to build the cause and effect diagram for the barriers to learning (used to identify areas of greatest leverage for change) and will also help to determine the degree to which learning organisation activities are engaged in by the target organisation. Informal chats will also be used to give investigators more clarity over how the organisation fits together.

Meeting observations will be used to seek out evidence for the use of dialogue within the organisation and to assess the degree to which superiors surrender their seniority at meetings and resist demanding that their views prevail. Researchers will also assess the degree to which junior attendees surrender the comfort of their junior position and make themselves heard. Field work observations will be used to see how teams interact and (as learned from previous case studies) may be used as a means of informally interviewing team members away from their head offices. Talking to field workers on their own “turf” may help to allow them to be far more candid in their responses to interviewers. The previous case studies indicated this approach to be one of the unexpected benefits of conducting observations on location out in the field.

The plan for document analysis will remain unchanged for this case study. As in the previous case studies, the documents we wished to analyse at LineCo4 were as shown in Table 35 below.

Organisational documents	Explanation
Policies and procedures	Policies and procedures would be examined in order to get a glimpse of the organisational memory of the organisation.
Training, personal and professional development documentation	Training, personal and professional development plans documentation would be examined in order to get an idea of the degree to which targeted employee development and learning is institutionalised within the organisation.
Newsletters	Newsletters would be examined in order to understand the sort of information communicated to the stakeholders of the organisation and also to gain an insight into the culture of the organisation.
Annual reports	Annual reports would be looked at to further understand information reported to stakeholders.
Examples of periodic employee reviews	Periodic employee reviews would be examined to understand the nature of performance assessments and how they were made within the organisation as well as to gain an understanding of the nature of targets set for individuals and how they were set.
Mission, vision and values statements	Mission, vision and values statements would be examined in order to understand the drivers behind the organisation culture, leadership and strategy.

Table 35: Document analysis plan for LineCo4. Source: Author

The LOQS team hoped, in particular, to see evidence of:

- A schedule of competencies within the organisation
- Documentation of employee aspirations
- Evidence for a process of succession planning

But based on recently published literature, the LOQS team would also be looking for specific policies articulating:

- **Commitment to learning**, which involves the articulation of expected symbolic behaviour of managers which influences member learning;
- **Tolerance for failure**, which involves policies that express the organisation's intention not to punish (but even reward) learning from errors; and
- **Commitment to the workforce**, which is policy guiding behaviour that will lead to increased member commitment to the organisation

Data from the previous case studies led to the desire to expand the knowledge management dimension to include knowledge flow. Accordingly, this dimension was renamed so as to place more emphasis on looking for and identifying processes that encouraged the escalation of ideas and innovations from the bottom up as well as from the top down. The knowledge flow dimension required investigators to look for evidence of the prevalence of teaching and learning occurring between older and newer employees and vice versa. The investigators will seek evidence of in-depth succession planning that specifically incorporated processes for reducing the risk and impact upon the organisation of people with irreplaceable tacit knowledge leaving the organisation. The need to search specifically for KM technologies, such as simulators, expert systems or practise fields, etc., was de-emphasised. The reason for this is that almost all executives interviewed in previous cases seemed very sceptical as to the potential benefits of such systems. Of more relevance will be evidence of the existence of intranet-based technologies, such as discussion boards and chat threads in response to published announcements on new processes and procedures, problems and challenges (where the organisation seeks input from employees) and electronic suggestion boxes.

#### 4.5.2. Planned Timetable for Case 4

The timetable agreed between the LOQS team and LineCo4 for the fourth case study was as follows.

As with the previous two case studies, there was to be no presentation to the workforce as this element was deemed by the organisation to be too disruptive to daily operations. Instead, an announcement was made by the executive team to the workforce, via e-mail, newsletter and intranet, informing all employees of the purposes, methods and timeframe for the on-site part of the study. This announcement was co-created by the investigators and the executive team for distribution a week prior to the start of the study in order to achieve a general buy-in for participation.

The onsite coordinator appointed by LineCo4 was the HR manager. Her role was to schedule the interviews; select interviewees to replace those that were randomly selected but would not be able to make it; schedule the field visits and meeting observations; book the office space that the investigators would need and locate all the necessary documents that were to be analysed. As in the previous case study, the onsite coordinator would also be responsible for distributing the survey questionnaires to all

employees, either paper based or electronically for return prior to the start of the LOQS.

As in all previous cases, site orientation and the issuing of loan protective gear would occur prior to the start of the LOQS on the morning of day 1. The meeting with the executive team was scheduled to take place between 9:00 AM and 10:00 AM which is when investigators were expected to present the goals of the research to them. Formal and informal interviews and chats were scheduled for the remainder of day 1. Interviews with selected LineCo4 employees would spill over the first part of the morning of day 2. The rest of the day was scheduled to include the observations, informal chats and document analysis.

An analysis of the barriers to learning using data gained from all data gathering methods was scheduled for the morning of day 3. The planned output from this analysis was to be a completed cause and effect diagram with a list of suggested interventions compiled from the identification of points of greatest leverage for change. The completion of the analysis of the data from the mini-checklists in order to score and plot the target organisation on the LOQS metric chart would take place on the morning of day 4. A PowerPoint presentation would be completed in the afternoon of day 4, in preparation for the presentation back to the executive team the following day.

The final presentation of the LOQS findings was scheduled to take place on the morning of day 5. The lead investigator would be giving the presentation alone but the general format for this presentation would not deviate from the presentations given in the previous cases except that a more extended set of feedback data would be sought from the executive team at LineCo4. The LineCo4 case was to represent a final test of the LOQS. The proposed format for the final presentation would be as shown in Table 36 below.

Presentation part	Explanation
Introduction	The introduction would comprise a recap of why the LOQS team was there (what the research was about), and what we hoped to achieve; a reminder of how the data was gathered and an explanation of how the data was analysed.
Highlights from the survey responses and interviews	Only responses that indicated clear organisational consensus or those that indicated clear organisation division would be presented along with an explanation of the implications of these responses. Results from the interviews would also be used here to give greater richness to the findings and to give some explanation, with concrete examples of why respondents felt the way they did. Once again, the presentation would include the graphic that would show the mood of the organisation.
Introduction of identified barriers to learning	Identified barriers to learning, developed from the triangulation of data from of all data collection methods, would be introduced to the executives.
Cause and effect	This is where the themes mentioned above would be presented in a cause and effect diagram which the lead investigator would run through in detail.

Learning Organisation Diamond	It was hoped that this changed metric would give a clearer and less confusing representation of LineCo4's scores across the four dimensions of the learning organisation. On this occasion, LineCo4's scores would be presented and compared with those of the previous three organisations in order to elicit comment. Care would be taken to not reveal the identities of the other plotted organisations.
Recommendations to the organisation	In this part of the presentation, there would be a thorough run-through of the cause and effect diagram highlighting the areas identified as opportunities for greatest leverage for change. The recommendations for change would be given in the form of quick wins, medium- term wins and long-term wins. It was recognised from the previous cases that this element would form the basis of the executive team's opinions of the accuracy of the LOQS as a process. If the LOQS process worked properly, the executives would recognise the issues identified as barriers to learning as being accurate. If the LOQS did not work, then the executive team would not recognise the issues and the credibility of the scores achieved by LineCo4 against the four dimensions would be compromised.
Questions and answers	The question and answers section represents the opportunity for LineCo4 to seek greater depth, clarification of the conclusions reached and to challenge both the data and the conclusions presented from the LOQS. It would be very important that the presenter had a complete understanding of the data being presented. As the lead investigator would be presenting alone this time, it would be extremely important that a thorough briefing occur prior to the presentation in order to ensure sufficient detailed knowledge of the experiences of all investigators to be able to support the findings. Communication amongst investigators throughout this LOQS would need to be flawless.

**Table 36: Envisaged final presentation plan for LineCo4. Source: Author**

Being the final test of the LOQS, it would be very important for the LOQS team to elicit feedback from LineCo4 as to their perceptions of how well the LOQS processes worked. The following questions would be put to LineCo4's executives:

- In your opinion, have we as a LOQS team managed to gain a thorough understanding of your organisation in the two days that we were on site?
- How accurately do you believe that we have identified issues at LineCo4 that we feel represent barriers to learning?
- Was there anything major that you think we missed?
- Is there anything you feel we got wrong?

- Were there any surprises for you in this presentation?
- How disruptive do you feel the LOQS was for you as an organisation?
- Is there anything that you would like to have seen done differently?
- Has the exercise been useful for you?
- Do you have any other comments or feedback that you consider we will find useful?

### **4.5.3. What the LOQS revealed from LineCo4**

This case represents the final test of the LOQS process. The process in place for measuring an organisation as a learning organisation is the result of a number of changes implemented from conclusions drawn through analysing what went right or wrong in the previous three cases. This section gives an account of what took place in the final LOQS at LineCo4.

The investigators were led through a basic safety induction and site tour by the risk manager of LineCo4. The buildings at LineCo4 were undergoing a total refurbishment which had been started 18 months previously. These refurbishments were in full swing and were due to be finished at the end of 2010. Builders were busy on site and were putting the finishing touches to the project. Although slightly chaotic, the main offices looked fresh, modern and functional. There were 160 employees housed in the head office buildings with head office staff being housed in the main building. This was a two-story building arranged with a number of open plan environments, the main reception, a control centre for the network, meeting rooms, offices, storage facilities and a modern lunchroom. Fully equipped computer pods were located in a room that staff without access to computers could use, or where training could take place. The second floor housed some, but not all, members of the executive team and the CEO's office which also backed onto a very modern looking boardroom. Security was high and the LOQS team were issued with a swipe card in order to gain full access to all areas. Field staff and other technicians were housed in depots at the rear of the building. This is where company vehicles were stored (LineCo4 has exchanged all pool cars for hybrid vehicles), where the stores department was located and where the workshops could be found. These locations also had a number of offices, meeting rooms, training rooms and break rooms. The LOQS team were issued with high visibility vests for use in the field staff areas, overalls, hard hats and safety glasses for use when observing work out on the field.

The initial meeting with the executive team started with a meet and greet session where introductions were made. The main introduction then took place in the form of a verbal presentation – this all went smoothly and no questions were asked at this stage. It was interesting to note that the CEO was not present for this meeting. It was agreed prior to the introductory meeting that no questions would be asked by the LOQS team concerning perceived pain-points within the organisation as the LOQS team already had a good idea where to look from the prior analysis of the returned survey responses.

The structured interviews with the management team were of a similar format to those conducted at the previous case study at LineCo3. The lead investigator was given the role of conducting the structured interviews, and focused on identifying evidence of learning organisation activities. As in previous cases, interviews included an element of self-scoring and probing questions elicited more in-depth data. The following are themes that emerged from these interviews:

- ***Selective recruitment***

All those interviewed agreed that recruitment was always preceded by an investigation as to how or if the position could be filled internally. There were no formal processes in place to assess candidates on their ability to learn. The CEO did articulate the opinion that LineCo4 assessed potential candidates on their capability to succeed in the role but could not articulate in detail how exactly that occurred.

- ***Maximisation of retention within the organisation***

Most of the interviewed expressed the belief that LineCo4 was a company that invested in its people. Many of the interviewees stated that, quite often, the right people were found to be in the wrong position and the company always strove to redeploy those people where their skill sets could be put to better use. It was important for LineCo4 that people in these positions were seen to be given the chance to be in a position where they could perform at their best. LineCo4 had developed a very extensive succession planning exercise which takes place every two years where each senior manager reviews the people reporting to them. Each business unit then compiles an organisational chart that is colour coded in the following way (shown in Figure 42 below).

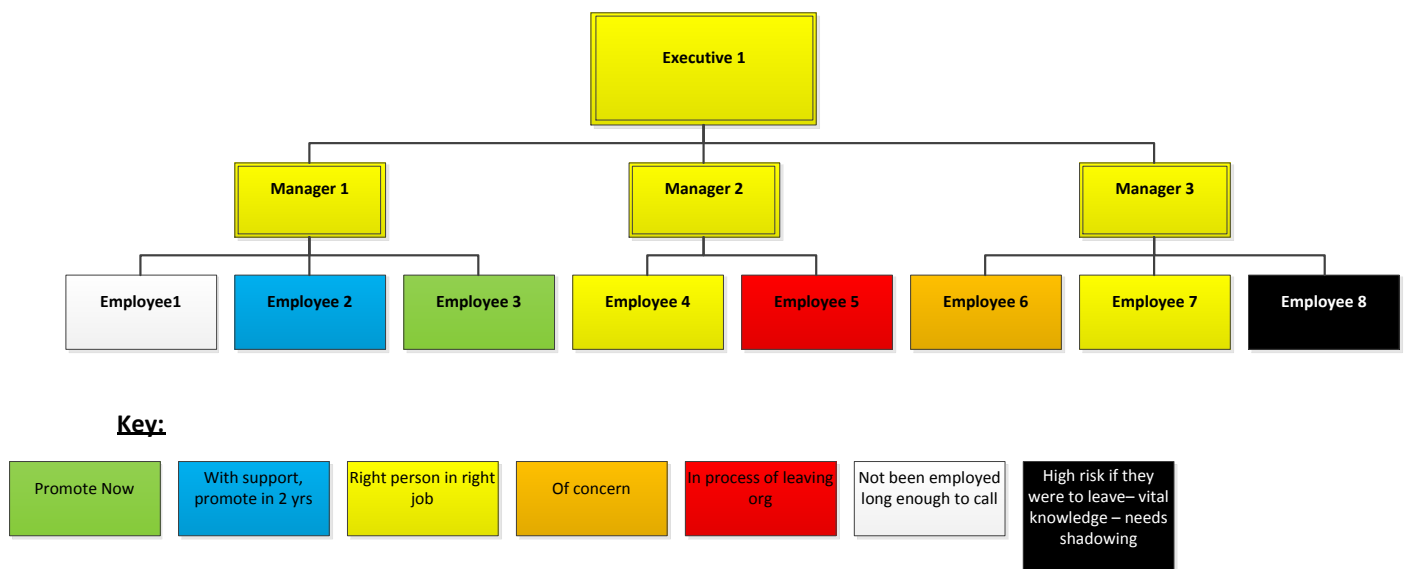


Figure 42: Example of succession planning tool in use at LineCo4. Source: Author

- People in green boxes were classified as ready to be promoted immediately.
- People in blue boxes were classified possibly ready for promotion within two years if given support.
- People in yellow boxes were classified as being the right people in the right jobs.
- People in orange boxes were classified as being of concern and needing support.
- People in red boxes denoted people in the process of leaving the organisation.
- People in white boxes had not been with the company long enough for an evaluation to be possible.
- People in black boxes were classified as having knowledge and abilities vital to LineCo4 and presenting a risk to the organisation if they were to leave. Strategies were therefore put in place for the transfer of those skills and knowledge to others.

Retention was further encouraged by understanding that money is not what motivates all employees. LineCo4 had therefore implemented a smorgasbord of benefits available for employees to select, a strategy designed to cultivate motivation. Most of the interviewees expressed the opinion that there existed a healthy culture of trust and respect within the organisation but not uniformly so. It depended where in the organisation someone worked as to how they would perceive this culture. LineCo4 are in the process of piloting an emerging talent programme where young people, identified as being employees LineCo4 wishes to keep for the long term, are nurtured and put through continuous training that focusses not only on leadership skills but also on all-round skills that promote performance excellence.

- ***Promotion of a lifestyle balance***

The CEO in LineCo4 spelled out LineCo4's policy of paying well (slightly above the going rate) for employees at LineCo4 ("good money for good people") and because they paid well, he felt that the organisation had the right to place demands upon employees whenever they needed to. They wanted employees to be focused on the job and the CEO did not believe in treating people with cotton wool. Other members of the executive team echoed this sentiment to some degree, saying that LineCo4 did expect staff to fulfil their tasks but the degree to which people experienced a lifestyle balance varies across the organisation and depended upon their managers. Some managers were known to be very flexible in their arrangements but flexibility is harder to implement for people who work shifts. In some cases, there seemed to be problems getting people to actually take leave. Some did get pushed to work fairly long hours but in general, most executives hoped that there existed some give and take across the organisation. LineCo4 had implemented a "Wellness Programme" which focused on time management training and training in managing stress. Each employee is given \$200 per year as a contribution to a lifestyle activity, e.g. a gym membership. LineCo4 recognised the systemic benefits of such a programme and understood that people belonging to the same gym club, cycling team, rowing team etc., had another reason to talk and interact within the organisation. It was seen as a way of encouraging the

development of alternative networks within the organisation. All employees had access to employee assistance programmes which were fully funded by the organisation to offer anonymous professional counselling in numerous areas such as alcohol or drug abuse, financial counselling, relationship counselling, bereavement counselling, legal counselling and critical incident support etc.

- ***Remuneration of skills and expertise***

Once again, the CEO declared that he had little hesitation putting people under pressure which is why he actively strived to pay good money. The other members of the executive team stated that the main driver for setting the level of reward was what the market place offered at the time and LineCo4 invested a lot of money on analysis of market place surveys. LineCo4 had implemented a system of what they called “Management Levels for Expertise”, a strategy that attempted to mitigate the risk of people feeling trapped and un-promote-able because of their expertise (it was of value to the organisation to keep them where they were). These people were paid additional sums of money in order to retain the feeling of there always being room for advancement even though they may not be involved in management duties. Most interviewees agreed that there was good scope for progression within the organisation. Some executives suggested that LineCo4 still had issues in regards to having the right benchmarks and having robust internal processes of translating internal performances into pay and most interviewees agreed that no uniform system of capturing a schedule of employee skills and expertise existed.

- ***Commitment to continuous improvement/change***

The CEO of LineCo4 felt very strongly that the commitment to continuous improvement was one of the defining attributes of LineCo4. He believed that it was this vibrancy that attracted people to want to work for LineCo4 and he considered himself to be accessible to all staff who could approach him directly or through their managers, to express ideas for change and/or improvement. If an idea was not going to work for any reason, then he would make sure that there was feedback given to the relevant person. The other members of the executive team, although they agreed that LineCo4 was an organisation of continuous improvement and change, held the view that almost all ideas came from and were assertively driven by the CEO. They struggled to think of any ideas derived from the bottom or middle ranks that had been successfully implemented. The CEO, when interviewed, gave as an example the fact that they had engaged a Kaizen consultant to extract ideas and knowledge from within the company. This was backed up by one of the executive team who explained that LineCo4 had implemented a scheme using physical and electronic suggestion boxes, the latter being one that used blogs and discussion boards, to allow employees to respond to or discuss ideas. This was regarded as a new initiative, however, that had not yet borne fruit and there was significant scepticism as to whether the initiative would work as effectively as intended. Otherwise, in theory, ideas were supposed to be communicated upwards in the organisation through a hierarchy of team briefs held on a weekly basis but few executives saw this as working. Most interviewees explained that one of the consequences of the management by the ambitious CEO currently leading LineCo4 was that the organisation was not a very good finisher and not good at consolidating change.

- ***Positive attitude to risk-taking***

Most of the members of the executive team agreed that on a chief executive level, the organisation had a very positive attitude to risk taking with a series of new initiatives underway. LineCo4 invested heavily in proof of concept projects such as intelligent networks, smart metering and the rollout of ultra-fast fibre links to their substations that, if successfully awarded a government contract for ultra-fast broadband reticulation, they could use to form the backbone of this reticulation in their regions. All these initiatives were considered by the executive team as being high risk. At a lower level, the executive team agreed that there still existed pockets of risk-averse attitude, whereas elsewhere within the organisation there were pockets that actively embraced risk. Also, most interviewees agreed that there still existed a degree of blame culture within the organisation and that some employees would feel reluctant to put their heads on the chopping block. Most felt that successes were openly shared, especially the bigger ones, but all felt that there was a lot of work left to do in order to institutionalise an open sharing of failures. A lot of issues were still being swept under the carpet at LineCo4. Most executives felt that the organisation was not good at encouraging employees to take initiative.

- ***Performance gaps as an opportunity for learning***

The CEO acknowledged that poor performance was not always the fault of the person being reviewed but sometimes occurred because they were being managed badly. He admitted that he found bringing up conversations about performance was something he was not comfortable with and although no conversations should ever come up as a surprise for people, it was hard for managers to be brutally honest with those they dealt with, resulting in messages getting watered down in order not to hurt people. This explained why, at the executive level, there were no performance reviews of the executive team by the CEO – he simply won't do them, as one executive explained. Most of the interviewees felt they yearned for feedback from their CEO but at the next level down, performance reviews were very well structured at LineCo4. At the supervisor level, however, performance reviews were seen as being ineffective which, executives believed, explained the poor uptake of training at the lower level.

- ***Communications processes that work well***

Many of the executive team members agreed that communication was something LineCo4 tended to neglect when things got busy and that there were definitely periods when communication was good and other times when things were not so good. Communication was something that the executive team regarded as being very important as it kept coming up in organisational climate surveys as an issue that LineCo4 needs to work on. As a result of this, LineCo4 decided to employ a communications manager who had worked hard on developing LineCo4's intranet and newsletters encompassing a high degree of employee contribution. The communications manager was also responsible for setting up computer pods in a dedicated computer room for use by employees without access to computers at work. But all these initiatives were still very much a work in progress at the time. LineCo4's executive team, themselves, had not met at all in any official capacity for an 18-month period and only met on an informal basis without the CEO present – sporadically at cafés in the

local area. As a result of interventions by the new marketing manager, the executive team had recently resumed their official meetings. Many of the executive team members agreed that a structure and framework for communicating information down through the hierarchy was still lacking within LineCo4 and communication still occurred in a haphazard manner. One of the members of the executive team commented on the fact that management must seem very distant to employees on occasion and also believed that the CEO must seem almost invisible. The executive team agreed that cross functional meetings worked well. They had to as a matter of necessity due to the number of CEO-driven initiatives on the go at any one time. They also believed that communication through social channels worked well and that the social club had regular and well attended functions.

- ***Shared vision***

The CEO of LineCo4 expressed the opinion that an organisation's vision can never be co-created and that the CEO is the person who is responsible for having and leading the development of the vision. It may well get moulded and modified through engagement at a senior management level but it is something that is communicated to the organisation and feedback on the vision may come back to the CEO over time. The CEO was the only member of the executive team who believed the vision was clear and unambiguous. The remainder of the executive team agreed that the vision was a top-down imposition and believed that very few people would actually be aware of what it was and it certainly was not clear and unambiguous. The vision was officially revisited on an annual basis but most members of the executive team felt this to be a rubber stamp process to satisfy the board. The CEO, when interviewed, stated that the vision and mission should remain constant and only the objectives should vary over time. Most executives admitted that each individual business unit spent no time discussing or interpreting the vision for relevance at all.

- ***The Learning Organisation as a desirable state***

When interviewed, the CEO of LineCo4 was able to give a fairly good definition of a learning organisation. He clearly stated his belief that LineCo4 was a learning organisation and that LineCo4 was blessed to have an executive team that were all advocates of a learning organisation. Only two executives, however, knew what a learning organisation was (those two who had completed MBA studies) and they were of the opinion that LineCo4 was far from being a learning organisation. The executive team did, however, believe that LineCo4 was good at helping employees develop their own personal aspirations and these aspirations were recorded as part of employees' performance reviews. But they did admit to not knowing what to do with these records.

- ***Facilitative Management rather than Command and Control***

The CEO believed that the organisation purposely flip-flopped between managing in a facilitative fashion and managing in a command and control fashion and that people in the organisation knew when a command and control mode was coming. When it was a matter of getting LineCo4 where it needed to be, a command and control management style definitely had its place. In terms of pushing decision making as far down the hierarchy as possible, the CEO stated this to be a philosophy that LineCo4 management liked but struggled

with. He also believed that mentoring and guidance by managers was sacrificed because LineCo4 was a lean organisation. He felt that formalised rules were kept to a minimum and that narcissistic management behaviours were dealt with head-on. He also admitted to being conflict-averse. All of the other executive team members agreed that the CEO had a strong command and control management style but felt that they themselves had tried very hard to be facilitative in their own styles. They believed that separate business units did have the autonomy to make their own decisions but in general, decision making was not pushed very far down the hierarchy. They described the CEO of LineCo4 as being visionary but unstructured. They felt he was excellent at networking but not very good at managing. As an example of this, the HR manager noted the fact that when recruiting executive team members, the CEO did not follow any of the HR processes that LineCo4 had in place. He would actively head-hunt people he wanted (not necessarily people who had applied for the position) and would then announce the appointment to the HR department (without checking references etc.). She expanded on this by saying that some of the executive team members had been in their position a significant time and still did not have contracts. She also expressed disappointment at the fact that the CEO refused point blank to conduct performance appraisals of the executive team members. Many of the executives felt that there were far too many formalised rules within LineCo4 and that narcissistic management behaviours were not dealt with at all. In fact, a few openly stated that many of these behaviours existing within LineCo4 emanated from the chief executive.

- ***Learning approach to strategy***

The CEO stated that he did believe LineCo4 had a learning approach to strategy but having said that, he admitted that there were no policies in place that articulated the organisation's value of learning. Neither was he convinced that continuous development was a theme for individuals, teams or the whole organisation. He maintained that employees were regularly provided with business and strategic information and that LineCo4 did engage in scenario planning but admitted that there was insufficient redundancy within the organisation to allow time for learning. Most of the other executive team members did not agree. Some declared that there were no strategy meetings at all, while others said they only occurred when it suited the CEO. In fact, some said that there was no formal strategy at LineCo4 at all. As to whether there was sufficient redundancy at LineCo4 to allow time for learning, the executive team members were split in their opinions; some said there was, some said there was not. All agreed that no scenario planning existed and no attempt was ever made by the organisation to identify barriers to learning.

- ***Tracking learning that occurs within the organisation***

With regard to keeping track of learning that occurs at LineCo4, the CEO believed that this occurred only sporadically. This seemed to be backed up by the other interviewees. Some believed it did occur through the performance appraisal process, others did not think it occurred at LineCo4 at all.

- ***Places great importance on team work***

Most of those interviewed agreed that LineCo4 placed great importance on team work. Teams were formed by identifying people with the skill sets required for the job that needs to be done. Cross functional teams were a feature of how initiatives were implemented at LineCo4. Teams sometimes managed their own conflicts and sometimes managed their own role issues but some said that it was not done too well. Teams usually managed their own resources but did not have the autonomy to set their own goals. Teams almost never self-reviewed (except within the IT team) but teams often collaborated a lot.

- ***Invests in knowledge flow and succession planning***

All those interviewed agreed that LineCo4 invested significantly in knowledge flow and succession planning (which has already been discussed). LineCo4 also invested a lot of time and money looking at what other organisations were doing and engaged in inter-company learning through maintained links and connections with other lines companies. This is further helped by the fact that LineCo4 was contracted to perform the management functions of other lines companies. A lot of research and development work took place at LineCo4, especially in the areas of smart networks, smart metering and fibre. There were many proof-of-concept projects under way at any one time. Although there was a free flow of know-how, executives felt that LineCo4 was not very good at communicating ideas upwards and there were no forums in place that developed new practices from acquired knowledge.

- ***Discusses cause and effect***

All of those interviewed agreed that LineCo4 sometimes discussed cause and effect. Many of those interviewed felt that LineCo4 demonstrated that it managed for the long term through its investment and investigation into how it could increase its non-regulated income. They also believed that the organisation demonstrated its conviction that long-term survival was more important than the short-term bottom line by spending so much money on projects that were proof-of-concept. The problem, as the executive team explained, was that these were high risk projects that stood a very good chance of not paying off at all. There was disagreement among those interviewed as to whether the organisation regarded itself as a community rather than a collection of resources. Although most felt that LineCo4 had a vibrancy that made it an attractive place to work, they were mostly seeking skill-sets they needed and not necessarily going out to attract people who would add to the community feel of LineCo4. All agreed, however, that LineCo4 actively promoted its brand out in the community as a whole. Furthermore, all interviewees agreed that with the exception of crisis management, scenario planning did not occur within the organisation as all initiatives were driven from the chief executive.

As part of the strategy of using a strict interview plan when interviewing the executive team, each executive was asked to score themselves and the organisation against a number of statements. The results of this scoring are shown in Table 37 below.

<b>SLT Interview results</b>					
	<b>Manager</b>				
<b>Statement</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
1. LineCo4 selectively recruits employees based on organisational knowledge needs and organisational cultural needs.	4	5	4	4	4
2. LineCo4 actively strives to maximise retention within the organisation.	5	4	4	5	4
3. LineCo4 promotes a lifestyle balance within the organisation.	4	3	3	3	4
4. LineCo4 strives to remunerate skill and expertise (skills-based pay as opposed to position-based pay).	3	4	3	4	5
5. LineCo4 encourages commitment to continuous improvement/change.	5	4	2	4	4
6. Apart from issues of safety, LineCo4 has a positive attitude to risk taking.	4	3	3	2	4
7. Performance gaps are regarded as an opportunity for learning.	4	4	4	4	3
8. LineCo4 has very well developed communication processes that work well.	3	3	1	3	3
9. LineCo4 has built a shared vision (purpose, mission and values).	1	1	1	1	1
10. LineCo4 regards the learning organisation as a desirable state.	1	5	2	1	2
11. The leadership team at LineCo4 regards itself as being facilitative rather than command and control.	3	4	1	1	3
12. LineCo4 has a learning approach to strategy.	1	4	1	1	4
13. LineCo4 keeps track of learning that occurs within the organisation.	5	3	3	1	3
14. LineCo4 places great importance upon team work.	5	5	3	5	3
15. LineCo4 invests in knowledge flow and succession planning.	5	5	5	5	4
16. LineCo4 discusses cause and effect.	3	3	1	3	3

Table 37: Results of interview self-scoring results by management team of LineCo4. Source: Author

As previously mentioned scores denote the following:

- 5 – Always
- 4 – Mostly
- 3 – Sometimes
- 2 – Seldom
- 1 - Never

One overriding theme to come out of the structured interviews with the executive team was a seeming disconnect between the CEO's understanding of how LineCo4 as an organisation worked, and the executive team's understanding of how the organisation worked. Five out of nine of the executive team members were interviewed, which represents a very good sample size.

With the introduction of the different types of interviews, only four employees were scheduled for interviews for identifying attributes of a learning organisation. This is a very small sample size (4 out of 160 employees). What are shown below are only themes from answers that were common to those interviewed (in bullet point and in the present tense).

- ***A culture of trust and respect***

- LineCo4 does not have much of a culture of trust and respect. Communication is not very good.
- LineCo4 does push a no-blame culture but there is still a lot of finger pointing going on and, therefore, a lot of incidents go un-reported.
- LineCo4 do not go out of their way to promote a life-style balance and a 40-50 hour week is demanded of employees.
- It can be very stressful working at LineCo4, though it depends a bit on where in the organisation people work.
- Some managers are very good at dealing with issues of care and concern, others are not.

- ***Facilitative Management rather than Command and Control***

- LineCo4 is definitely all command and control.
- There is an open communication from the top down but it does not work very well the other way around.
- In general, people do feel they can voice an opinion without fear of retribution but there is scepticism regarding whether anyone takes any notice of these opinions.
- LineCo4 seems to have a limited tolerance for mistakes.
- There is not much tolerance for experimentation. There are set guidelines and policies for everything.
- Only big successes are openly shared at LineCo4; no one takes any notice of the smaller ones.
- Failures are not openly shared at LineCo4; most things are swept under the carpet. Debriefs do happen but blame is not shared.
- Some of the managers are accessible to employees at LineCo4 but not all of them.

- Most managers are visible with the exception of the CEO who is not a people's person.
  - None of the top managers are ever seen out in the field.
  - People do feel they have some ability to make their own decisions at work, but it depends a bit on what they are.
  - The executive team members are not good at standing up to the CEO who is a bit of a bully.
  - There have been a few painful redundancies at LineCo4 and no recognition of the grief these have caused.
- ***Committed to continuous improvement***
    - LineCo4 is definitely committed to continuous improvement.
    - Continuous improvement is driven hard by the HR team, but the senior managers don't seem to feel they need to be part of it.
    - There are a lot of interesting projects going on, such as smart grids, but many have been told that there might be redundancies once these are implemented.
    - LineCo4 does not really have a system of cross training and job rotation. Most feel they can help out doing other things if needed but there is no training for it.
    - LineCo4 does not reward learning or expertise.
    - Social interaction is encouraged at LineCo4 and the social club functions are well attended.
    - There is not really much problem getting resources that are needed but if it is not budgeted for, you can't get it.
    - Leaders at LineCo4 do not really act as coaches and mentors.
    - Performance reviews for employees are regarded as a waste of time and of no help.
    - Learning and development are generally tracked at LineCo4; at least they are in the networks part of the organisation.
- ***Has a free flow of ideas and know-how***
    - There is not much of a free flow of ideas and know how. There have been competitions to encourage new ideas, but nothing ever gets taken up.
    - If a new idea does get taken up, others often take credit for them.
    - Sometimes planning comes up with solutions for smaller jobs that are not practical. It is as if they haven't gone and looked at the site beforehand.
    - LineCo4 does get involved in collaborative learning with other organisations, especially on a project basis, and there is some sharing of resources.
    - LineCo4 is reliant on a number of people with a lot of tacit knowledge but because of the silo mentality, it is hard to get them to share that knowledge. Lots of valuable knowledge would definitely go if some people left.
    - There are some very haphazard processes at LineCo4.
    - LineCo4 is good at innovating but just doesn't consolidate.

- ***Has good communication***
  - Communication is a bit “hit and miss” at LineCo4.
  - There is access to computers for people that don’t normally use them and the intranet is very good.
  - The IT department at LineCo4 is very good.
  - People in LineCo4 are kept in the dark a lot when it comes to changes. Sometimes people from other companies that LineCo4 contracts get told about changes before employees at LineCo4.
  - The newsletters at LineCo4 are quite useful and fun to read.
  
- ***Has good teamwork***
  - Teamwork is generally very good at LineCo4.
  - Teams do collaborate at LineCo4 – they have to otherwise the job just doesn’t get done.
  - Teams manage conflicts well, but there is not that much conflict in teams at LineCo4.
  - Teams get to manage their own resources to a degree, but it has to be within budget.
  - Teams don’t really self-review but there are team briefs where shifts are discussed.
  
- ***Has employees that enjoy working at the organisation***
  - People do generally like working for LineCo4: a bit understaffed and stressful at times.
  - People have a sense of pride in their work at LineCo4.
  - Have had some input into developing policy at LineCo4.
  - People would appreciate more transparent goals and maybe more training.

As part of the strategy of using a strict interview plan when interviewing employees, each employee was asked to score themselves and the organisation against a number of statements. The results of this scoring are as shown in Table 38 below.

<b>Employee Interview results</b>				
	<b>Employee</b>			
<b>Statement</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
1. LineCo4 has a culture of trust and respect.	1	1	2	
2. LineCo4 has a facilitative management rather than command and control.	1	3	2	
3. LineCo4 is committed to continuous improvement.	3	4	4	
4. LineCo4 has a free-flow of ideas and know-how.	2	2	2	
5. There is great communication at LineCo4	3	2	2	
6. There is great team work at LineCo4	4	5	4	
7. I enjoy working at LineCo4.	1	5	5	

Table 38: Results of interview self-scoring results by randomly selected employees of LineCo4. Source: Author

As previously mentioned scores denote the following:

- 5 – Always
- 4 – Mostly
- 3 – Sometimes
- 2 – Seldom
- 1 – Never

Four interviews were scheduled with randomly selected employees; one did not show up.

As explained earlier, the structured interviews were used to target individuals to get information needed to build a complete picture of the organisation. The focus of the structured interviews was to gain evidence of learning organisation activities, whereas the focus of the informal chats and unstructured interviews was to gain an understanding how the organisation works in order to identify practices that act as barriers to learning. The following is the picture that was built up as a result of information gained from these informal chats (again, the present tense is used in this section).

- ***Interviewee 1***

The company is quite exploratory in its strategy with diversification, growth and initiatives being the theme. This bias towards growth through new initiatives is driven by the CEO. New initiatives come primarily from the top. Recently there has been an attempt to try to encourage a bottom up approach for new initiatives through an innovation funnel framework. Although this framework was developed, it was not implemented because of too many initiatives existed at any one time (e.g., smart metering, fibre

etc.). “There is enough happening at LineCo4” – There seems to be a focus on exploratory strategy with growth and new initiatives.

All new initiatives that require capital commitment and result in major change are handled as projects. Key people are drawn from various departments to work together to assess the initiative. This is then internally approved and may sometimes require board approval (depending on the type of project and initiative). The plan that is submitted for initial approval is called a “straw man” concept and can be further shaped by the internal approval process. To handle the projects, someone in-house can be chosen to lead it but sometimes they will get an outsider to drive it. People are expected to handle their project work as well as their normal job. These initiatives can suddenly arise during a financial year (i.e., unplanned for during the budgeting stage).

There is the culture of advancing and growing the business. This focus on growth and diversification is largely driven by the CEO. People are generally supportive of the culture although it does create stress for people. There is a performance review structure where every 6 months employees are reviewed. Although KPIs are set, they are not strictly adhered to when evaluating and doing performance reviews. There are numerous employees that have a fixed salary as well as a floating component (also called at risk component). This has been disbanded and is maintained only at the GM level. The floating component was used to reward those who had contributed primarily to the projects.

There is not much of a blame culture in the organisation. There is a sense of accountability. If something happens, then an evaluation is done to see what went wrong and then support is provided to correct it, although there is sometimes that immediate reaction to blame the somebody.

There is not that much of a proper cross functional team work within LineCo4 and it is rare to see teams working together in frequent face to face meetings, feedback etc. This can create issues with communication and people get frustrated because they are not up to speed. The so-called project teams depend on the individuals (the project leaders) to pull resources from various business functions together.

Strategy is mainly top down. Don’t really know what the vision and the values of the company are, however, there is an implicit vision of initiatives and growth, a give it a go attitude.

The organisation is not good at communicating to all what is going on. There seems to be a divide between senior management and the rest of the organisation. Although there is the 6-monthly breakfast meeting where the CEO discusses where the organisation is going, this does not resolve the communication gap.

- ***Interviewee 2***

Interviewee2 is the financial controller and has been with the organisation for about 3 months. Interviewee2 says that there are unbudgeted Capex projects that come up (for example, to bring in the civil works team back into LineCo4) during the year and these decisions need approval by the board. The fact that the CEO can get these projects approved by the board shows that the CEO has a significant degree of influence with the Board.

The “DNA” of the company is innovation and growth. This is driven by the CEO and is seen in all the communications that happen in the organisation. As part of the induction programme the vision of the company is given by the CEO. He says that the vision is to become “the infrastructure company of choice”.

Interviewee2 says that financial authority is delegated, and certain limits are allowed up to the line manager level. He believes that LineCo4 has highly motivated people and they work well as a team. The projects that he is involved with currently are manned by personnel from many different business functions.

Interviewee2 explained that there is little chance of properly embedding projects, and no opportunity of reviewing projects after implementation, before they move to the next initiative and project. For example, when a new project requires new policies to be put in place, no proper training is provided. The set-up of the fibre company in SAP is not finished. It has been done in an ad hoc manner and they are now facing many issues as a result. The lack of process embedding is directly increasing the level of risk to the organisation.

- ***Interviewee 3***

Interviewee3’s primary role is to lead the team that deals with infrastructure issues with customers. Although customers deal with the retail companies, LineCo4 gets involved with quoting and installing infrastructure for various customers.

Any infrastructure project above 50 KVA has to go through several back-end processes. The scope of the project is created by the customer services team and then goes to the network and operations team, after which it is sent to the design team and finally signed off by the network and operations team before going out to the contracting team. The contracting team will then schedule the project into their programme of work. Consequently, to respond to a customer with cost and dates takes time as processes are so manual. To overcome this, a project was initiated by the GM (operations support) to look at the entire process. A consulting company from Australia reviewed the process and a new position called “last planner” was created. This new position will take ownership and coordinate all projects exceeding 50KVA. LineCo4 does look at process improvements and process efficiencies and this balances the focus on growth initiatives and diversification of the organization.

Interviewee3 was quite happy with the drive for initiatives and growth. He was happy with the direction of the company to look for new technologies and better ways of doing business. He says that this keeps people fresh in their thinking and having an open mind. On the other hand, Interviewee3 also mentioned that most initiatives have issues that are not properly dealt with, and continue to have issues even after the project is completed. For example, he spoke of the LineCo4 Production System (LCPS) which was implemented in September 2009. It still has issues and needs to be re-worked and re-designed and is an example that illustrates how the focus on new initiatives can drive out the time and attention needed to embed and institutionalise new changes.

- ***Interviewee 4***

Some of the supervisors and lower level managers have up to 20 performance reviews to conduct each year. Many of them tend to find this task very onerous and overwhelming and end up just going through the motions. Because of this, there is not much uptake of training at the lower level. There is not much interaction with other lines companies, so many employees have had no exposure to how things are done differently elsewhere. Because the organisation is investing so much in fibre optics, a number have asked to get some training in fibre optic cable jointing but the decision has been made to bring in fibre jointers rather than train existing employees.

- ***Interviewee 5***

There is a great drive at LineCo4 to increase its unregulated income. There are so many projects going on at one time that people feel overwhelmed with the amount of work to do. There has not been time for post-completion reviews of projects or project embedding.

There are a lot of changes going on at LineCo4 but communication from the executive team to the rest of the organisation could be a lot better and people don't really know where they stand as a result.

Innovations are driven from the top downwards and almost exclusively by the CEO. Nothing is driven from the bottom up at LineCo4. This has resulted in projects becoming dependent on one key person, the CEO, and many projects would die if the CEO got hit by a bus tomorrow. Some of the projects are very high risk and could backfire. The CEO has a leadership style that is more demanding than inspiring. He is definitely not a coach. Some of this behaviour has filtered downwards and some senior managers have adopted a similar style as a result.

The CEO has been away on business a lot in the last 18 months. As a result, the executive team has not met officially at all in this time, as the CEO likes to be present at these meetings. When they started to meet again, the CEO tended to hog the floor a lot (and the executive team allows this to happen).

The CEO is very controlling and the executive team seems reluctant to confront him. He has not officially named or recognised a second-in-charge for LineCo4. Unofficially, it is recognised that the second-in-charge is the GM (people and performance) who, it is believed, would step up and take charge if needed.

The CEO is seen as only really recognising good performance in projects he is personally interested in – others get overlooked. The CEO is excellent at networking and raising the public profile of the organisation. He is otherwise quite unstructured in his approach. He does not involve or seek advice from the HR department when it comes to recruiting or setting salaries for senior managers and does not follow LineCo4 processes, procedure or policies when recruiting. Some of the newer executive recruits are working without an employment contract.

The CEO refuses to give performance reviews for people reporting directly to him, even though they feel they need and would like that feedback. He has stated that he is uncomfortable giving reviews of performance and prefers to operate in the fashion of “if you don’t hear anything from me, you are doing alright”. The CEO seems unaware of the fact that the executive team members do talk amongst themselves and complain to each other about these things. The executive team are of the opinion that they manage to make things at LineCo4 work, despite the CEO.

A meeting observation then took place. The purpose of the meeting being observed was a discussion about programmes and workshops for the emerging talent project. It was attended by three managers with a strong interest in the programme. The intent of the Emerging Talent project was to develop leadership skills and competencies such as presentation skills, customer service skills, conflict resolution etc., at the junior level. At the time, this initiative was being trialled for the operations support group and the intention was for it to be rolled out to the rest of the organization in the not too distant future. Meeting participants discussed content for the next set of workshops and decided to include three topics: customer service, conflict resolution and leadership. Subject experts would be invited along to deliver relevant sections of the workshop but it would have to be designed in such a way as to encourage participants to present what they had experienced and learned etc.

Meeting attendees were clearly very comfortable in each other’s presence and there was a genuine free flow of discussion. There was no evidence of any part dominating the meeting and no one seemed to have any pre-prepared agendas or outcomes that they wanted to drive through. All attendees seemed to have an equal voice and there was no evidence of individuals participating more or less than others. The meeting was constructive and ideas were genuinely built upon at the meeting. One item of discussion centred on whether or not to invite a Maori speaker and whether there would be the need to arrange a powhiri (a traditional Maori greeting ceremony). Pros and cons were thoroughly discussed and there would have been an opportunity to examine assumptions (mental models) and hold them up for scrutiny, a hallmark of genuine dialogue, but this did not occur. A decision was made, however, and all participants were happy with the outcomes of the meeting.

A field work observation also took place. In this particular case, one of the investigators accompanied an engineer to a substation to carry out some repair work, a job that was planned for one person. Although this meant that no observations of team interactions could be carried out, it was a good opportunity to conduct an informal chat with the engineer away from the head office. The following is a summary of points gleaned from this conversation and from observations that could take place.

- The truck used by the engineer was modern and well equipped technologically. It had three GPS systems; one “Navman” style direction finder, one 16 GB computer based GPS and one alert system allowing the organisation to know where all its trucks are at any one given point in time. If there is no response from the engineer within 20 minutes, an alert is sent out to the office. Google Maps Street View is used extensively to check on the condition and make up of power poles.
- None of the field staff had much say in the design of the trucks which was a bit frustrating for them.
- LineCo4 is good at promoting people from the ranks and re-positioning people when needed.
- The contracting arm is viewed as the poor cousin of the main organisation. A short while previously, there were quite a number of redundancies within the contracting arm, where the number of employees was reduced from 75 to just 30 and they have slowly been building up the numbers since then. Employees viewed the way in which these redundancies occurred as being objectionable and it seemed to be a collective memory that was still fresh in a number of people’s minds.
- Apart from that, the engineer had a positive view of the company. He was supportive of the CEO who, he believed, has been very successful at raising the public profile of the organisation (in comparison with the previous CEO, who he believed, kept the organisation invisible to the public). The engineer had always found the CEO to be very approachable.

The following documentation was reviewed as part of the Document Analysis phase.

- ***Policies***

LineCo4 seemed to be quite extreme in terms of quantity of policies and had 173 policies in place, backing up what interviewees had previously said, that LineCo4 had far too many formal rules and regulations for absolutely everything.

These policies were split into the following areas:

- 87 – network and operations policies and procedures
- 7 – Publicly available policies and procedures
- 18 – Contracting policies and procedures
- 6 – Information systems policies and procedures
- 23 – Health and safety policies and procedures
- 32 – Human resources policies and procedures

It wasn't until investigators saw the list that they understood why the HR team seemed reluctant to print them all out. Clearly, there were far too many policies to read through them all. Skimming through some randomly selected policies, it became clear that many of these policies must have been developed in response to an incident of some kind and as a collection. They showed evidence of a well-developed organisational memory (although probably not intentionally so).

Due to the sheer numbers of policies available for analysis, the strategy adopted was to look through a sample of policies, keeping an eye out for policies that resembled one or more of the following items a learning organisation would be expected to have:

- **Commitment to learning**, which involves the articulation of expected symbolic behaviour of managers which influences member learning;
- **Tolerance for failure**, which involves policies that spell out the organisation's intention not to punish (but even reward) learning from errors; and
- **Commitment to the workforce**, which is policy guiding behaviour that will lead to increased member commitment to the organisation.

**LineCo4's training and development policy** - Although LineCo4 explicitly states in this policy that they are committed to providing opportunities for employees to develop their skills and knowledge which is intended improve their overall effectiveness in performing their roles or future roles, the policy itself seemed to define a set of roles geared mainly towards role specific training. When talking to the managers, it seems that in practice they were free to interpret this policy as they saw fit and all applications for short-term training, long-term training, courses, personal development, conference and seminar attendance are judged on a case by case basis. Just who is granted what seems to be at the whim of the manager and no real uniform, overarching standards applied in practise. This policy, therefore, does not constitute evidence for the existence of an explicit commitment to learning policy.

**LineCo4's leave policy** - In its policy statement, LineCo4 stated that they are committed to the fair and consistent application of leave granted to LineCo4 employees, either as a result of legislative entitlement, or the company's exercise of its discretion to grant additional leave for employees for the purposes of rest and recreation or to address the personal circumstances of employees. Again, there seemed to be a rules-based tone to this policy covering:

- Annual holidays
- Public holidays
- Sick leave
- Bereavement leave
- Jury service
- Court witness
- Leave without pay
- Special leave for sports or cultural events

But once again, upon talking to the managers, it became clear that it was up to managers to interpret these rules as they saw fit and, in practice, each application is judged on a case by case basis with no real uniformity applying.

**LineCo4's drug and alcohol policy** - The policy statement in this policy was quite long but the overall purpose for the policy as articulated in this document was to eliminate the unacceptable risks drug and alcohol use brings to the workplace. This policy covered rules around:

- Testing
- Rehabilitation
- Education and Training

None of the policies and procedures examined constituted evidence for the existence of any of the three policies we were specifically looking for. In order to be certain that none existed at LineCo4, the HR department was specifically asked if they knew of any policy similar to those looked for. There were none.

- ***Employee induction pack***

Each newly recruited employee is given an induction pack including the following documents:

**A LineCo4 employee handbook** - The employee handbook contained an overview of information relating to:

- LineCo4 as a company
- Employee benefits
- Terms and conditions of employment
- Health and safety
- Company standards, policies, procedures and plans
- Security at LineCo4
- Employee code of conduct

The employee handbook also articulated LineCo4's vision, mission, business objectives and values which are worth mentioning and discussing here:

- **Vision** – LineCo4's vision is to be the service provider of choice for energy infrastructure solutions
- **Mission** – LineCo4's mission is to be a successful business through excellence in customer service, innovation, growth and leadership
- **Business Objectives** – LineCo4's business objectives are to:
  - Build and grow an efficient, profitable business
  - Develop stakeholder management and customer service
  - Develop processes, systems and operational performance
  - Develop employee commitment, motivation and performance
- **Values** – LineCo4s has the four following values it operates under
  - Team work
  - Continuous improvement and innovation
  - Integrity and accountability with open communication
  - Respect and appreciation

As discussed previously, LineCo4's mission, vision, objectives and values had been handed down to the organisation from above. No process of co-creation, or attempt at co-creation, had been employed in their development. Therefore, as would be expected, there was very little evidence of buy-in to these themes. Most people, when interviewed, could not recount them.

The investigators could see how the mission and business objectives fit together and they seemed to be an accurate description of what drives LineCo4's operations, but investigators were unable to see the connection with LineCo4's vision which we regarded as being quite vague. No one, when asked, could explain the connection.

The values, as articulated, seemed quite laudable but there was no evidence that a discussion had taken place, even within the executive team, about how LineCo4, as a company knows that it is successfully operated in a manner conducive to the values. The values did not seem to function as a filter of behaviours. When interviewed, most of the executives agreed that no more than a cursory look at the mission, vision, objectives and values ever occurred. Discussions on values did occur on a yearly basis but only as a rubber stamp exercise.

**A staff structure manual** - This manual provided each new employee with a colour photograph, the name, title, and the department and contact details of every employee at LineCo4. Also included in this manual was a complete organisational chart.

**A complete list of policies** - Newly inducted staff were provided with a complete list of organisational policies, procedures and standards in place at LineCo4, including their document numbers but with no further explanation about the policy.

**A clothing brochure** - Newly inducted employees were provided with a colour brochure of subsidised clothing available for purchase by LineCo4 employees.

- ***LineCo4's annual report for 2010***

From the Annual report, it seems that LineCo4's financial position was fairly solid with the Chairman of the Board declaring total equity of \$290,000,000 and a profit of \$25,000,000. The Chairman also declared that LineCo4 had invested \$45,000,000 in 2010. Innovation was a very strong theme in the annual report which featured progress in areas of the Smart Grid, Smart Metering and the Ultra-Fast Broadband projects.

- ***LineCo4's business plan 2010/2011***

This was a very detailed document containing information about company objectives, KPIs, budgets and the financial performance of each of LineCo4's subsidiary companies. These included:

- LineCo4 Limited
- LineCo4 Contracting Services Limited

- LineCo4 Fibre Limited
- TransformerCo
- LineCo4 Insurance Ltd

It was very clear from this document that LineCo4 was very committed to a large number of on-going projects and clearly backs up data gained from interviewing LineCo4 personnel.

#### **4.5.4. Offsite analysis of the data**

All of day 3, day 4 and half of day 5 were allocated for the offsite analysis of the data. Responses from the survey had already been analysed prior to the start of the LOQS. 43 out of 160 of LineCo4's staff (including the Management Team) participated in the survey which equated to a 27% response rate.

The survey questionnaire consisted of 46 statements which each participant could tick on a 7-point Likert scale indicating the degree to which they agreed or disagreed with the statement as shown below.

- 1 - Strongly disagree
- 2 - Disagree
- 3 - Disagree slightly
- 4 - Neither agree nor disagree
- 5 - Agree slightly
- 6 - Agree
- 7 - Strongly agree

All the responses were recorded onto a spreadsheet for collation and analysis. This data was analysed in two ways. First, the percentage of responses (strongly disagree to strongly agree) for each statement was recorded and graphed. Secondly, each statement for each participant was given a score. Three points was given to the 'best possible answer'; two points was given to the 'next best possible answer'; one point was given to the third best possible answer; zero points was given to a neutral answer etc. down to minus three points being given to the 'worst possible answer'. The organisation's score for each statement then became an average of all respondents' scores.

An overall organisational survey response score could then be worked out as shown in Figure 43 below.

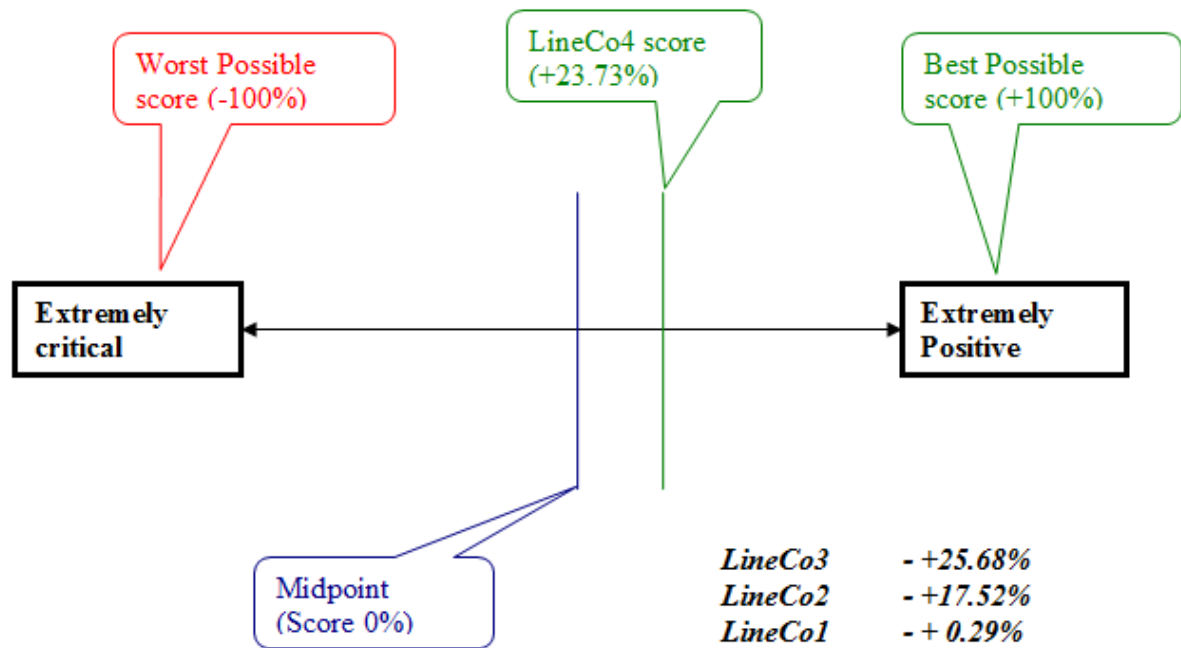


Figure 43: The mood of the organisation (LineCo4) from the survey results. Source: Author

The diagram above gives a graphical representation of the overall mood of the organisation from the survey responses. If all respondents had given the 'best possible response' to every statement, the overall result would have been +100% (extremely positive). If all respondent had given the 'worst possible response' to every statement on the questionnaire then the overall result would have been -100% (extremely critical). LineCo4's overall score was +23.73% which indicates quite a positive mood but not the highest score of all four organisations examined. Scoring each statement from -3 to +3 also allowed the LOQS team to identify the problem attributes (statements with the lowest scores) and good attributes (statements with the highest scores) and pick those corresponding graphs for presentation back to the organisation for discussion. As with the previous LOQS, the data from the survey responses were split according to the different business units and the lengths of time employees had been with the organisation.

The results of each response were therefore displayed in three different ways:

- A graph showing the overall responses
- A graph showing responses by business unit. These were split into:
  - Managers
  - Field staff/other
  - Technical and professional staff
  - Admin
- A graph showing responses by the length of time an employee has been with the organisation.

An example of how these graphs were displayed to the executive team can be seen in Figure 44, showing the overall response distribution; Figure 45, showing the response distributions by business units and Figure 46, showing the response distribution by the length of time employees had been with the organisation. Viewing the graphs in this way made it possible for a quick visual analysis of any patterns emerging, e.g.

employees who had been with the organisation longest had the most pessimistic responses; or, employees in the field staff gave the most optimistic responses, etc.

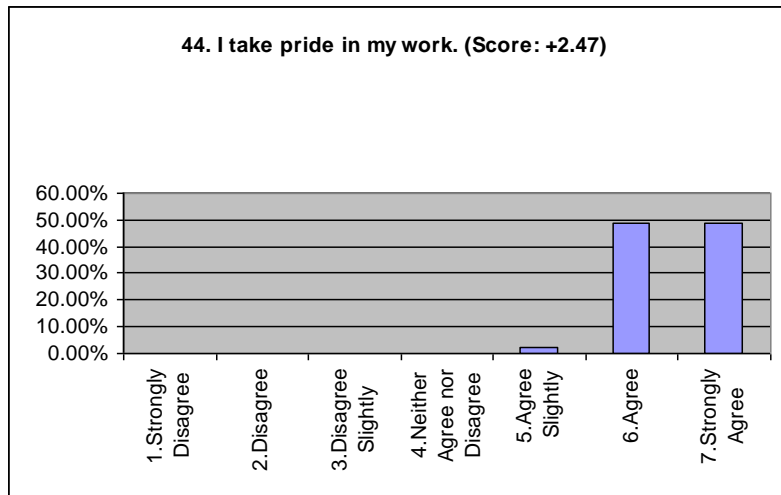


Figure 44: Graph showing LineCo4's overall survey results for question 44. Source: Author

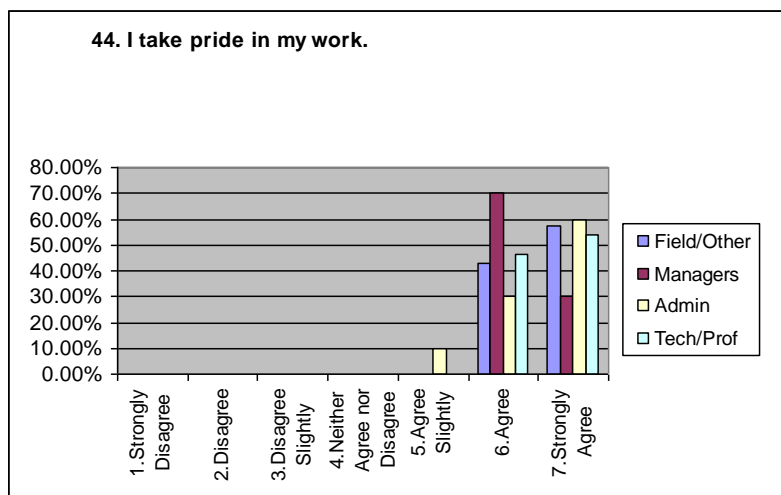


Figure 45: Graph showing LineCo4's survey results for question 44 by business unit. Source: Author

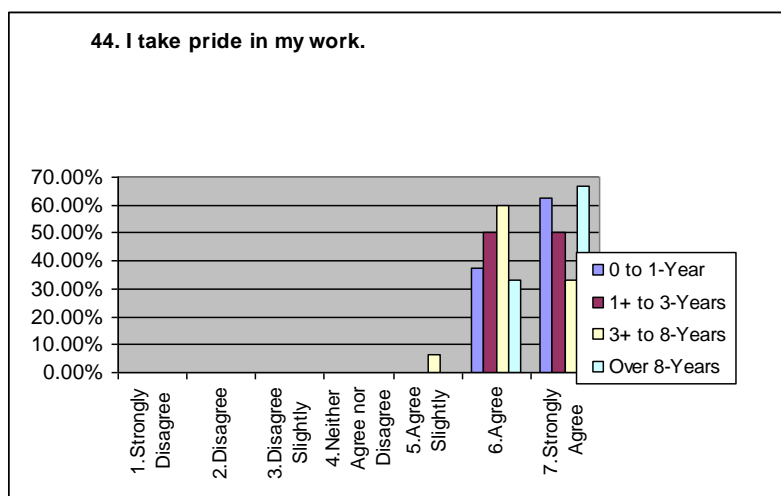


Figure 46: Graph showing LineCo4's survey results for question 44 by length of employment. Source: Author

A visual examination reveals that those giving the most optimistic responses are the technical and professional group and those that have been with the organisation over 8 years.

The rest of the survey results showing a consensus of opinion were shown to the executive team but are presented here in tabular form in Table 39 below. The actual graphical representations can be seen in Appendix 9 – Graphical representation of survey responses (LineCo4).

<b>Question #</b>	<b>Statement</b>	<b>Overall score</b>	<b>Comments</b>
9	I feel I am committed to help LineCo4 reach its goals	+1.98	There is no real correlation between positive responses and business unit but a slight one with employees that have been with the organisation longer than 8 years.
22	I like working here at LineCo4	+1.72	There is no real correlation between positive responses, business unit or time with the organisation.
24	LineCo4 is committed to continuous improvement	+1.58	There is a slight correlation between positive responses from tech/prof employees and a slight one with employees who have been with the organisation longer than 8 years.
2	This organisation cares about the well-being of its people	+1.37	The admin staff are unhappiest and the happiest are those that have been with the organisation longer than 8 years.
30	LineCo4 encourages me to think about our customers' views when making decisions	+1.35	There is a slight correlation between positive responses from tech/prof employees and a slight one with employees that have been with the organisation longer than 8 years.
85	My goals really drive me to want to keep learning	+1.35	Tech/prof staff are happiest but there is no correlation between positive responses and time with organisation.
14	LineCo4 has a no-blame culture	-0.60	Admin staff are unhappiest as are those that have been with organisation 1-3 years.
19	There is great communication here at LineCo4	-0.28	Field staff are unhappiest as are those that have been with organisation 1-3 years.

Table 39: Survey response highlights from LineCo4. Source: Author

A brainstorming session was initiated in an attempt to triangulate the data collected through interviews, informal chats and document analysis in order to identify the major issues that may contribute to barriers to learning. Once these major issues had been identified, the data was used to map cause and effect. The cause and effect diagram is a major feature in the QSAM and this diagram becomes the organisation's 'story' and is used to spark discussion when feeding back to the organisation. The point of this diagram is to help identify areas where interventions could yield the greatest leverage for change. These areas for change would also be fed back as suggestions to the organisation in the form of possible wins. The brainstorm by the researchers resulted in the following cause and effect diagram for LineCo4. Note that the start points are circled in purple and the endpoints are circled in red in Figure 47 below.

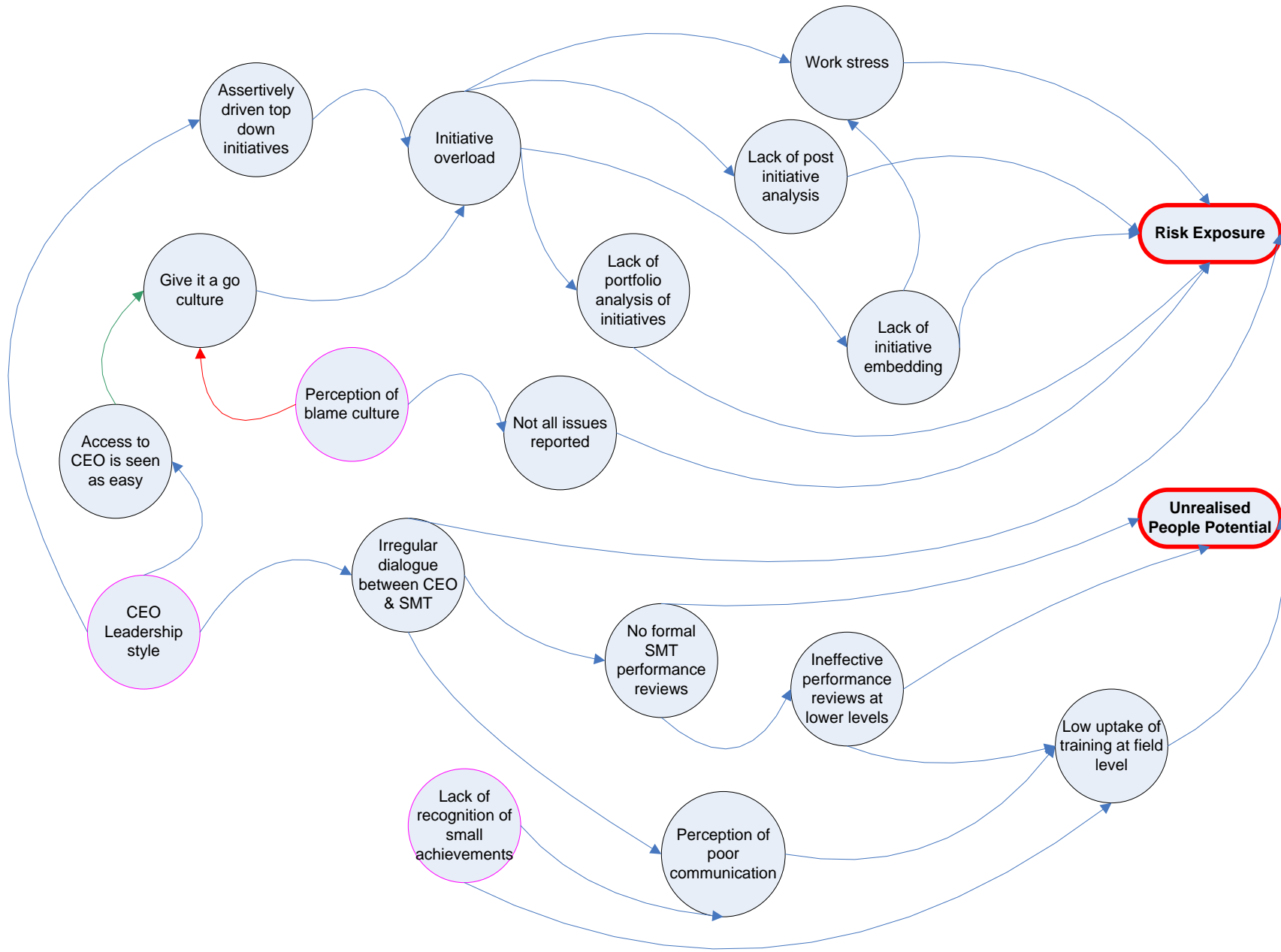


Figure 47: Cause and effect diagram for LineCo4. Source: Author

The major issue identified from the interviews and the informal chats was the tension between the field crew and the design team. Using the diagram above, the story around this issue can be told as follows. The CEO's leadership style has led to irregular dialogue between the CEO and the executive team which, in turn, leads to unrealised people potential. The irregular dialogue between the CEO and the executive team has also meant that the executive team has missed out on performance reviews which also results in unrealised people potential. The fact that there are no formal executive team performance reviews may play some part in the ineffective performance reviews at lower levels which in itself leads to a low uptake of training at fields staff levels and, again, unrealised people potential.

Lack of recognition of small achievements also affects the perception of poor communication which also has an influence on the low uptake of training at the field level. Irregular dialogue between the CEO and the executive team has a negative impact on the perception of poor communication and also affects the organisation's risk exposure. The perception of a blame culture at LineCo4 has the result that not all issues are reported and this increases the organisation's risk exposure. The blame culture also negatively affects the "give it a go" culture at LineCo4 which, in turn, is positively influenced by the perception of easy access to the CEO.

The CEO's leadership style has led to assertively driven top down initiatives. This and the "give it a go" culture have led to a bit of an initiative overload at LineCo4, as well as increased work stress which itself has resulted in little time being spent on portfolio analysis of initiatives, post-initiative analysis and a lack of initiative embedding. All of which lead to increased organisational risk exposure. The 'story' developed from the cause and effect diagram was one of the major components of the feedback to the organisation which will be discussed further later on in this case study. It also led to the identification of the following suggestions to the organisation:

- **Quick wins**
  - Encourage regular team and project self-reviews (perhaps by using a consultant to begin with)
  - Recognise small wins/achievements
  - Encourage and embed processing ideas/initiatives from the bottom up
  - Implement performance reviews for executives
- **Medium-term wins**
  - Additional support for performance reviews at low level (potential for embedded learning)
  - Implement review system for projects (pre, post and during) (plan, do, check) to embed after action analysis
  - Portfolio analysis of projects (categorise in terms of risk and investment size)
  - Initiate a facilitated frank discussion between the executive team and CEO on CEO leadership style (to encourage dialogue)
- **Long-term wins**
  - Address the perception of blame culture through management training
  - Develop a more connected vision (mission, objectives and values good) with an element of co-creation to optimise buy-in and commitment

Each of the activities included in the mini-checklists for each of the information gathering techniques employed was graded using the evidence collected through these techniques. They were graded as follows:

- 5 – Always
- 4 – Mostly
- 3 – Sometimes
- 2 – Seldom
- 1 – Never

The questionnaire responses also had an associated mini-checklist aligned with the final (master) checklist.

Each statement on the questionnaire was graded from -3 to +3 (examples of which can be seen in the charts selected earlier). The following calculation was changed a little, due to lessons learned at the previous case study. If the score from all the survey responses for a statement scored:

- Over 2.5 – the checklist score became 5 (always)
- Between 1.5 and 2.49 – the checklist score became 4 (mostly)
- Between 0.8 and 1.49 – the checklist score became 3 (sometimes)
- Between -0.7 and 0.79 – the checklist score became 2 (seldom)
- Under -0.7 – the checklist score became 1 (never)

And as previously noted, before these scores could be set in stone each graph had to be visually checked in order to take into account the spread of responses. If the graph showed half respondents replying “agree”, and half of them scoring “disagree”, then the graph would have been graded at zero, which would score 1 on the checklist – this is clearly not correct and with the spread being taken into account in the Visual Checking Component (VCC) of the questionnaire analysis, the checklist score would be adjusted to 3 (sometimes), etc.

The master checklist was then updated with the scores from all of the mini-checklists and an average taken of all the scores from each of the dimension’s activities to arrive at a final score for each dimension.

Prior to the dimensional scores being worked out, discussions involving the whole investigator team then ensued where the scores for each activity (sub-attribute) were examined and adjusted upwards or downwards, depending on the outcome of the discussions. This was to ensure that no investigator perspectives remained unaccounted for.

As can be seen from the charted LOQS metric, the number of dimensions for a learning organisation was reduced from five to four (by removing the Systems Dimension), with all the activities of the systems dimension reallocated to other dimensions where appropriate.

Before the scores could be plotted, each dimension’s score was reduced by 1.0, so that the maximum score became 4 which allowed a minimum of zero, rather than 1.

The result of this exercise is shown below and has now become known as the LOQS Diamond shown in Figure 48 below.

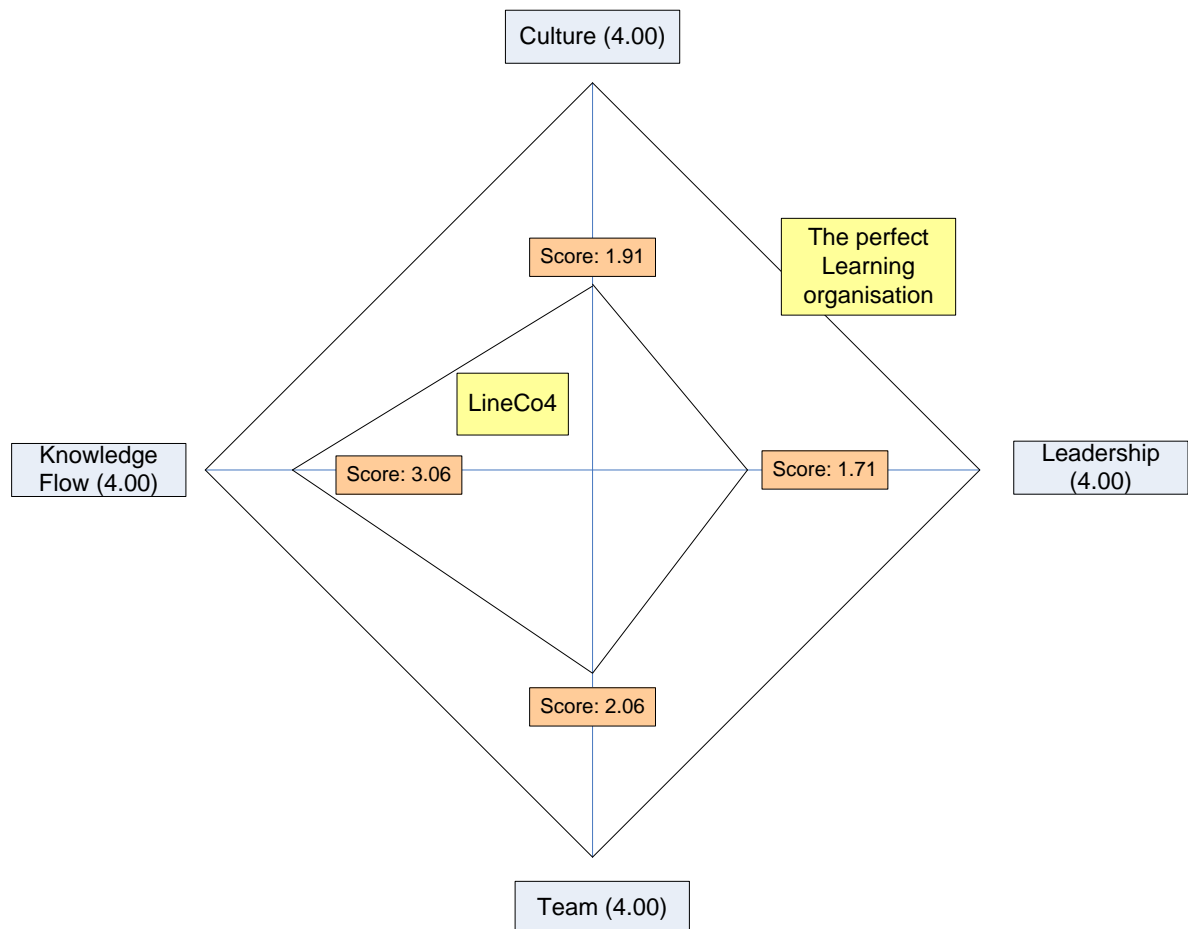


Figure 48: The LOQS Diamond for LineCo4. Source: Author

The maximum scores for each dimension is 4 and this graph shows that LineCo4's strengths lay in the team and knowledge flow dimensions. Weaknesses lay in areas of leadership and organisational culture.

#### 4.5.5. Feedback to LineCo4

Feedback to the organisation took the form of a PowerPoint presentation scheduled for close of business on day 5 of the Quick Scan. As with the previous case studies, there was only one presentation which was for the executive team.

The presentation to the team covered the following topics:

- A reminder of who the LOQS team were and what the investigation hoped to achieve
- A brief explanation of what a learning organisation is
- A reminder of what the investigators were looking for and how they gathered the data
- A brief overview of how investigators found LineCo4 to be as an organisation
- A list of initiatives that particularly impressed the researchers

- Results of the survey
- What the results meant
- The cause and effect diagram along with a thorough explanation
- The overall results of the investigation in terms of the Learning Organisation metric – the Diamond and a comparison of how LineCo4 scored and how other lines companies investigated scored
- An overview of suggested interventions

The feedback given to LineCo4 was that investigators found LineCo4 to be a highly innovative organisation (continually thinking outside of the square) with a capable management team. The schism between the office staff and the field team was not nearly as pronounced as with other organisations the investigators had measured. The initiatives that particularly impressed the LOQS team were as follows:

- The smorgasbord of benefits on offer to employees
- LineCo4's Wellness Programme with the potential for systemic benefits throughout the organisation
- The Emerging Talent Programme (piloted)
- The continual striving for unregulated income outside of core business
- LineCo4's strategy for succession planning
- A healthy balance of contracted and employed staff

The investigators recalculated roughly the previous LOQS scores from the other case studies and plotted them next to LineCo4's score so a comparison could be made. This graph is shown in Figure 49 below.

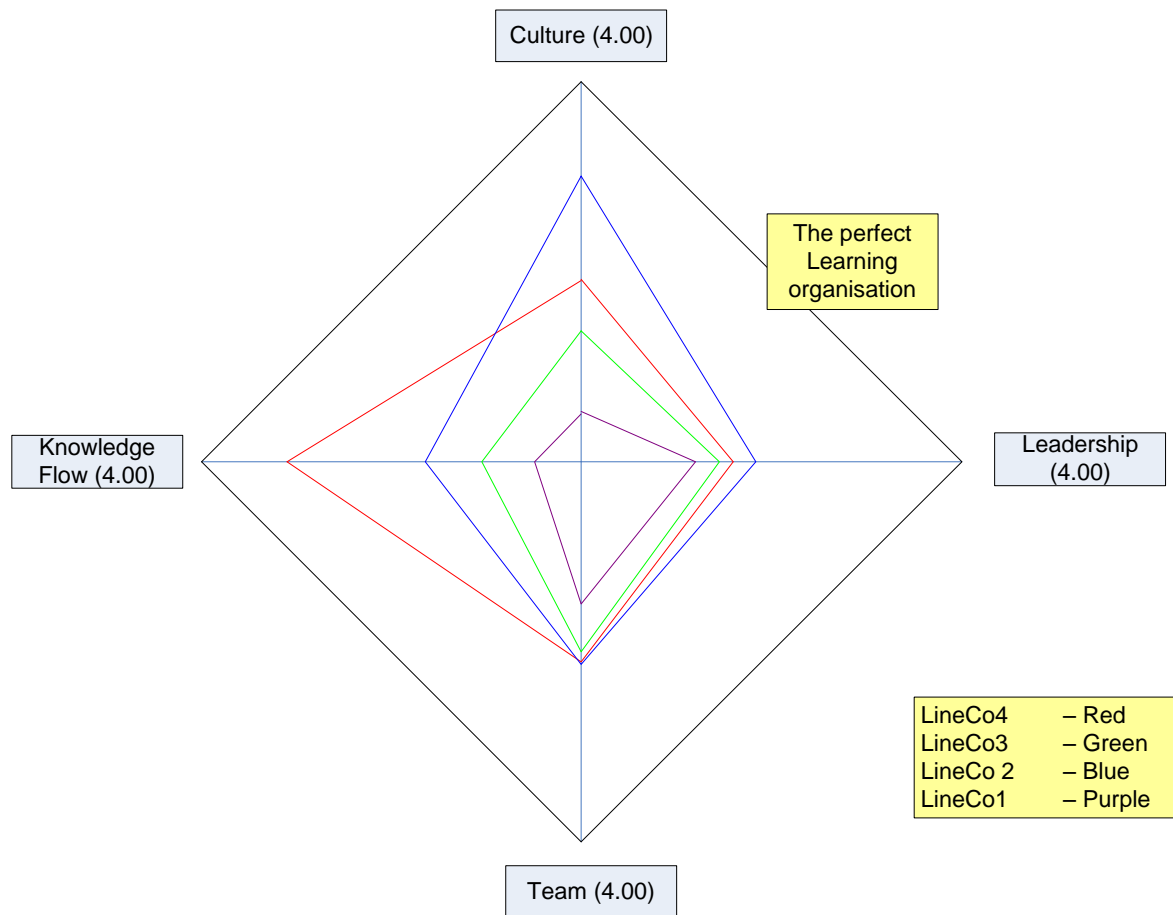


Figure 49: The LOQS Diamond for LineCo4 with all other participant organisations plotted for comparison. Source: Author

Great care was taken to explain before presenting the comparison diamond that because of the iterative nature of the development of the LOQS methodology, none of the organisations were measured in exactly the same way and, therefore, the results shown could not be interpreted as a truly accurate comparison. It was also pointed out that each organisation was measured at different points in time and the results presented do not take into account the participating organisations' evolution since the point in time that they were measured. The comparison diamond sparked off a lengthy question and answer session and significant debate between executive team members. It was interesting to note that the CEO was not present for this presentation. Table 40 shows the results of a list of questions put to the management team in order to elicit some useful feedback about the Quick Scan process from LineCo4's perspective.

Question	Response
In your opinion, have we as an investigating team managed to gain a thorough understanding of your organisation in the two days that we were on site?	The executive team members were unanimous that we had a complete and accurate understanding of LineCo4 as an organisation. A couple of them commented on the fact that they were amazed that it had taken investigators only two days to understand what had taken them years to come to grips with themselves.
How accurately do you think that the LOQS process has identified issues at LineCo4 that investigators presented as barriers to learning?	The executive team felt that the issues identified were spot on.
Was there anything big that you feel the LOQS process missed?	The executive team could not come up with anything that the LOQS had missed.
Is there anything that you feel investigators got wrong?	The executive team did not feel that there was anything we had incorrectly identified.
Were there any surprises for you in this presentation?	The executive team did not feel anything from the presentation came as any big surprise for them.
How disruptive do you feel the LOQS was for you as an organisation?	The executive team felt there was no disruption to LineCo4 through participation in the LOQS.
Is there anything that you feel you would like to have seen done differently?	The executive team would have liked the LOQS team to have visited the other small local depots and would have been interested in the results.
Has the exercise been useful for you?	The executive team felt that participation in the LOQS was a very useful and beneficial exercise for LineCo4.
Do you have any other comments of feedback that you feel the LOQS team will find useful?	LineCo4 requested permission to use the findings from the LOQS to put together a report for LineCo4's Board of Directors. Permission was granted. Also, it was requested that I deliver the presentation once more for the one executive team member who was on sick leave – the investigators agreed and delivered the presentation by phone a week later – feedback from this presentation echoed the feedback given by those who were present at the first presentation.

Table 40: Feedback from LineCo4 about the LOQS. Source: Author

#### **4.5.6. Reflections on the LOQS at LineCo4**

The last test of the LOQS was considered a success from the feedback received – the LOQS as a developed methodology had passed the test. Administering the survey prior to the start of the onsite data gathering effectively gave direction to investigators. Assigning different roles to investigators also proved successful as tasks could occur in parallel: conducting structured interviews whilst at the same time determining how the different business units fit together and identifying subject area experts for further questioning. Frequent investigator meetings allowed knowledge to be frequently pooled and also allowed avenues for further investigation to be properly coordinated. Filling out mini-checklists as the onsite investigation progressed gave direction for observations and document analysis. They also greatly simplified the final scoring process and allowed investigator discussions to remain focused. Lastly, reducing the dimensions from five to four made the presentation of results back to the organisation far easier to explain.

## **4.6. Summary and further reflections from the four cases**

The following section gives a brief summary of the four case studies featured in this thesis, and the lessons learned from them. It also presents a diagram summarising the evolution of the LOQS as a result of modifications made to the methodology resulting from reflecting over the results of each of the four test cases.

### **4.6.1. Case 1**

Case 1 represented the testing of the initial LOQS prototype. The initial presentation to the workforce generated a lot of excitement and expectation among staff which may well have led to the high survey response rate.

A lot of work had gone into defining the attributes of a learning organisation from previous published literature and it was against this list of attributes that, it was hoped, a scoring system could be developed.

Interviews were not structured and had to be improvised and field work observations took place without the observers understanding what they were looking for. The same could be said for the document analysis and technology analysis phases.

Offsite analysis of the data was chaotic with researchers having great difficulty marrying the data with the list of LO attributes and making a judgement as to whether the attribute had been satisfied by the participating organisation. Setting scores against the dimensions simply was not possible at that stage (the graphic showing plotted scores against LOQS dimensions was totally made up), but what did work very well was the analysis of the survey results.

The format of the presentations to staff and to the executive team was inspired by the formats used for the QSAM and both presentations were well received. For the executives, there were a number of slides explaining in detail what a learning organisation was and what the attributes of learning organisations had been found to be from the research— at this point, the eyes of the executives could be seen to glaze over and the remaining slides on learning organisations were skipped.

The drawback of conducting the initial presentation to the workforce was that the presentation, inadvertently, built up a significant degree of expectation among staff that changes would occur within the organisation as a result of the LOQS. This became apparent in the final presentation to the workforce where quite a number of advice-seeking questions were asked as to how their perceived problems could be solved. The LOQS team simply were not qualified to answer these questions, nor was it intended to be part of the scope of the research.

The following diagram in Figure 50 shows how the LOQS methodology changed from case to case.

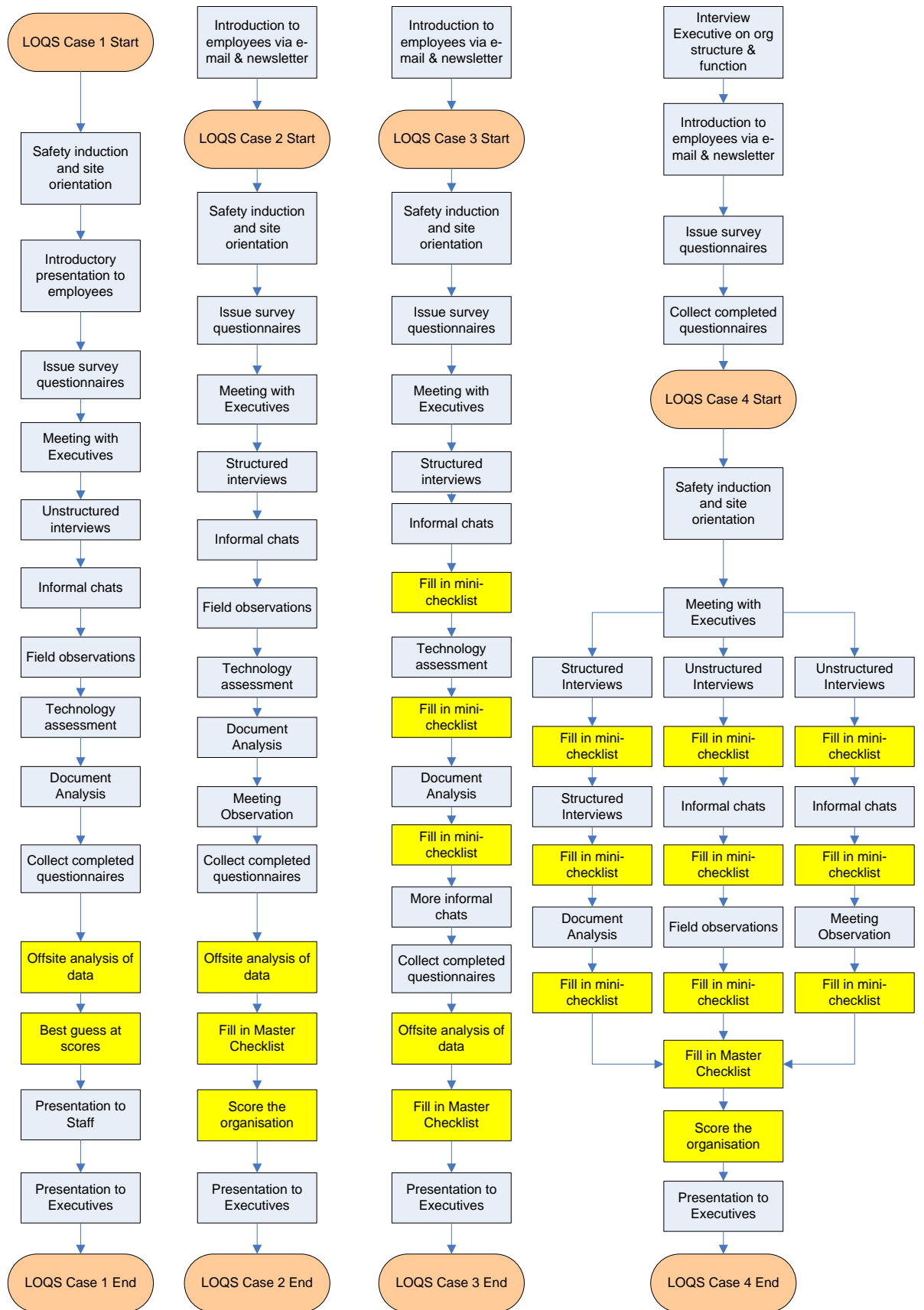


Figure 50: The evolution of the LOQS methodology with each case. Source: Author

#### **4.6.2. Case 2**

Case 2 saw a number of significant changes. The realisation that each of the LOQS attributes needed further interpretation led to the development of a list of activities (or sub-attributes) for each attribute. These activities represented the activities that a learning organisation would be expected to engage in. Nothing on this subject could be found in previously published literature, so the list had to be developed through a process of brain-storming involving the lead researcher and an informal small focus group consisting of respected friends and colleagues. Some good ideas came out of it but most of the work ended up being done by the author through a process of reflection.

Another change in Case 2 saw the scrapping of both the initial and the final presentation to the workforce. There were two reasons for this. First, the LOQS team wanted to avoid building expectations among staff that the project would lead to changes in their organisation. The second reason was that LineCo2 was significantly larger than LineCo1 and the executive team saw the task of gathering staff together in one place for two presentations as being prohibitively disruptive to the organisation. Both the participating organisation and the investigators were happy to scrap this part of the LOQS process, although there was some residual concern that not presenting to the workforce would reduce buy-in to participation and, thus, reduce the response rate for the survey questionnaire. This was why great care was taken to formulate an announcement to staff via e-mail, newsletter and posters prior to the start of Case 2 stating when and why the research study was taking place.

Another realisation was that there were two prongs to the LOQS process: one to identify evidence that the participant organisation engaged in learning organisation activities, and the other to identify evidence of barriers to learning which could represent missing or broken processes.

A much more structured interview plan was therefore introduced that included an element of self-scoring for interviewees. The structured interviews included a number of statements to be read out to the interviewee who would then set a score on each statement. The interviewee would then be asked to justify the score and the interviewers could then choose from a number of probing questions to elicit more information. Informal chats would remain improvised but it was now understood that their purpose was to gain a better understanding of the barriers to learning within the organisation.

The real breakthrough of having developed LOQS activities was that they enabled the development of a checklist that investigators could go through during the off-site data analysis phase and check off each activity from the data captured. The problem was that it took a very long time to go through this list and agree the degree to which the organisation satisfied each activity. But once this had been achieved, setting the scores was a simple matter of averaging all activity scores for each LOQS dimension.

The presentation took the same format as in the previous case and was well received.

### 4.6.3. Case 3

Case 3 followed more or less the same format as the previous case. Minor changes had been made to the survey questionnaires based on feedback received in the previous two cases.

Mini-checklists were created for each data gathering method. These mini-checklists were then filled in at various points during the on-site days as sections of the data gathering completed.

The mini-checklists also made the planning of the field work observations and the meeting observations much easier, as investigators could go into these phases of data collection knowing specifically what they were looking for. Unfortunately, certain elements of the LOQS had to be sacrificed due to time constraints arising from confusion over understanding the company structure and how the different business units fitted together. Time for further informal chats was prioritised in order to fill in the knowledge gaps.

The important lesson learned, however, was never to make the assumption that just because one organisation is in exactly the same industry sector as another, their organisational structures and their methods of operation would be similar – a good lesson. On reflection, the failure of the investigators to fully understand the organisation structure and how the different units fit together from an operations perspective also occurred (to a much lesser degree) in Case 2. This is probably the real reason for why the cause and effect diagrams in Case 2 and Case 3 seem to be lacking detail compared to those developed from Case 1 and Case 4. In the middle two cases, investigators were simply not confident enough to elaborate the detail.

Filling in the master checklist from each of the mini-checklists was easy. There was one column for each data gathering technique (mini-checklist) which meant that some activities had several scores against them, some had just a couple and some had just one as evidential data for an activity could sometimes only be gathered through one method. For example, judging whether dialogue takes place in an organisation can really only occur through meeting observation. None of this mattered, as the scores for each dimension were still worked out as an average of the scores for all its activities (regardless of how many scores an activity had against it). But, where triangulation was possible, the degree to which an activity was satisfied could be set with greater confidence and the dimensional score would be adjusted accordingly.

All that was left for investigators to do was to go through each of the scores and adjust them up or down if they could recall evidence that supported their case to do so.

The final presentation took the same format as for the previous two cases but concern was raised from the executives over observations and technology assessments having been foregone. The response from the investigators was that these had to be sacrificed due to time constraints and valuable lessons had been learned from this. They were told that the loosely coupled nature of the organisation was at first confusing to the investigators as data coming from the different business units seemed so inconsistent with each other. That is why most of the advice to the organisation revolved around increasing the synergy between business units by initiating a greater degree of standardisation of procedures and processes. Some of the executives did not see the

need for this and the final presentation was not as well received as with previous participant organisations but LineCo3 declared that they were very happy to have participated.

#### **4.6.4. Case 4**

Roughly three months elapsed between Case 1 and Case 2, and between Case 2 and Case 3. This gave enough time for the cycle of planning and development to occur based on analysis and reflection over findings from testing the previous case.

As quite a few changes were made in preparation for Case 4, a year elapsed between Case 3 and Case 4.

The first change was to initiate some of the work upfront before the start of the LOQS. Survey questionnaires were sent, returned and analysed in order to give investigators advance knowledge of the general mood of the organisation and a good indication of where areas of good practice or possible trouble spots may lie. Employees were forewarned of the LOQS in good time before they received their questionnaires.

A phone interview with one of the executive team took place with the aim of gaining an overview of the structure of the organisation and how the different business units fit together in order to prevent a recurrence of the confusion over the structure of the participant organisation and the functions of the various business units.

Another major change was the introduction of differing roles for the investigators. Initially, the reason for this stemmed from the fact that not all investigators were comfortable with the structured interview process and, on reflection, the idea of splitting roles in order to better utilise the differing strengths of investigators seemed eminently sensible. It allowed several tasks to occur in parallel. What this change meant, however, was that the investigators had to be disciplined enough to come together and meet regularly between appointments so that all could share in the information gained. This ensured that no duplication of effort occurred and it helped to ensure that all investigators went into their next appointments armed with the “latest” findings.

Again, mini-checklists were filled in as the LOQS progressed. And, as in the previous case, mini-checklists were used to plan observations and document analysis and provide the investigators with an idea of what specifically to look for.

A further change to the methodology was the reduction of the number of LOQS dimensions from five to four. Investigators found the systems dimension to be a hard concept to explain to executives, in terms of justifying its importance and justifying scores. It was a smaller dimension than the others (in terms of attributes and activities) and it was felt that systems thinking should be prevalent and observable in all the dimensions. Systems thinking, it was felt, did not warrant a dimension on its own. Luckily, there was support for this decision in the literature, from Peter Senge himself, who described Systems Thinking as the discipline that functions as the glue that binds all the other disciplines together. Activities for the systems dimension were absorbed into the remaining dimensions. This decision also had the benefit of making the LOQS dimensions scores graph much clearer and easier to understand – it became the LOQS Diamond instead of the LOQS Pentagon.

The knowledge management dimension was renamed the knowledge flow dimension. It was felt that this name change meant that the dimension could encompass more than what was traditionally known as knowledge management, and allowed the inclusion of succession planning and the spread and proliferation of ideas, knowledge and learning throughout the organisation. It also meant that the investigation could de-emphasise the need to look for specific knowledge management technologies and focus on interaction technologies in general without having to do a technology review as a separate activity.

Unstructured interviews were introduced to elicit names of people to target (subject matter experts) for informal chats and the role of informal chats became two-fold: to uncover and find reasons for barriers to learning existing within the organisation; and to gain further knowledge of the organisation's structure and how all the business units fit together.

Filling in the master-checklist from the mini-checklists was as easy as before and the process of scoring dimensions went well. The final presentation to the executive team was well received and investigators felt that, as a result, no further case studies were necessary.

#### **4.6.5. The use of observation as a data gathering method**

Meeting and field work observations are a part of the LOQS data gathering methodologies that at first were hard to justify. Most researchers will be aware that people modify their behaviour when observed and this could be a valid argument against including data from observation. But the people being observed do not know what investigators are looking for and therefore do not know what parts of their behaviour to modify. Also, as mentioned earlier, an observation does not always provide the intended data: how employees and teams interact, the skills they display when interacting or the way information flows between team members when they interact. But observation does provide data, intended data or not, and that data normally provides very useful additional lines of enquiry. Observation, as a means of collecting data, was therefore retained and proved to be useful.

#### **4.6.6. The use of activity-based measurement to extend attribute-based measurement**

Breaking down attributes of a learning organisation into learning organisation activities, or activities that a learning organisation can be expected to engage in, proved key to the success of the developed methodology. The activities gave clear direction for researchers when gathering data. They formed the framework for survey questions, interview plans, observation plans and document analysis plans. They gave rise to mini-checklists that could be filled in as the investigations progressed which added to the productivity of the regular investigator meetings, allowed emerging avenues for investigation to be better coordinated. The mini-checklists also greatly simplified and made the scoring process more robust during the offsite analysis phases. The activities gave direction for investigator discussions during the scoring process which made the process of plotting the scores against the four dimensions reasonably smooth.

An exciting realisation also emerged after the fourth iteration was over. Learning organisation activities have the potential to provide organisations with a clear direction for change, simply by examining and analysing activities they either do not engage in, or engage in badly. This final element was not tested but does provide a clear area for further research.

Reflection by the investigators on the processes and results from the final case, combined with the feedback from the executive team of the participant organisation used in this case, led to a clear conclusion that the LOQS had passed the final test.

#### **4.6.7. Overall progression of the cases**

When looking at the changes made from case to case in the diagram in Figure 50 in the beginning of this chapter, the changes look to be only minor. But when comparing Case 1 with Case 4, both the quality and quantity of data were vastly improved. The speed at which all the data could be analysed and scores set against dimensions also increased dramatically. Although undoubtedly a minor factor, these improvements cannot be solely attributed to the increased skills of the investigating team.

In this case, the multiple iterative case study methodology proved to be a good fit for the development of the LOQS and the prototype evolved into the final methodology.

## 5. Findings

This chapter outlines the major points of discovery from this research project.

### **5.1. Activities as an extension to measurement of LO (Finding 1)**

The first major finding from this research study was the fact that attributes of a learning organisation are insufficient as a framework for measuring learning organisations qualitatively. This realisation became apparent when reflecting upon the first test of the prototype LOQS in Case 1. In Case 1, all of the survey questions, observations plans, interview plans and document analysis plans were based on attributes of a learning organisation.

Attributes seemed wholly adequate when constructing survey questions. Take for example three of the questions used in the survey questionnaire:

- My organisation cares about the wellbeing of its people.
- My organisation strives to maximise retention.
- My organisation rewards me for learning.

These statements or questions are taken directly from attributes of a learning organisation which can be found in a review of the literature and seem perfectly reasonable questions to ask in a survey. But survey questions of this nature can be answered quite easily without the respondent putting much thought into the justification behind their answers. Also, when constructing an observation plan or a document analysis plan based on these attributes, a researcher would be looking for evidence that the organisation cares about the wellbeing of its people, strives to maximise retention and rewards people for learning. This situation led to a significant amount of confusion in Case 1 as plans based on these attributes did not give any clarity as to what researchers were specifically being asked to look for. A solution to this problem presented itself when interviewing executives at case1. One executive was asked: “Does your organisation strive to maximise retention?” The answer to that question was, without any hesitation, ‘yes’. But when the researcher continued to probe further by asking how the organisation went about maximising retention, the answer became very much more hesitant and less confident.

Post Case 1 reflections led to the conclusion that attributes of a learning organisation can and should be subdivided further. If the example of the attribute: “learning organisations strive to maximise retention” is examined further, breaking this attributed down was achieved by asking the question: how can an organisation maximise retention? Very quickly, a number of answers were rattled off:

- The organisation has a system of protean contracts that evolve as employees develop
- Learning pathways (plans) are in place for each organisational member
- The organisation has processes in place to minimise stress
- Members feel that the demands placed upon them are reasonable
- The organisation has processes in place to minimise distress and attends to issues of care and concern
- The organisation has a culture of trust
- The organisation has a culture of respect
- The organisation promotes a lifestyle balance
- The organisation has implemented cross training and job rotation
- The organisation offers a selection of benefits that members can choose from for their remuneration package

This list is far from exhaustive – some of the answers came from other attributes which naturally fell into the retention group and others came from a brainstorm of ideas. The brainstorm actually revealed about 30 answers but only the first 10 were adopted as this was considered a sufficient number for the purposes of this trial. This list became known as LOQS activities because they represented activities that the organisation could engage in to satisfy the maximisation of retention attribute.

The same process was repeated for each LOQS attribute, resulting in a long list of LOQS activities. These activities were then analysed by examining them and categorising them against the data-gathering method most suitable for finding evidence of that activity existing within the organisation. Evidence for some of these activities could best be found by observation, some by interviewing, some by document analysis and some could be found by more than one method of collecting data. This analysis led to the development of checklists compiled for each of the data gathering techniques and these checklists enabled researchers to observe behaviour, analyse documents, interview or conduct informal chats knowing what they were looking for. They could also judge the degree to which an organisation engaged in a particular activity which directly contributed to solving the problem of scoring.

Organisations could now be measured as learning organisations by looking for activities that would be expected of a learning organisation and judging the degree to which the organisation engaged in these activities – activity based measurement of a learning organisation.

## **5.2. The LOQS methodology – activity based measurement of LO (Finding 2)**

The main finding from this research study is the LOQS as a methodology for measuring and evaluating an organisation as a learning organisation.

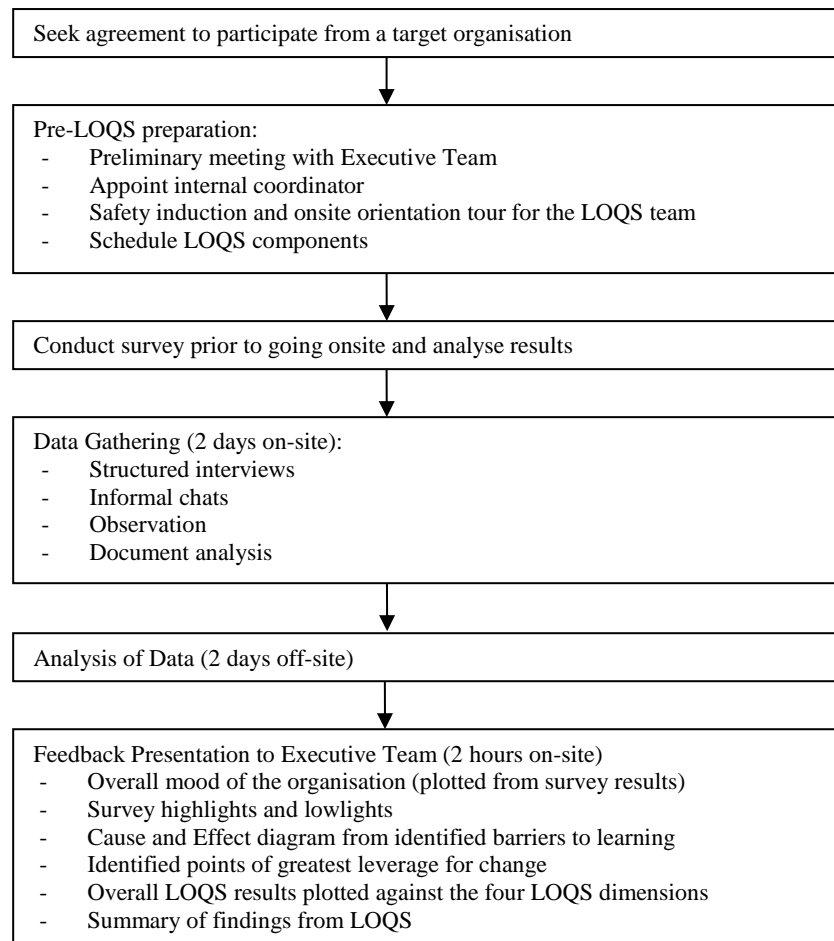
The Learning Organisation Quick Scan is an adaptation of the Quick Scan Audit Methodology (QSAM), adapted to measure learning organisations, rather than supply chains. The LOQS was designed from the start to be both supportive of academic need and practitioner-relevant.

The appealing hall marks of this audit methodology are as follows:

- It utilises teams of multiple researchers, allowing multiple researcher perspectives to be examined.
- It is fast, reducing the perception of disruption for potential participant organisations.
- It utilises multiple data gathering methods, allowing triangulation of data to occur and thus increases the potential for accuracy of findings in terms of validity and reliability.
- It includes a feedback phase to the organisation allowing a win-win perception: a useful selling point for the recruitment of potential participant organisations.

The drawbacks of this methodology are the sheer quantity of data that needs to be analysed.

The overall structure of the LOQS adapted from the QSAM can be seen below in Figure 51.



**Figure 51: The final LOQS process. Source: author.**

The adaptation of the LOQS methodology to produce the final methodology for testing occurred through an iterative cycle of test, reflect and modify. From the diagram in Figure 51 above, it can be seen that the LOQS can be split into six basic parts.

This first part involved selecting an organisation and seeking an agreement from them to participate in the investigation and, as mentioned earlier, possible selling points include the speed of the methodology and keeping disruption to the participant organisation at a minimum. A second possible selling point is that there is an in-depth feedback stage to the organisation at the end of the study. This feedback will enable the organisation to gain an understanding of where it stands as a learning organisation and will give direction as to possible areas for change should the organisation wish to pursue them. The feedback will be free from complex statistical terminology that possibly few within the organisation will understand.

The second phase of the LOQS is a preparatory stage that involves a preliminary meeting with the executive team where the aims and objectives of the study can be explained and where expectations that both parties may have can be clarified and agreed to. An internal coordinator needs to be appointed from within the organisation. The internal coordinator has an important role where he/she acts as a champion for the study with the responsibility for informing the organisation of the impending study, selling the benefits of the study to employees and encouraging participation. The coordinator is also responsible for scheduling the various components of the LOQS, booking rooms, site orientations, safety inductions, interviews, on-

site observations and locating/retrieving documents for analysis. Finally, the coordinator is responsible for administering the survey.

The survey questionnaires are constructed from known attributes of a learning organisation and are mostly used to gain a snapshot of opinion from respondents as to what degree the participant organisation satisfies learning organisation attributes. They consist of 46 statements and participants are asked to indicate the degree to which they agree with each statement on a 7-point Likert scale, ranging from “strongly agree,” to “strongly disagree.” All survey responses are anonymous but each participant is asked to indicate how many years they have worked for the participant organisation. They are also asked what type of role they have within the organisation: management, administrator, field worker, technical/professional or some other role. In this way, responses can be plotted by role and by length of time with the organisation. These plots have the potential to reveal some interesting trends, e.g. whether one role type has a higher degree of discontent to other role types (could indicate some barriers to learning) or whether there is a correlation between length of time with the business and discontent (revealing other barriers to learning). Conducting this survey and analysing responses before the onsite data gathering provides the investigators useful insights into possible lines of enquiry. This in turn allows the team to hit the ground running right from the start of the LOQS, as some directions for investigation will already have been planned.

There are two basic prongs (or purposes) to the data gathering part of the LOQS: the first is to identify mind-sets, processes and activities existing within a participating organisation that can be said to be conducive to moving the organisation towards becoming a learning organisation; and the second is to identify mind-sets, processes and activities (broken or otherwise, non-existent or otherwise) that can be said to represent barriers to learning within the participating organisation and thus antagonistic to moving the organisation towards becoming a learning organisation.

There are two types of structured interviews (the questions for which are also derived from both attributes of a learning organisation and learning organisation activities): one type for interviewing managers who are expected to have more of a general overview of the participant organisation, and one for non-management staff who are asked more about their personal experiences. Structured interviews are another of the methods used to compare the participant organisations against learning organisation attributes. There are a number of statements on the interview form in the style of ‘my organisation engages in this activity’, e.g. “My organisation has a facilitative rather than a command and control style of leadership.” Each interviewee is then asked to score the statement on a five point Likert scale ranging from ‘Always’ to ‘Never’. Each statement is then followed by a number of follow up or probing question alternatives to elicit a deeper set of information. Each interview takes around an hour and all interviews are recorded (unless the interviewee declines). Notes are also taken during the interview on specific interview forms. There is one set of statements (forms) for managers and one set for employees. Participants are randomly selected and the data returned from these interviews are normally very rich in nature.

A small number of unstructured interviews are scheduled with random participants. The purpose for these interviews is to:

- Gain a greater understanding of how all the business units of the participating organisation function and fit together – how the organisation works.
- Compile a list of key experts with sufficient knowledge of the organisation to be able to give greater depth to what works really well for the organisation and what does not work so well.

The people identified as key experts are targeted for informal chats in order to help gain a greater understanding of the successful areas and problem areas within the organisation. Unstructured interviews and informal chats, therefore, are used to identify barriers to learning.

The LOQS utilises two types of observation: meeting observation and field work observation. Observers are guided by checklists derived from the learning organisation activities. Observations are used to gain an understanding of how team members interact with each other, how information passes between them and also as a check to see if people within the organisation actually exhibit behaviours that the organisation claims they do. Additionally, field work observations are a useful opportunity for the investigators to chat more candidly to field workers offsite and away from their headquarters. For this to work effectively, it is important that none of the managers escort the investigators to the field sites.

The LOQS uses document analysis to look for evidence within the participating organisation's documentation that either supports or contradicts claims made in other parts of the investigation. Document analysis plans are also derived from checklists constructed from LOQS activities. Examples of documents that can be used include annual reports; employee induction packs; newsletters; policies and procedures; training, personal and professional development plans; examples of periodic employee performance reviews; mission, vision and value statements; meeting minutes; skill and competency assessment forms; and posters that may be displayed around the offices. Document analysis is especially useful in revealing the tone that the organisation's leadership has with its employees and other stakeholders. Examining organisational policy reveals whether there is a policy foundation behind observed behaviours or whether observed behaviours differ from policy. In either case, findings may spawn further directions of enquiry. Studying organisational policy can also reveal the absence of policies that a learning organisation would be expected to have, (G. S. Taylor et al., 2010), e.g. policies that clearly articulate:

- Commitment to learning, which involves the symbolic behaviour of managers which influences member learning
- Tolerance for failure, which involves policies that do not punish (but even reward) errors
- Commitment to the workforce, which is policy guiding behaviour that will lead to increased member commitment to the organization

Data analysis commences on the third day of the LOQS and required two days offsite. The LOQS is essentially a measurement system that evaluates an organisation against four learning organisation dimensions:

- Culture dimension (organisational culture)
- Leadership dimension
- Team dimension
- Knowledge flow dimension

A lot of work has been carried out by previous researchers in the area of describing factors, or attributes, of a learning organisation. But many of these attributes cannot effectively be used for measuring a learning organisation as there are no clear explanations as to what each of the attributes actually mean in terms of activities engaged in by an organisation (what the organisation actually has to do in order to satisfy a LO attribute). As a result, the 34 attributes of a learning organisation were further split into 120 activities. These activities were then used to create checklists where activities on the lists were checked off as evidence for those

activities was uncovered. Triangulation of data gathered could then be used to judge the degree to which the participating organisation engages in each activity, scored as follows: Always (4), often (3), sometimes (2), seldom (1) or never (0). Mini-checklists created for each data gathering method are used to populate a master-checklist from which scores for each dimension are calculated and plotted.

The two days designated for the offsite analysis of the data are used to bring together the outputs of the LOQS. It is the purpose for which the LOQS is used that determines the nature of the outputs. If the purpose of the LOQS is to satisfy academic need by measuring an organisation as a learning organisation, then the output of the investigation may be limited to a plot of the scores of the organisation against the LOQS dimensions – the LOQS diamond. If the participating organisation has voiced an interest in receiving more detailed feedback or the LOQS is being used by practitioners as a precursor for organisational change, then the outputs may be expanded to include:

- The overall mood of the organisation plotted on a chart (from the survey results)
- Survey highlights and lowlights
- A summary of what the survey results mean
- A cause and effect diagram compiled from the identified barriers to learning existing within the organisation
- Identified points of greatest leverage for change as identified from the cause and effect diagram
- The overall results of the LOQS plotted against each of the four dimensions
- An agreed action plan

The primary data gathering methods used in the LOQS are the interviews. The remaining methods are used to modulate the LOQS scores depending upon the degree to which they confirm or contradict the data from the interviews. The development of the LOQS answers the question: **“Can a more robust methodology of assessing organisations as learning organisations be developed by extending previous survey-only methods of measurement through the incorporation of qualitative approaches?”** The answer is yes.

### **5.3. A new grouping of LO attributes and activities into four dimensions (Finding 3)**

An additional finding from this research study is the grouping of the attributes into the four dimensions. Previous attempts at measurement utilised attributes which were grouped into up to nine dimensions. One of the goals of this research study was to be able to display a plot of measurement results in a fashion that is easy to understand by management and executive teams or by other researchers not as familiar with the concept of the learning organisation. The individual components that allowed the QSAM to be successfully adapted into the LOQS are shown in Figure 52 below.

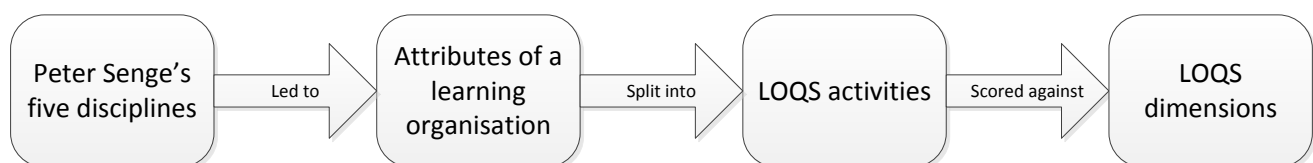


Figure 52: Foundation components that allowed LOQS to work. Source: Author

Peter Senge's five disciplines (Senge, 1990) inspired a great many researchers to uncover what they meant in terms of attributes of a learning organisation. These were collected together in the process of creating the LOQS. When originally examining these attributes, they seemed to naturally group into five headings. These headings were:

- Leadership – the leadership attributes that a learning organisation could be expected to have.
- Culture – the organisational cultural attributes expected of a learning organisation.
- Team – these are the team skills, competencies and processes expected to exist within a learning organisation.
- Knowledge Management – the knowledge management systems and attributes that could be expected to exist within a learning organisation.
- Systems – these are the attributes that could be associated with systems thinking.

After a number of testing iterations and after reflecting upon the implications of the discovery of LOQS activities, it became clear that the dimension headings needed adjusting. The headings became:

- The Leadership Dimension – made up of attributes and activities expected from the leadership of a learning organisation.
- The Culture Dimension – these are attributes and activities that can be linked to what can be expected from the culture of a learning organisation.
- The Team Dimension – these are attributes and activities that are expected of teams working within a learning organisation
- The Knowledge Flow Dimension – these are the activities involving the acquisition, interpretation, dissemination, institutionalisation, storage and exploitation of knowledge as processes that can be expected within a learning organisation, describing the flow of knowledge from individual, group to organisation and back again.

Breaking attributes down into activities revealed the systems dimensions to be superfluous as a dimension on its own, as very few of the activities were found to belong naturally under that heading. A further examination of the literature led to the realisation that systems thinking should be evident within all of the dimensions and, as a result, the few attributes and activities within this dimension were distributed and absorbed under the four remaining dimension headings. This became the framework for the final test in Case 4 and was found to work well.

#### **5.4. Additional LO attributes (Finding 4)**

The final finding to come from this research project is the discovery of two new additional attributes of a learning organisation that was not found from the review of the literature. These were identified by examining the practices of the four participant organisations. When these practices were identified, they were deemed significant but did not fit within existing checklists and it was instinctively felt that there should be a place for them amongst the attributes. The first of these new attributes is as follows:

***A learning organisation is aware of the skills, competencies and aspirations of every member of its workforce.***

This attribute could then give rise to the following sub-attributes or LOQS activities that would form part of the checklist system:

- The organisation has a database of all the work-related-skills, competencies and qualifications of each of its members

- The organisation has a database of all the non-work related skills, competencies and qualifications of each of its members
- The organisation has a database containing articulated aspirations of each of its members
- The organisation consults these data when recruiting for vacancies
- The organisation consults these data when recruiting for project teams
- The organisation consults these data when planning professional development
- The organisation consults these data when developing its strategic direction

The second of these new attributes is as follows:

***A learning organisation has embedded systems in place for succession planning.***

This attribute could then be subdivided further into the following sub-attributes or LOQS activities that would form part of the checklist system:

- The organisation has a record of people who are in the process of leaving the organisation
- The organisation has a record of people who are likely to leave the organisation in the near future
- The organisation has a record of people who could be immediately promoted
- The organisation has a record of people who, with support, could be promoted in the near future
- The organisation has a record of people who need support to help them rise above underperformance
- The organisation has a record of people who, should they resign, represent a risk to the organisation due to possessing skills and knowledge deemed critical to the organisation.
- The organisation puts processes in place where these critical skills and knowledge are either recorded into expert systems or passed on to appropriate people
- These records of people listed above are revisited and refreshed periodically

These additional attributes and activities were discovered as a result of reflections from Case 2 and Case 3 and were incorporated into the final framework for testing in the last case, Case 4.

### ***5.5. The method used for the development of the LOQS (Finding 5)***

The method of development used for creating the LOQS was a multiple iterative case study methodology used in a very similar fashion to prototyping methodologies in software development. Prototyping is used sometimes as a more agile development method as part of a rapid application design or as a more robust method of gathering requirement when the intended users or sponsors are unclear as to what they really want in terms of functionality. In research terms, the theory to be tested was that the LOQS protocol was a better method of measuring a learning organisation than the previously developed methods of measurement.

In the case of the adaptation of the tried and tested QSAM into the LOQS, the desired functionality was very unclear. The only thing that was known was the desire to use more than one data collection method. It was decided to adopt a plan using three development iterations and one final testing iteration, testing the final ‘product’.

In terms of comparing this development methodology to the rapid application design analogy, there was nothing rapid about the development that took place – it took two years from the

start of the research to develop an initial prototype LOQS for testing. This prototype was tested in Case 1 and it took a further three months of development (as a result of analysis and reflection over the results from Case 1) before the second prototype was ready for testing in Case 2. It then took three more months of development (as a result of analysis and reflection over the results from Case 2) before the third prototype was ready for testing in Case 3. Case 3 produced a lot of development data due to the fact that it nearly failed. There was much to reflect over and redevelop so that the final product would not suffer from the same vulnerabilities, which is why it took a further year of development before a final product was ready for testing in Case 4. There was a high degree of confidence that Case 4 would prove the final LOQS methodology successful. Case 3 led to the development of the final LOQS protocol, the final hypothesis for testing.

The data that led to further development from one case study iteration to the next came from two sources: first, from the author reflecting upon how well the data gathering methodologies worked, how well the analysis techniques in the analysis phase worked and his interpretation of how well the presentation back to the organisation was received. The second information source came in the form of feedback from the target organisation itself: from the organisation's executive team who gave their perceptions of the accuracy of the findings from the LOQS.

The feedback to the organisation phase served an additional purpose: the LOQS team were not getting paid by the organisation to conduct the research but as an investigating team, we were disrupting about 200-300 hours of staff time and taking up a whole host of other resources such as office space and personal protection equipment. The promise of feedback from the research study was used to motivate the organisations to participate and this feedback served as a gesture of thanks to the participant organisations to make up for the disruptions. Furthermore, the executive team could have taken action from the results if they had chosen to. In fact, they did so after Case 4 as the LOQS report was used to draft a report to the board of LineCo4.

The method used for developing the LOQS was a good one as it did lead to the final LOQS methodology (protocol) which was proven to work but the method used for the development was high risk, especially in the first iteration. Had the LOQS gained the reputation of being a waste of time or had the perception been that it was far too disruptive, word would have quickly spread throughout the industry and may well have scuttled chances of gaining further agreement to participate from other organisations. Meticulous planning was one way this risk was mitigated.

## **5.6. An analysis of the participant organisations (Finding 6)**

The following sections aims to sum up what was learned about the participant organisations from measuring them using the LOQS. It starts by offering a recap or summary as to what is meant by a learning organisation in order to understand what the participant organisations are being measured against. A summary of what the LOQS revealed about LineCo1, LineCo2, LineCo3 and LineCo4 is outlined in turn in separate subsections with the last subsection attempting to generalise what was learned from the four participant organisations to electricity lines companies as an industry sector.

### **5.6.1. A brief recap of what a learning organisation is**

This is not an attempt to redefine learning organisations but is an attempt to distil the attributes of a learning organisation, as developed from the review of the literature, into a short commentary that describes in easy language what is meant by the term. The reason for doing this was motivated by the discovery that none of the executives in the first three participant organisations had heard of the term ‘learning organisation.’ Only three of the executives, who had completed the Master of Business Administration degree, knew of the term. A typical response to the question, “*Do you know what a learning organisation is*” ... was “*No idea, what is it?*” The lead researcher found it surprisingly difficult to answer this question in a succinct manner, other than saying that it is a management philosophy that is thought by some to maximise chances of success of an organisation. The following is an attempt to give a more complete response.

A learning organisation regards itself, above all things, as a living entity – a collection or community of people who have come together for a common professional purpose and that purpose is the survival of the community. It therefore thinks and plans in the long-term and understands its place and how it is connected to the environment within which it exists. It uses its understanding of the complexities of cause and effect in making decisions, knows how and why it is where it is and builds several different versions of its future and prepare for them all. This is one of the things that make learning organisations agile – to the point where it can survive and thrive in changing and challenging circumstances. It is also agile because it learns at every level, looking inwardly and outwardly for new knowledge which it readily interprets, integrates, disseminates, stores and exploits. It learns by practicing, experimenting, exploring, scanning, taking risks, truthfully reflecting at all levels and communicating. The learning organisation has a facilitative, distributed and transformational leadership where decision making is pushed as far down the hierarchy as possible. It has a strong sense of identity that is encapsulated in a co-created shared vision that is holistic and is continuously revisited so that it remains fresh and current. The learning organisation is made up of teams, many teams that self-form, self-organise and are cross-functional – members’ roles are flexible and change...they are rewarded for learning and are acknowledged for their expertise, which continuously morphs. No-one blames anyone and failures are embraced as learning opportunities. There is a high degree of trust and respect throughout the organisation. Members are committed because they are stimulated and engaged. The war between home and work is never fought which is why retention is maximised. People don’t want to leave. The learning organisation is not defined by what it does, because that can and will change, but by how it does it.

This is, in very big-picture terms, what the LOQS measures organisations against. The next four sections will summarise how each participant organisation performed against this high level picture.

### **5.6.2. LineCo1**

LineCo1 were plagued by a major division between managers and everyone else within the organisation. Both parties tried to ignore each other as much as possible because they did not like each other and did not respect each other – and they certainly did not communicate. When communication occurred, it was one-way and either came about as a result of a decree to change practices or to admonish people who had not followed

procedure. Due to high safety regulations, no straying from procedure was tolerated at all, leaving very little room for experimentation and innovation.

The management team regarded the field team as lazy and careless, blaming many accidents on stupidity or done on purpose to secure more time off. The field team, on the other hand, were not sure what the management team actually did and seldom knew where they were – they never came on site in the field. They also regarded the management team as being stupid, constantly making decisions or acquisitions without consulting the field teams with the consequence that processes and equipment were often not fit for the purpose. The field team continuously felt under-appreciated, especially when extraordinary effort had to be put in to repair storm damage. Field teams were often frustrated that work was not properly planned and that teams arrived on site in their vans with the wrong parts or the wrong equipment. This may have been partly caused by antiquated information systems.

The management team tried to fix a whole host of problems by having consultants come in and facilitate the creation of a shared vision. The other teams interpreted this as finding a way to get staff to come up with a vision that had been created by the management team prior to the initiative. Consequently there was no buy-in to the vision. The vision itself looked very good (see Figure 8 on page 90) and may well have functioned as intended had there been employee buy-in which would probably have resulted from a genuine process of co-creation. Despite the tensions and distrust, teams worked well and largely managed themselves. Younger team members who had recently graduated from their apprenticeships complained a little that they were not permitted by the older team members to work in the manner they were taught, that they were to do things ‘the way things are really done’ and always had been done. LineCo1 enjoyed a good reputation in the community they served and were seen as producing high quality work with good customer service. LineCo1 cooperated well with other lines companies.

The LOQS process revealed that LineCo1’s score was very low as a learning organisation with the worst dimension being knowledge management and the highest being the team dimension (see Figure 21 on page 109). The overall conclusion was that LineCo1 could not be identified as a learning organisation.

### **5.6.3. LineCo2**

LineCo2 had a feeling of vibrancy about it. Most of the executive team were newly recruited by the CEO. Many new initiatives had either just been implemented or were in the design stage and, at the time of the LOQS measurement, had not had time to bear fruit. The CEO was also a little concerned that there was still a bit of a residual state sector “ECNZ” mentality remaining within the organisation and the LOQS did detect a degree of silo-mentality between business units at LineCo2. This was particularly manifest in tensions between the Design Team and the Delivery Team (field crews) with each team being frustrated with the other and blaming each other for processes that did not work properly.

The LOQS also found that processes were lacking for escalating ideas and suggestions for improvement up through the management hierarchy. Even when attempts were made, ideas either ‘disappeared’ or the reasons for rejection were not communicated back down to where the ideas originated. The CEO was regarded by employees as

being a little aloof or distant and there was a degree of nostalgia over times when the previous CEO was at the helm as he was regarded as being very charismatic and engaging. Employees (who actually knew what the vision, mission and values for LineCo2 were) found the vision to be very uninspiring and longed for something grander that they could really rally behind.

As with LineCo1, risk-taking and experimentation were frowned upon in this very safety-conscious culture, even more so at the time of the LOQS where the culture at LineCo2 was viewed by employees as having shifted from one of profit maximisation to cost minimisation. Communication was regarded as being a bit one-sided and meetings seemed to be a downward information dump from above. There were, however, some really interesting initiatives revealed in the LOQS. The first was the use of job-rotation to relieve tensions between troubled business units as a strategy to get members of these business units to gain perspectives from each other's viewpoint. Another example was the use of incentives to change behaviour that caused vehicle repair costs continuously exceeding budgets set. Any amount underspent in an individual vehicle budget was shared by field teams assigned to that vehicle. An almost overnight change in behaviour was witnessed with individual teams working out safety processes for reducing minor accidents. Another interesting initiative was the creation of a LineCo2 alumni link/association through which efforts were channelled to keep in touch with employees who had left to join other organisations or travelled overseas etc. By keeping those channels of communications open, it was hoped that there would be increased opportunities to re-recruit some of these ex-employees, now equipped with experience from other organisations, maybe within other fields and maybe with overseas perspectives. Wellness initiatives were being trialled, including weekly fruit days where a large selection of fruit was supplied to employees by the organisation and this proved to be popular. Employees were also recognised as either employee of the month or team of the month – recognitions that were accompanied by cash bonus payments.

Career paths for employees were also under development as were systems to record and keep track of employee learning, employee aspirations and employee skillsets (not limited to those with job relevance), in an attempt to use and update this information during appraisals. The idea was to be able to place employees where their skillsets could be put to best use and in areas that matched employees' aspirations. There was also evidence of inter-organisational cooperation involving domestic and foreign organisations as well as evidence that LineCo2 were actively seeking to exploit other sources of non-regulated income. Graduate programmes were also in place that sought to give university graduates work experience within all the sectors of the broader industry (generators, lines companies and retailers) – adding to the pool of possible useful recruits.

The LOQS scored LineCo2 well in the culture and team dimensions, but not so well in the knowledge management dimensions. As can be seen from the results in Figure 35 on page 143, at the time of measurement, LineCo2 was not in a position where it could be regarded as a learning organisation.

#### **5.6.4. LineCo3**

One of the very interesting features of LineCo3 was the setup of the different business units as almost independent entities and the reasons for that setup. Many of the

business units were set up the way they were in order for LineCo3 to have access to an in-house labour pool when needed, and were put to good use elsewhere when not needed. One example of this was the Workshop. This business unit was set up to service LineCo3's vehicle fleet, build specialised modifications or construct specialised vehicles or trailers. But these services were also available to other businesses and to the general public, who could go to LineCo3 to get their vehicles serviced and issued with a warrant of fitness. Similarly, LineCo3 offered communication services to the hearing impaired community. This business unit could be called upon to provide extra call centre and communications capacity in times of bad weather when all crews would be on high alert to repair storm damage.

LineCo3 offered fibre optic reticulation for its rural internet users. The reasons for expanding into the fibre optic business were that almost exactly the same set of skills and resources is required to extend the fibre optic network as is needed to extend the electricity network. So it seemed a logical extension to the organisation to branch out in this area and required very little additional training to accomplish. The construction team was also an independent unit that offered its services to organisations outside of LineCo3. These various different (almost) independent business units provided a lot of flexibility and other advantages for LineCo3, including providing a number of sources of non-regulated income, but were also a source of many of its problems:

LineCo3 was an extreme example of business unit silos. There were almost no common policies, procedures or processes at any level. There was no common vision, mission or values to unite the business units as the CEO did not believe in them. There was actually no vision at all at LineCo3. Despite having reserve capacity in times of crisis, everyday business extended to other businesses and customers within the community and therefore employees felt stretched and overworked. The construction team had to bid for work at LineCo3 and that work could be outsourced to outside contractors if the internal bid was less favourable. This was a source of major frustration for this team as they felt that they had to go and correct sloppy work from these contractors – a culture of blame was rife within LineCo3. The LOQS found that there were no processes for tracking learning, skills and aspirations at LineCo3. Even though professional development was supported financially, it was not supported with time and therefore seldom occurred. Staff turnover had traditionally been high and had only eased somewhat due to the recession – the CEO did not believe in maximising retention, preferring instead an 'optimisation' of retention.

As can be seen from Figure 41 on page 177, the LOQS scores for LineCo3 indicated that it could not be considered to be a learning organisation.

### **5.6.5. LineCo4**

The LOQS showed LineCo4 to have implemented a large number of very interesting initiatives not seen at the previously mentioned line companies. LineCo4 had a well-developed system of succession planning whereby each of the executive team plotted and colour-coded an organisation chart as show in Figure 42 on page 190. The system in place allowed LineCo4 to know who to promote, who could be promoted down the track if they were supported, who underperformed and needed support, who were good as they were, who were in the process of leaving the organisation, and those who represented a high risk to the organisation if they were to leave, i.e. those who had knowledge vital to the organisation and needed to be shadowed so that that knowledge

could be transferred in order to mitigate the risk. LineCo4 also had a wellness programme whereby they subsidised membership to any club outside of work, e.g. cycling, tramping etc. This had systemic benefits that gave people a reason to meet and chat at the drinking fountain – having the effect of creating informal networks of communication throughout the organisation.

LineCo4 also offered a smorgasbord of benefits in recognition that not everybody is motivated by monetary rewards. Employees could select a pay package made up of components that best suited them. LineCo4 were also piloting an emerging talent programme whereby young employees showing leadership skills were selected and put on programmes that developed their life skills and leadership skills. The LOQS also revealed LineCo4 to be continually striving for non-regulated sources of income and employed a healthy balance of employed and contracted staff.

The LOQS showed that it was the executive team that ran the organisation for the most part, with the CEO somewhat removed from this team. Although an excellent networker, the CEO did not follow LineCo4's own processes, headhunting executives using his own rules and not conducting performance reviews of his own executives (something that they would have wanted to take place). This leadership style also assertively drove top down initiatives in sufficient quantities to create an initiative overload within the organisation, resulting in a high amount of work-stress for a significant proportion of staff. Initiatives were not bedded down properly due to this overload and the organisation gained no advantages from post-implementation analysis as none was conducted. All of these problems either led to an unnecessary degree of risk exposure to the organisation and/or unrealised people potential. Employees felt that a strong culture of blame existed within the organisation and experimentation/risk-taking was frowned upon. No initiatives came from the bottom up and there were several cases where recognition for ideas was claimed by people other than those whose idea it was.

As can be seen in Figure 48, the LOQS showed that LineCo4 also could not be regarded as a learning organisation.

### **5.6.6. Insights into the electricity lines industry from the four cases**

There are a number of findings common to these four cases that may make it possible to gain some further insight into the electricity lines industry as a whole by examining more closely some of the findings that have surfaced as a result of this learning organisation investigation.

The electricity lines industry is very safety conscious – it has to be. There are harsh penalties for employers whose employees are injured through substandard safety policies, procedures and processes. This has shaped the industry into one that is very risk averse and this has had the knock-on effect that risk-taking and experimentation are avoided. Safety processes are driven by a command and control style of leadership with all the drawbacks this entails. Initiatives are normally driven top down and very rarely bottom up. Communication is normally a one way process also, driven top down. A blame culture existed in each of the four participant organisations to various degrees.

Historically, the whole electricity industry in New Zealand took the form of one big organisation, the Electricity Corporation of New Zealand, which was a very sluggish

government-owned organisation. The silos in existence at the time each participant organisation was measured by the LOQS were regarded by the executive teams of those organisations as a remnant of this era and have proven hard to break down. Meanwhile, with the split of the industry into organisations that are expected to function as commercial entities (albeit heavily regulated ones), the focus on the long-term has shifted to the short term, with many of the CEOs managing no further than the next board report, as one of the executives put it.

The search for non-regulated income is becoming commonplace, with many lines companies becoming drawn into the fibre optic business, which may have the longer term effect of increasing the agility of these organisations.

Change was a feature of all four organisations that took part in the development and testing of the LOQS. All four organisations were modernising themselves by either planning to move, were in the process of moving or had just moved into brand new purpose-built buildings. LineCo2 had just changed its entire management structure and were in the process of changing the whole culture of the organisations with its many initiatives either in the planning stage or having just been implemented. LineCo3 were taking tentative steps towards involvement in fibre-optic reticulation. LineCo4 were charging full steam ahead into that same industry, were investing heavily into smart grid technologies and were involved in several related industries where it could leverage sources of non-regulated income. All these organisations, previously shielded from a competitive environment, were gingerly starting to compete against each other for new subdivision and development contracts. In all of these cases, these changes were driven from the CEOs of these organisations regardless of how distant, or close they were to their executive teams.

## **5.7. Summary of findings**

This research study led to a number of findings, the principal one being the development of a qualitative methodology for measuring the extent to which an organisation could be classified as a learning organisation, the LOQS. Previous quantitative methods of measurement used attributes of a learning organisation as the framework for measurement. Attributes were found to be insufficient to function as a framework for assessing an organisation qualitatively and, as a result, the attributes of a learning organisation needed to be examined collectively and broken down further into activities that a learning organisation could be expected to be engaging in. These attributes represent an additional finding and became the mechanism by which organisations could be measured.

The development of the LOQS was achieved through a multiple iterative case study methodology, a process very similar to prototyping in software engineering whereby an initial prototype is designed and tested (in a first case). Reflections from this first case combined with feedback from the executive team of the first participant organisation led to modifications of the prototype which was then tested in a second case. This process was repeated until saturation had been reached and the final prototype was deemed ready for a final test which ultimately confirmed the prototype as the final working methodology. This method of development is presented as an additional finding.

In the process of developing the LOQS, two further findings emerged, one being the discovery of two additional attributes of a learning organisation not previously mentioned in the literature and the second being the grouping of the learning organisation attributes and activities into four dimensions. These dimensions enabled scores to be plotted and presented back to the organisation in a fashion that proved easy to understand.

Testing the prototype LOQS with four participant organisations led to discoveries about those four organisations. As all organisations came from the same industry sector, generalisations across the industry became possible, leading to the discovery of characteristics of this industry sector. These characteristics are presented as the final finding from this research study.

## 6. Discussion

This chapter offers a brief discussion of the findings of this research study with reference back to the literature review.

### 6.1. *Activities as an extension to measurement of LO*

Peter Senge's book, *The Fifth Discipline* (Senge, 1990) described in detail the disciplines required for an organisation to transform itself into a learning organisation and gave, as justification, the fact that an organisation adept at learning at every level has the greatest chance of surviving the turbulence of a rapidly changing business environment. Although seductive, the book left many questions in the minds of readers who asked questions such as: "how does an organisation become a learning organisation?" As a result, together with many of his colleagues, Senge wrote the *Fieldbook* series which contained a series of exercises and case studies of organisations that had, supposedly, successfully made this transition. Critics accused these works of still being far too vague (Jackson, 2000). Many authors such as DiBella (2001), Gephart and Marsick (1996), Jamali et al. (2006), Lähteenmäki et al. (2001), Marsick and Watkins (2003), Rebelo and Gomes (2008), Snell (2002) and Templeton et al. (2002) set about describing learning organisations in terms of attributes. Attributes worked well as a framework for constructing quantitative systems for measuring and diagnosing learning organisations, one of the more famous attempts being the DOLQ (Dimensions of the Learning Organisation Questionnaire) (Marsick & Watkins, 2003).

The problem with attributes of a learning organisation is that they are descriptive and not prescriptive and therefore many of these attributes are quite generic. Take for example the attribute, "a learning organisation helps employees balance work and family." This attribute is relatively easy to turn into a questionnaire statement: "My organisation helps employees balance work and family." As mentioned earlier, this question can be answered in a questionnaire without putting too much thought into what the statement actually means – it can be answered by 'gut feeling' or a quick judgement of perception.

The decision to develop a more qualitative method of measuring learning organisations was born of the desire to develop a method of measurement that was more than a self-reporting instrument and a measure of perception (Jamali et al., 2009). Such a system inevitably involves site visits and a combination of different data gathering methods. Very early on when testing the LOQS prototype, the question asked by researchers became: "What exactly are we looking for?" Even armed with the above mentioned attribute, the question of what researchers were looking for still could not be answered and researchers were forced to use a very subjective judgement to determine whether, and to what degree, the target organisation had satisfied the attribute.

Asking the question: "What are the many things an organisation can do to help employees balance work and family?" brought with it many possible solutions. These solutions are activities that are conducive to balancing work and family. When breaking down all attributes of a learning organisation in this fashion, a long list of activities was obtained, that were collectively termed LOQS Activities that could be checked off and assessed in terms of the degree to which an organisation engaged in them. These activities are an extension of Peter Senge's work as it answers the critics' questions of how an organisation can transform into a learning organisation. LOQS Activities also represent a significant extension of the work of all the researchers involved in defining attributes of a learning organisation (listed in section 2.3 on page 16), as it provides a much more robust framework for measurement, especially

qualitative. It also provides a prescriptive list of what an organisation could do as a transformation pathway, should it choose to go down this route. This contradicts the work by Grieves (2008) who argued for the futility of measurement and doubted its potential usefulness.

The attributes of a learning organisation are an extension on Peter Senge's five disciplines (Senge, 1990) to overcome problems of vagueness and ambiguity (Kilmann, 1996; Örtenblad, 2007; Rowley & Gibbs, 2008) by a whole host of writers. A table containing an exhaustive list of these attributes and the contributing authors can be found in *Appendix 4 – Attributes Distilled from the Literature*. This list of attributes was further extended by the author as described in section 5.4: Additional LO attributes (Finding 4). The work on defining attributes of a learning organisation was extended further by the author by dividing them into sub-attributes or LOQS-Activities and arranging them into dimensions of a learning organisation, a complete table of which can be found in *Appendix 6 – Attributes and Activities by Dimensions*.

This work is incomplete, however, and provides a very real opportunity for further productive research. Only a few days was spent developing LOQS Activities from the attributes of a learning organisation as a proof of concept to see if it would work as part of a qualitative measurement system and the true implications of this discovery were not realised until the time of writing this thesis. A far more exhaustive list of activities needs to be developed from the attributes and a thorough examination of the activities must be made to discover whether the relationship between the activities is 'AND' or 'OR' in nature. I.e., can one activity count instead of another or are both/many needed to satisfy an attribute. There may well be activities that could be culled. A re-examination of attributes must then be made and it is likely that some attributes could be culled from the list or merged with others. It is also possible that lists of activities and attributes may differ depending upon industry sector or size of the organisation.

Despite the work remaining, the discovered activities as a concept, represented a significant step forward in the development of a qualitative method for measuring a learning organisation and provided a good framework for measurement and scoring. There is nothing in the literature to suggest that this has been attempted before.

## **6.2. The LOQS methodology – activity based measurement of LO**

The Learning Organisation Quick Scan is a methodology that has two slightly different forms, the choice of which depends upon the purpose for which it is to be used. On the one hand, it functions as a measuring tool designed to allow academic researchers to determine how close an organisation is to being a learning organisation. The second, extended with a feedback to the organisation phase, is designed to function as an audit system for practitioners or consultants as a precursor to organisational change (here, audit is defined as an independent and documented system for obtaining and verifying audit evidence, objectively examining the evidence against audit criteria and reporting the audit findings, while taking into account audit risk and materiality (Karapetrovic & Willborn, 2000). It is an adaptation of the Quick Scan Audit Methodology (Naim et al., 2002), designed originally to measure the health of an organisation's supply chain, extending this work to measure the extent to which an organisation can be identified as a learning organisation.

The original QSAM methodology consisted of the following major stages (Naim et al., 2002):

- Identify suitable supply chain business process

- Get buy-in from the business champion
- Preliminary presentation
- Conduct Quick Scan using four data gathering methodologies
- Analyse the findings
- Feedback presentation
- Write up report

The LOQS' major stages can be said to be identical to this with the last two stages being optional if it is to be used purely as a measurement tool. The foundations upon which data gathering is planned and implemented and the data analysed are, however, completely different.

Using LO attributes and collecting these attributes into umbrella dimensions, functioning as a foundation for the development of a measurement methodology is very much an extension of work carried out by authors such as Mayo and Lank (1994), Moilanen (2005) and Watkins and Marsick (1998), who all set about devising measurement methodologies from similar starting points. The realisation that LO attributes should be further divided into LOQS activities in order to achieve successful measurement supports Örtenblad (2007) who stated that... *“the idea of the Learning Organization should be clearly defined in order to be successfully implemented in companies. Scientific research and explanation require concepts that get beneath convenient labels and represent explicitly defined and observable events and behaviours”* (Örtenblad, 2007). It is these sub-attributes or LOQS-activities that form the foundation by which data gathering was planned and implemented, the data analysed and ultimately on which organisations were scored as learning organisations.

The development of the LOQS answers demands by organisations and scholars for a learning organisation measurement system. Organisations want a way to diagnose their current status and guide change, and scholars want better measures to compare organisations as learning organisations (Marsick & Watkins, 2003).

The development of the LOQS extends the work of all researchers involved in previous attempts at measurement as described in 2.4.2: *Previous attempts at measurement*, in that the LOQS is designed to be a qualitative tool using multiple data gathering methods and, as such, is better than purely quantitative methods relying solely on survey methods. The LOQS method provides much richer data that are useful for studying cases in depth, supporting the work by Childerhouse and Towill (2011): *“...organisational and behavioural complexities are often underestimated...to fully appreciate these complexities, observation-based research that triangulates information from multiple sources is essential (Childerhouse & Towill, 2011).”* The LOQS describes complex phenomena within organisations very well (situated in the context of the organisation) and is useful in exploring how and why phenomena occur, supporting the work of Johnson and Onwuegbuzie (2004). Surveys are ideal for gaining a snapshot of opinion from a group of people and are an important part of the LOQS. In the LOQS surveys, were distributed and analysed prior to onsite data collection in order to gain a preconception of where issues or other points of interest may lie within the participant organisation. Other data collection methods, such as interviews, chats or observation, allow other data such as tone of voice, body language, sarcasm, hesitation or careful responses etc., to be taken into account. Other methods also allow investigators to follow an emerging line of enquiry and the LOQS allows for improvisation, changes in direction and changes in focus. Usage of multiple research methods is especially important in exploratory studies such as this one. When knowledge is limited, multiple methods permit a wider and more complete

understanding of the phenomenon studied. Because each method provides a partial perspective on reality, multiple research methods increase the validity and reliability of the data and findings, which supports the work of (Hussey & Hussey, 1997). The use of different research approaches, methods and techniques in the same study, i.e. triangulation, can overcome potential bias and the sterility of single-method approaches Hussey and Hussey (1997) and Pinsonneault and Kraemer (1993). Even though the LOQS uses survey questionnaires, primarily a quantitative technique, surveys are conducted prior to the start of the onsite investigations and are used to develop themes to be explored further using qualitative techniques and thus extends the work by Naim et al. (2002), whose use of surveys is less explorative. The results from the surveys in the LOQS are only used as a small part of the scoring method.

Finally, Örtenblad (2007) pointed out that managers now and in the past seem to want to pick and choose parts from the learning organisation smorgasbord that suit them. *“Managers can then say that their organizations are Learning Organizations for legitimating reasons without taking any measures in practice. According to Örtenblad, they can, in effect, say almost anything and get away with it and find validation from Senge’s book”* (Örtenblad, 2007). Case 4 supports this view where the CEO of that participating organisation clearly and unhesitatingly declared that LineCo4 was a learning organisation. The fact that the LOQS was tested and found to work may well cause managers to hesitate before making such claims as they risk being called to task by being asked to prove it through the LOQS or an equivalent methodology. The LOQS showed that LineCo4 still had much work to do before they could call themselves a learning organisation. The LOQS may also stop organisations making bogus/suspect claims of being a learning organisation as their claims could be verified. The Rover Automobile company, Chaparral Steel and BP are examples of organisations that have claimed to be learning organisations (Sheaff & Pilgrim, 2006). Indeed, there are several examples of research studies carried out on organisations identified by those authors as learning organisations simply because they claimed to be such in their mission/vision statements and organisational manuals. Examples of articles based on such studies are “Pain and Stress in Learning Organisations: A Question of Career?” (Akella, 2007) and “Discipline and Negotiation: Power in Learning Organisations” (Akella, 2008). The LOQS has the potential to give this type of research a much stronger scientific foundation.

In summary, the LOQS as a methodology extends the work of all previous scholars who have developed methods of measuring learning organisations (A. Armstrong & Foley, 2003; Campbell & Cairns, 1994; DiBella, 2001; Mayo & Lank, 1994; Moilanen, 2001; Ojala, 1996; Pearn et al., 1995; Pedler et al., 1988; Redding & Catalanello, 1997; Sarala & Sarala, 1996; Tannebaum, 1997; Watkins & Marsick, 1998) as it represents an activity-base measurement as an extension of attribute-based measurement of learning organisations. It is a qualitative methodology of measurement that improves upon previous quantitative attempts using survey-only methods to measure organisations as learning organisations.

### **6.3. A new grouping of LO attributes and activities into four dimensions**

Not all previous attempts at measurement organised the attributes into dimensions. Campbell and Cairns (1994) based their measurement system on five types of behaviour. Pearn et al. (1995) created a survey that focused more on the way learning is encouraged by departments and managers. Sarala and Sarala (1996) devised a questionnaire that used five groups of questions to fit an organisation into one of five archetypes (from the bureaucratic organisation

to the learning organisation) with the aim not so much of measurement as classification. It is similar to the questionnaire developed by Redding and Catalanello (1997) who used only three archetypes. Ojala (1996) developed a very short questionnaire comprising of only 20 statements, chiefly designed to raise awareness of the learning organisation as a concept. Armstrong and Foley (2003) developed a questionnaire that assessed the learning environment of an organisation against four different facilitating mechanisms.

Pedler et al. (1988) arranged learning organisation attributes into 9 dimensions, as did Watkins and Marsick (1998) with their DOLQ. Moilanen (2001) arranged attributes into five dimensions representing the individual level and the organisational level, making ten dimensions in total. DiBella (2001) measured the learning capability of a team or organisation using seven different learning orientations arranged in bi-polar dimensions.

The LOQS extended the work of all of the above mentioned authors by taking a fresh look at all the attributes they took into account when forming the dimensions that they used to group attributes. As far as it can be ascertained from the literature, this study represented the first time all attributes of a learning organisation had been examined together. All the previously named scholars used subsets of various sizes of the entire collection. The goal of examining the attributes in this fashion was to simplify their arrangement into dimensions so that scores would be easy to plot and the results easy to understand when feeding them back to participant organisations. The initial trap was to attempt to arrange the attributes against Peter Senge's five disciplines, using the disciplines as dimensions, but it quickly became apparent that this was not a viable option as shared vision and systems thinking had very few attributes under them, whereas personal mastery, team learning and mental models became very large dimensions and a case could be made for each attribute fitting under any of these three dimensions. The conclusion, therefore, was that Peter Senge's five disciplines were not natural dimension headings.

The second attempt involved grouping the attributes without any pre-conceived dimension headings and then naming the dimensions afterwards. Attributes grouped quite naturally into Leadership, Organisational Culture, Knowledge Flow and Team dimensions which seems like a hierarchical list of factors that make an organisation tick. The organisational leadership sets the culture of the organisation which, in turn, determines how well knowledge flows up and down the hierarchy and across business units, an important factor for how well teams work together. There doesn't seem to be any support for a hierarchy of dimensions in the literature and this topic may, therefore, be an opportunity for further research.

One of the last dimensions to be abandoned was the systems thinking dimension. This dimension seemed an important one as it is regarded as one of the cornerstones of the learning organisation concept. But there were two major problems with systems thinking as a dimension heading: first, as mentioned before, very few attributes fitted neatly under that dimension heading and secondly, almost all of the attributes seemed to be evidence of systems thinking in one way or another. The conclusion was that although systems thinking or systems theory should be evident in all organisational activities, it does not belong as a dimension in its own right. This realisation supports the work of other writers who regard systems as an integrative discipline drawing together the other four disciplines (Rowley & Gibbs, 2008) or as the glue that binds all the other disciplines together (Sun & Scott, 2003a).

#### **6.4. Additional LO attributes**

Very pertinent questions that could be asked in regards to the learning organisation concept could be: isn't a learning organisation just common sense, isn't it just good management? Aren't LO attributes simply a set of management best practices?

An organisation can be well managed and shine really well for a while but could come to an early demise because it lacks the agility to survive and thrive in a rapidly changing and turbulent business environment. This agility comes from learning and being able to integrate, institutionalise and exploit what is learned (Crossan & Berdrow, 2003). With the average life expectancy of a fortune 500 company being a mere 40 years (De Geus, 1997a), a learning organisation seems to be far from common sense. An LO attribute and an LO activity can certainly be best practice, but they must also be conducive to moving an organisation towards the desired state of a learning organisation.

When coming across a management practice at a participant organisation that does not naturally fit with the list of attributes on a checklist, before adding this practice to the list of LO attributes, great care must be taken to check that it is not only good practice but also fits as being conducive to the paradigm of a learning organisation. At LineCo2, the LOQS team came across a practice that was in the process of being implemented in the organisation. They were putting together a database of skills, competencies, aspirations and learning that has taken place for every employee within the organisation with the intention of using this information for project planning, team planning and career development. Thus, the attribute: ***A learning organisation is aware of the skills, competencies and aspirations of every member of its workforce and uses that awareness for its planning*** does fit in with the learning organisation paradigm as it is essential for putting together cross-functional teams, which is an attribute discussed by Chermack et al. (2006), Fisser and Browaeys (2010), Garvin (1993), Gephart and Marsick (1996) and Senge (1990). It is essential for planning career development, discussed by Dunphy et al. (1997) and also for ensuring that organisational members are engaged in meaningful and challenging work, discussed by Dunphy et al. (1997), Kelley et al. (2007), Kiedrowski (2006) and Lähteenmäki et al. (2001) as well as job rotation, discussed by Dunphy et al. (1997), Jansen et al. (2005), Prieto and Revilla (2006a) and Prieto and Revilla (2006b) as an attribute. The inclusion of this new attribute is an extension of the work carried out by Marsick and Watkins (2003) who in the DOLQ limited their statement to: "My organization maintains an up-to-date database of employee skills." It is envisaged that many organisations may keep employee skills on file but never use this knowledge, as was found in Case 4. This attribute represents an extension because it requires the database be put to purposeful use.

When the LOQS team came across the system for succession planning in place at LineCo4, it became clear that the attribute: ***A learning organisation has embedded systems in place for succession planning*** also fit well within the learning organisation paradigm. LineCo4 used their succession planning tool for integrating, disseminating, transferring and managing knowledge, all of which are attributes discussed by Chermack et al. (2006), Fisser and Browaeys (2010), Hasan and Crawford (2003), Huber (1991), Khadra and Rawabdeh (2006), Maqsood and Walker (2007), Nonaka and Takeuchi (1996), Pedler et al. (1989), Popper and Lipshitz (2000), Prieto and Revilla (2006a), Prieto and Revilla (2006b), Snyder et al. (2000), Somech and Drach-zahavy (2004), Templeton et al. (2002), K. Thomas and Allen (2006) and Walsh and Ungson (1991) and also for planning career development of its employees as discussed by Dunphy et al. (1997).

Neither of these attributes could be found in the literature and each of them could be split into a number of LO activities, so it was decided to add them to the list of attributes in their own right and, therefore, incorporate their sub-attributes into the checklists etc. The inclusion of these new attributes represents an extension of the work of all researchers in developing attributes of a learning organisation mentioned in section 2.3 on page 16.

### **6.5. The method used for the development of the LOQS**

The previous section speculated on the use of the LOQS as a qualitative measuring tool. The LOQS is the major output of this research and has great potential for further use and development. The method used to develop the LOQS as an output does deserve mention here and since none of the previous attempts at developing a tool for measuring learning organisations used an iterative case study development method. This prototyping style of development is, therefore, an extension of these authors' work.

In the development of the protocol that became the LOQS, it could be said that there were elements of exploration, theory building, theory testing and theory extension and refinement involved, all of which pointed to case study as the appropriate methodology (Voss et al., 2002). The development methodology, therefore, followed the process suggested by Eisenhardt (1989) as shown in Table 13 on page 61. The availability of suitable case study sites is often restricted as business and other organisations are not always willing to participate (Darke, Shanks, & Broadbent, 1998). This turned out to be true with this study; with half of the organisations approached declined to participate. The fact that the LOQS represented an opportunity for the organisation to have a third party of management experts come and look at their organisation without bias or history and the promise of feedback to the organisation, delivering suggestions for possible change that the organisation could choose to address, was instrumental in helping to secure participation. This supports the work of Darke et al. (1998) who suggested the strategy for increasing the probability of gaining agreement from a target organisation to participate, by highlighting the research area as of particularly relevance to them.

It was also found that as case iterations progressed, researchers became more effective and efficient at implementing data collection and analysis strategies in the different research situations. This supports the work done by (Voss et al., 2002; Westbrook, 1995) – “...*finally, case research enriches not only theory but also researchers themselves (Voss et al., 2002).*”

A triangulation of data obtained through reflection and feedback from the executive teams of the participant organisations was used to maintain objectivity in judging the success of each iteration (case), supporting Jick (1979).

### **6.6. An analysis of the participant organisations**

When examining the high level summary of LineCo1, it becomes very apparent that the organisation was overwhelmed with barriers limiting it from becoming a learning organisation. There was a clear lack of respect (Hasan & Crawford, 2003) between the management team and the employees which resulted in a blame culture (Tjosvold et al., 2004) and poor communication (Easterby-Smith, 1997).

The fact that the management team considered the field team as being lazy and stupid due to the number of similar accidents happening time and time again (lazy because the management team suspected field workers of injuring themselves on purpose just to get more time off or stupid because field workers were repeatedly experiencing the same type of injuries and therefore not learning) is a very good case of mental models (Senge, 1990) not having been brought out into the open and discussed. The same can be said of field workers' lack of trust (Hasan & Crawford, 2003) of management and regarding them as stupid for not consulting field workers when making decisions and acquisitions. It did not take long to expose the other sides of these stories. The older fieldworkers were able to confirm that the same sorts of accidents had always happened but just did not get reported, with workers turning up to work despite injuries – back injuries or minor cuts being the most common due to hazards out in the field. Managers were not willing to consult field teams when making decisions and planning acquisitions as they saw the process as being more difficult than it was worth due to the antagonism displayed by both parties. Introducing a process of genuine dialogue (Senge, 1990) would eventually see all these issues resolve themselves, even if the process may seem painful to begin with.

The facilitation of the creation of the shared vision may well have been a genuine initiative with the best of intentions behind it but the degree of cynicism (McGill & Slocum Jr, 1993) existing in the organisation may have resulted in the chances of success being really slim. On the other hand, it could well have been as field workers suspected, the imposition of a vision from above (Senge, 1990) under the guise of co-creation. The complaint from younger apprentices or newly qualified fieldworkers that they were actively discouraged from carrying out tasks as they had been taught, but instead coerced into doing things the way the 'old-timers' did them may be an example of resistance to change (Lähtenmäki et al., 2001) but could also be another example of a lack of dialogue (Senge, 1990) between the younger and older fieldworkers. Such dialogue might reveal good reason for the old-timers carrying out tasks in their own way. These are just some examples of a few of the more obvious barriers to learning but there were also some positive attributes in the team dimension, such as group problem solving (Tjosvold et al., 2004) and self-organising teams (Fisser & Browaeys, 2010) so that things got done and the organisation as a whole functioned far better than might have otherwise been possible. As a result the organisation enjoyed a good reputation amongst its customers.

When examining the high-level summary of LineCo2 in the previous chapter, a very different picture emerges to that of LineCo1. In terms of learning organisation disablers, there were examples of a lack of trust and respect (Hasan & Crawford, 2003), the consequence of silos existing within the organisation and a bit of residual cynicism (McGill & Slocum Jr, 1993) towards management initiatives where management was regarded as being controlling (McGill & Slocum Jr, 1993). There was also something of a blame culture, especially between the design team and the delivery team, but the executive team were working hard to overcome this through the use of job rotation (Dunphy et al., 1997; Jansen et al., 2005) as a means of getting the people involved to challenge the assumptions they had made over time. In this case the assumption was that the design team were inflicting unnecessary paper work on the delivery team, stopping them from doing the 'real' work. On the other side, the design team assumed that the delivery team were skipping important parts of the paper work, or filling them in incorrectly just to be difficult. This strategy of job rotation would eventually make both parties understand the importance of what the other teams were asked to do.

In fact, the new executive team was a clear indication that the CEO was engineering a radical change in culture at LineCo2 in preparation for a changing industry environment, a good

example of long term thinking (De Geus, 1997a; Ng, 2009; Templeton et al., 2002). The initiative to improve safety behaviour in fleet vehicles to reduce accidents and vehicle maintenance costs through a system of rewards, and not through decree from above, is a very good example of a combination of systems thinking (Senge, 1990) and using remuneration and rewards to create innovation (Dunphy et al., 1997; Gephart & Marsick, 1996; Goh & Ryan, 2008; Jerez-Gomez et al., 2005a). The whole host of HR initiatives in the design state or just launched (including tracking skills, aspirations and learning, graduate programmes, employee alumni and team/employee of the month) were designed to increase retention (Kelley et al., 2007; Lopez et al., 2006), establish opportunities for career development (Dunphy et al., 1997) and institutionalise systems for celebrating success (Campbell & Cairns, 1994; Pedler et al., 1989; Somech & Drach-zahavy, 2004). Indeed, there were so many initiatives in the planning stage that it would have been interesting to have measured LineCo2 as a learning organisation two or more years later than was done.

When examining the high-level summary of LineCo3, historically they had a poor track record of employee retention (Kelley et al., 2007; Lopez et al., 2006), a strong culture of blame (Senge, 1990; Tjosvold et al., 2004) and low learning values (Bereby-Meyer et al., 2004), demonstrated by not supporting desired training with time off. Even though the loosely coupled nature of the organisation was, in many ways, among its strengths, the lack of unifying vision, mission and values (Senge, 1990) had a profound effect on the siloed nature of the organisation with business units having almost no shared policies or procedures. This led directly to a lack of cohesion and strong sense of identity (Chang & Lee, 2007; De Geus, 1997a; Prieto & Revilla, 2006b; Snell, 2002). The lack of vision was attributable to a controlling CEO (McGill & Slocum Jr, 1993) not believing in visions and resulted in competitive rather than cooperative goals (Bereby-Meyer et al., 2004; DiBella, 2001; Gephart & Marsick, 1996; Templeton et al., 2002) existing within the organisation, insecurity (H. Armstrong, 2000), a fragmentation of issues (Templeton & Snyder, 2000) and poor communication (Easterby-Smith, 1997).

The loosely coupled nature of the organisation, however, provided a very clever way of not only increasing capacity in times of need, but also formed part of LineCo3's strategy to strive for non-regulated sources of income through very diverse set of activities. Not only is this very clear evidence of seeing things from a systems perspective (Senge, 1990), but also of managing for survival (De Geus, 1997a; Dymock & McCarthy, 2006; Fisser & Browaeys, 2010) and employing business oriented operational variety (DiBella, 2001; Lähtenmäki et al., 2001).

When examining the high-level summary of LineCo4, it is clear that the majority of issues identified stemmed from a very assertive CEO driving initiatives for change in a controlling fashion (McGill & Slocum Jr, 1993), often ignoring LineCo4's own policies and procedures when making decisions on recruitment. This possibly shows evidence of narcissistic behaviour (Godkin & Allcorn, 2009). There were no systems in place for escalating ideas and initiatives from the bottom up, highlighting the lack of an important communication process (Easterby-Smith, 1997). There was still a strong sense of blame culture in existence at LineCo4 (Senge, 1990; Tjosvold et al., 2004). Despite risk taking (Gephart & Marsick, 1996; Jamali & Sidani, 2008; Lähtenmäki et al., 2001; Lopez et al., 2006; Senge, 1990) being frowned upon within the organisation, the number of top down initiatives on the go at one time certainly resulted in a high degree of risk exposure. In fact, many of the current initiatives on the go were proof of concept projects showing innovation, a high degree of willingness to experiment (DiBella, 2001; Garvin, 1993; James, 2003) and explorative learning (Jamali & Sidani, 2008; Lane et al., 2006; Prieto & Revilla, 2006a) but the innovation overload experienced caused an

overwhelming degree of stress (H. Armstrong, 2000) for some and, possibly, demonstrated a lack of ability to exploit (Crossan et al., 1999) or capitalise on the knowledge gained from these initiatives.

The smorgasbord of benefits available as remuneration packages and the management pay units for expertise showed an understanding of the importance of reward for skills and expertise rather than just position (Jerez-Gomez et al., 2005a). The wellness programme intended not only to promote health but also encourage the formation of unofficial intra/inter organisational networks demonstrates an understanding of learning through socialisation (Jansen et al., 2005; Lustrri, 2007; Ngoc & Swierczek, 2006; Somech & Drach-zahavy, 2004; Templeton et al., 2002). The emerging talent programme demonstrates the provision of opportunities for career development (Dunphy et al., 1997) within the organisation. Finally, LineCo4's innovative system of succession planning clearly demonstrated an understanding of integrating, disseminating, transferring and managing knowledge (Chermack et al., 2006; Fisser & Browaeys, 2010; Hasan & Crawford, 2003; Huber, 1991; Khadra & Rawabdeh, 2006; Maqsood & Walker, 2007; Marsick & Watkins, 2003; Nonaka & Takeuchi, 1996; Pedler et al., 1989; Popper & Lipshitz, 2000; Prieto & Revilla, 2006a, 2006b; Snyder et al., 2000; Somech & Drach-zahavy, 2004; Templeton et al., 2002; K. Thomas & Allen, 2006; Walsh & Ungson, 1991).

One of the more obvious criticisms of interpretive methodologies is the difficulty of making valid generalisations beyond the individual cases (Westbrook, 1995) but by looking at several sites, multiple case studies do provide a means of reaching more generalizable conclusions than those provided by a single case (Westbrook, 1995). There are a number of observations common to these four cases that may allow some generalisations.

The electricity lines industry is a dangerous industry to work in. Field staff sometimes work in hazardous and inhospitable terrain, in all possible weather conditions. As in many other heavy industries, fields staff are exposed to dangers such as falling rocks or trees, sharp objects, heavy objects, hazardous chemicals, falls from heights, driving across country and some often work on live lines, as the cost of switching off sections of supply is, very often, deemed too expensive. In times of storm damage, field staff have to work very long shifts, increasing the risk of fatigue. On the other hand, the organisations are required to create and maintain as safe a workplace environment as possible where best practise routines have to be adhered to and periodically reviewed. All this has contributed to ingrained forms of command and control management styles where blame is commonplace. As a result, experimentation and risk taking is frowned upon and innovation is suppressed, especially from a bottom up perspective. Reporting even the most minor of accidents is mandatory but the repercussions of such reports for field-crew hamper any desire to report and reduce commitments to the truth. Communication within such organisations tend only to be one-way (top down), with trust and respect between field crew and management often in short supply.

Electricity lines companies exist in a rapidly changing environment, as does the electricity industry as a whole. As local monopolies, however, electricity lines companies are the most shielded from the market in comparison with the rest of the industry as any and all lines costs are passed on to the consumer who has little choice but to pay.

The leadership styles of all four participant organisations were found to be one of command and control with very little evidence of a facilitative leadership, distributed leadership or an egalitarian culture. This brings into question whether an egalitarian culture is really the most effective and efficient system of leadership in such a safety-conscious industry sector. Most of

the organisations studied were striving for additional sources of non-regulated income as regulated income, coupled with a shrinking ability of central government to subsidise, was seen by participating executives as limiting agility. All were, to a small degree, managing for survival (De Geus, 1997a). But as local monopolies, these organisations do not have to strive for a learning organisation ideal – they will survive anyway. The only possible threat on the horizon would come if distributed generation technology advances to the degree where it could be a viable competitor to the national grid.

As can be seen in the discussions of the four participant organisations in this section, most showed some enabling attributes conducive to being a learning organisation, but the same organisations also demonstrated disabling attributes that offset the positives – and the LOQS picked that up. None of the participant organisations came close to attaining a score expected of a learning organisation. Without a pressing need for an organisation to transform itself into a learning organisation in order to increase its chances of survival, it seems unlikely that any will do so. This study represents the first learning organisation study within an industry sector.

Most executives of the participant organisations had not heard of learning organisations which raises the question whether the concept of the learning organisation is still relevant or whether it should be abandoned as suggested by Grieves (2008). In response, as the author of this study, I position myself in the camp that regards the learning organisation as an ideal that can be striven for but never reached. The learning organisation in its entirety as a concept cannot be a solution that fits all and I see nothing wrong with the smorgasbord model suggested by Örtenblad (2007) where organisations can pick and choose from a buffet of attributes or activities.

## **6.7. Summary of discussion chapter**

The Learning Organisation Quick Scan, as a qualitative methodology for assessing organisations as learning organisations using activities that learning organisations can be expected to engage in as its framework for measurement, extends previous attempts at measurement which used quantitative survey-only methodologies and adopted attributes of a learning organisation as their frameworks for measurement. It also extends the work of previous authors who have developed and used quick scan methodologies to measure the health of supply chains and answers demands by researchers for more investigation into measurement that goes beyond description and definition.

The additional attributes and the breakdown of all learning organisation attributes into activities extends the work of a great many writers who have developed descriptions of these attributes as part of their research extending Peter Senge's five disciplines. The four LOQS dimensions extends the work of authors who have worked on arranging attributes of a learning organisation into dimensions as part of the development of their own measurement methodologies.

Test cases using the LOQS confirmed the existence within the participant organisations of both enabling and disabling attributes of a learning organisation, supporting the work of writers who first described these attributes and were instrumental in the assessment of the participant organisations. The fact that the LOQS was found to work as a measurement methodology directly contradicts scholars who have proclaimed the futility of measurement and have cast doubt on any potential benefits from it.

## **7. Conclusions**

This last chapter presents the major claims concerning the contribution of this research study along with limitations and suggestions for areas of further study.

### **7.1. *Activities as an extension to measurement of LO***

The first claim of contribution to new knowledge is the idea of breaking down the attributes of a learning organisation into activities expected of a learning organisation. As a concept, the discovery of activities represented a significant step forward in the development of a qualitative method for measuring a learning organisation and provided an excellent framework for measurement and scoring. This list of activities also has the potential to give organisations a prescriptive direction for improvement or change simply by asking themselves which of the activities they currently do not engage in. There may well be valid and practical reasons for them not to, but at least they will then have gone through processes of reflection, leading to an understanding of why a set of activities is not for them.

#### **7.1.1. Limitations**

The major limitation of this part of the study is the fact that it was only treated as a proof-of-concept. The list of activities was developed through a brainstorming of ideas session involving an informal focus group of practising managers.

#### **7.1.2. Direction for further research**

This work is incomplete, however, and provides a very real opportunity for further productive research. A far more exhaustive list of activities needs to be developed from the attributes through more formal research methodologies and a thorough examination of the activities should be made to discover whether the relationship between the activities is 'AND' or 'OR' in nature. I.e. can one activity count instead of another or are several activities needed to satisfy an attribute. There may well be activities that could be culled. A re-examination of attributes should then take place and it is likely that some attributes could be culled from the list or merged with others. It is also possible that lists of activities and attributes may differ depending upon industry sector type or size of the organisation under investigation.

### **7.2. *The LOQS methodology – activity based measurement of LO***

The next claim of contribution to new knowledge is the Learning Organisation Quick Scan as a measurement methodology. It is an extension of previous quantitative, attribute-based measurement methodologies into a qualitative, activity-based measurement methodology of a learning organisation. It can be used as a tool for measuring the degree to which an organisation can call itself a learning organisation, of interest to academics; or it can be used as an auditing methodology as a precursor to organisational change, of interest to consultants and practitioners. The feedback to the organisation phase is optional if it is to be used as a pure measurement tool for academics but could serve as an enticement that may help academics to win the agreement to participate from a target organisation.

Previous attempts at measurement relied on quantitative methodologies and used statistical analysis to analyse the results of the survey questionnaires. There may have been no time limit

between the gathering of the data and the presentation of the results, and the results would have been in a format that very few company executives could easily understand. The LOQS starts on a Monday and finishes on a Friday. It is fast. During this time, data collection, data analysis and data presentation are all completed. As the LOQS uses qualitative methodologies, the data are very rich and contextual, resulting in outputs that are very easy to understand and are in a format that could easily lead to further action if the participant organisation so chooses. Such a tool would be of interest to practising managers and would help to bring the concepts of a learning organisation away from the abstract and more towards the concrete.

### **7.2.1. Limitations**

There are also plenty of limitations to this study: only organisations within the North Island of New Zealand were studied. Further tests on portability would need to include studies of organisations in a context outside of New Zealand. The LOQS only tested organisations belonging to one industry sector. Further work needs to be done to understand whether the methodology works as well on organisations from other industry sectors or whether further modifications to the methodology are required. Larger organisations with over 250 employees were not tested nor were organisations with multiple sites or branches. Consequently, what is not currently known is how to expand the LOQS to cope with measuring a larger organisation or organisation with multiple sites or branches – whether more investigators would be needed or whether the LOQS would need more than two days on-site. More investigators would mean that sites could be investigated in parallel but the communication between investigators, found to be so vital, would be far more complicated to manage and maintain. Taking more time would allow the same investigators to visit each site or branch but may reduce an organisation's willingness to participate.

No work was done in finding the best processes for inducting new investigators into an LOQS team. It can be safely assumed that new investigators should be seasoned researchers and would have to have a high degree of subject knowledge in the area of learning organisations. All these limitations provide many possible different avenues for future research.

### **7.2.2. Direction for further research**

Longitudinal studies aimed at measuring organisations before, during and after a transformation are also an area of possible further research and may prove the LOQS able to track changes as they occur within an organisation.

The development of the LOQS also provides many areas of possible further study and could help answer questions such as:

- Do learning organisations exist in reality?
- Are learning organisations more prosperous than other types of organisation?
- Do learning organisations enjoy greater longevity than other organisations?
- Are there national cultures where learning organisations are not a good fit?
- Are there industries where learning organisations are not a good fit?
- Is the learning organisation the end station or are their future evolutions of management philosophy that will prove even better?
- Do the shapes produced by plotting results onto the LOQS diamond represent organisational archetypes and, if so, what does that mean?

### **7.3. A new grouping of LO attributes and activities into four dimensions**

A further contribution to new knowledge is the grouping of attributes and activities into dimensions so that scores were easy to plot and the plot easy to understand when feeding back results to participant organisations. As mentioned in the previous chapter, attributes grouped quite naturally into Leadership, Organisational Culture, Knowledge Flow and Team dimensions which almost seems like a hierarchical list of factors that make an organisation tick.

#### **7.3.1. Limitations**

One of the major limitations of this exercise is that the attributes and activities were grouped into dimensions that seemed to make sense at the time. The dimensions were named after the grouping had occurred. Further research is needed to validate the grouping of attributes and activities into the dimensions used in this study.

#### **7.3.2. Direction for further research**

Validation for the naming of the dimensions and whether four is the optimum number of dimensions for plotting and the display of scores also represents an area for possible further research.

### **7.4. Additional LO attributes**

Another claim of contribution to new knowledge is the two additional LO attributes discovered through the case studies.

#### **7.4.1. Limitations**

One limitation of this part of the research is that the conclusions drawn here are the results of the interpretations and analysis of the author and may well need to be revised more rigorously by more than one researcher.

#### **7.4.2. Direction for further research**

As stated previously, there is sure to be much work remaining in refining, rationalising and discovering attributes and activities of learning organisations. It is envisaged that as LO measurement techniques improve, so will clarity over LO attributes and LO activities – that improvements will go hand in hand.

### **7.5. The method used for developing the LOQS**

A further claim of contribution to new knowledge is the methodology used to develop the LOQS. It was a true partnership between the participant organisations, the author and to some extent, the rest of the LOQS team. By selling the research area as particularly relevant to the target organisation through pointing out that the study represented an opportunity for the organisation to have a third party of management experts come and look at their organisation without bias or history and the promise of feedback to the organisation, also turned out to be a useful method of securing participation.

The multiple iterative case study approach using multiple researchers (allowing multiple perspectives to be examined) and multiple data gathering approaches (allowing data

triangulation) suggested viewing the development of the protocol that became the LOQS as containing elements of exploration, theory building, theory testing and theory extension/refinement. Regarding the development in this manner revealed a development process as shown in Table 13 on page 61 which turned out to be a very good process to follow and gave theoretical validation for using the prototyping like development.

Feedback from the organisation turned out to be vital for the refinement of the LOQS protocol between iterations.

### **7.5.1. Limitations**

One serious limitation in the development methodology was that the author was the only person involved in the development. The development of the LOQS protocol could have been faster and may well have been more robust had a team of developers been involved. The author's one attempt to use a focus group to help divide the attributes into sub-attributes was not as fruitful as had been hoped as those involved had very limited knowledge of learning organisations. Although some good ideas did come about, the main result was that the author had to rely on his own reflections to turn LO attributes into sub-attributes.

### **7.5.2. Direction for further research**

Further refinement of the components of the LOQS could be conducted as a team effort and may represent a possible area for further research.

## ***7.6. Analysis of the participant organisations***

The brief recap of what a learning organisation is in section 5.6.1 can also be considered a contribution. None of the previous definitions give as complete a picture of a learning organisation and it is clear that short definitions are inadequate. The defining paragraph does, however, go some way to answer calls for better definitions of learning organisations and further research is sure to improve upon this contribution.

Another contribution to new knowledge can be found in each of the four cases. As far as it can be ascertained from the literature, no attempt to measure four organisations as learning organisations within the same industry sector has been attempted before and each case brings with it new insights relevant not only to the industry but to organisational science. One example of this is the fact that both LineCo2 and LineCo3 used a strategy of job rotation to relieve the tensions between planners and field workers. For LineCo2, this strategy worked exactly as planned but for LineCo3 it did not work at all. Two of the field crew at LineCo3 were seconded to the planning department, very much against their will as they had been outspoken in their distaste for the planning department. What ended up happening was that these two field crew became planners and started becoming very vocal in articulating their distaste for people in the field crew teams. They had changed sides, defected. An interesting area for further research would be to find the reasons for these phenomena and how a system of job rotation to relieve tensions between business units can be improved. Or, in other words, what are the critical success factors for using job rotation to relieve antagonism between business units?

A further contribution can be found from the insights drawn from the cases to the industry as a whole. Especially interesting is the fact that so few executives knew what a learning

organisation was. Another example of an interesting insight is that the dangerous nature of work within the industry has made safety consciousness of paramount importance to the industry – but this safety consciousness has also stifled the willingness to experiment and take risks.

### **7.6.1. Limitations**

A serious limitation of this part of the research is that the conclusions drawn here are the results of interpretations and analysis of the author, and may well not be representative of all lines companies in New Zealand.

### **7.6.2. Direction for further research**

An interesting area of further study could be to find out why managers and executives seem to know so little about learning organisations, and what can be done to change the situation. Does it warrant changing? Can a learning organisation be achieved without aiming for the learning organisation as a conscious desired state (can organisations get there by accident)?

Another area for possible further research would be whether it is possible to increase experimentation and risk-taking in safety conscious industries without compromising safety.

## **7.7. Summary of conclusions**

This research study offers a number of contributions to new knowledge, the principal one being the development of a qualitative methodology for measuring the extent to which an organisation can be classified as a learning organisation. Previous quantitative methods of measurement used attributes of a learning organisation as the framework for measurement. Attributes alone were found to be insufficient to function as a framework for assessing an organisation qualitatively and, as a result, the attributes of a learning organisation were broken down further into activities that a learning organisation could be expected to engage in. These activities represent an additional contribution to new knowledge and are the enabling mechanisms by which organisations can be measured. Furthermore, LOQS activities not only allow an organisation to see how well it measures up against the learning organisation ideal, but they also have the potential for providing a prescriptive direction for change simply by reflection upon the LOQS activities it does not engage in.

In short, the LOQS starts on a Monday and finishes on a Friday. It is fast. During this time, data collection, data analysis and data presentation are all completed. The outputs are graphed and are presented in a format that is easy to understand and can lead to further action if the participant organisation so chooses.

The development of the LOQS was achieved through a multiple iterative case study methodology, a process very similar to prototyping in software engineering whereby an initial prototype is designed and tested (in a first case). Reflections from this first case, combined with feedback from the executive team of the first participant organisation, led to modifications of the prototype which was then tested in a second case. This process was repeated in a third iteration. Saturation was reached and the final prototype was deemed ready for a fourth iteration, which was the final test. This fourth test confirmed the prototype as a working methodology. This method of development is presented as an additional contribution.

In the process of developing the LOQS, two further findings emerged, one being the discovery of two additional attributes of a learning organisation not previously mentioned in the literature and the second being the grouping of the learning organisation attributes and activities into four dimensions. These dimensions enabled scores to be plotted and presented back to the organisation in a fashion that proved easy to understand. These additional attributes along with their activities are offered as a further contribution to new knowledge.

Measuring four organisations as learning organisations within the same industry sector has never before been attempted. Testing the prototype LOQS with four participant organisations led to discoveries about those organisations and as they all came from the same industry sector, new insights into the industry became possible, leading to the discovery of characteristics of this industry sector. These characteristics are presented as the final contribution from this research study.

Lastly, I would like add a more personal reflection on how this project has influenced how I have developed as a researcher. To begin with, I had a fairly strong objectivist stance, seeing science as the study of a reality independent of the observer but I started to waiver when I studied learning and realised that X-amount of information or instruction does not lead to X-amount of learning and that information needs to be interpreted before it is absorbed and acted upon. Learning by organisational members is not always for the better, it depends completely upon the context (culture) of the organisation within which the learning takes place. The implications of this understanding is that if acquired information needs to be interpreted before learning takes place and if what is learned depends upon the context in which that learning takes place, then there really is no access to any reality other than via the interpretations of individuals – a turn-around from objectivism to interpretivism where context is important. Also, I came to regard organisations as social constructs rather than tangible objects and organisational members' actions are directly governed by the mental models they carry. This was reinforced by the big divide between managers and electricity lines field staff in LineCo1, the first test case, where investigators got the impression that the historically based assumptions and mental models held by individuals of each party were so strong that neither side could do anything right. This brought home the importance of developing and studying narratives. I then changes sides from being in the visionary camp in terms of my attitude towards learning organisations, to being firmly in the sceptic camp where I regarded the concept as being so flawed as to be irrelevant. I could also see how learning organisation rhetoric could be used as an exploitative tool. Upon further reflection, however, I settled back into the visionary camp but had changed from being an evangelist (seeing LOs as being a fact) to regarding LOs as a utopian ideal that could probably never be reached but where the journey of striving for that ideal is probably beneficial. This study is an important one as a measurement system is needed if there is to be any hope of identifying the existence a learning organisation – if one can be found, then much can be learned from it and it may mean the start of the end of the dichotomy of opinion that currently exists over learning organisations.

In short, I have changed from being a LO evangelist to being more of a realist. I changed from being an objectivist to being a subjectivist and from being a positivist to being an interpretivist. I now also appreciate dualism and see the benefits of mixed methodologies...quite a journey.

## References

- Akella, D. (2007). Pain and Stress in Learning Organizations. *Global Business Review*, 8(2), 323-333. doi: 10.1177/097215090700800209
- Akella, D. (2008). Discipline and Negotiation. *Global Business Review*, 9(2), 219-241. doi: 10.1177/097215090800900204
- Andersson, R., Eriksson, H., & Torstensson, H. (2006). Similarities and differences between TQM, six sigma and lean. [DOI: 10.1108/09544780610660004]. *The TQM Magazine*, 18(3), 282-296.
- Argyris, C. (2004). *Reasons and Rationalizations: The Limits to Organizational Knowledge*. Oxford: Oxford University Press.
- Armstrong, A., & Foley, P. (2003). Foundations for a learning organization: Organization learning mechanisms. *The Learning Organization*, 10(2/3), 74.
- Armstrong, H. (2000). The Learning Organization: Changed Means to an Unchanged End. *Organization*, 7(2), 355-361. doi: 10.1177/135050840072010
- Benbasat, I., Goldstein, D., & Mead, M. (1987). The Case Research Strategy in Studies of Information Systems. *MIS Quarterly*, 11(3), 369-386.
- Bereby-Meyer, Y., Moran, S., & Unger-Aviram, E. (2004). When performance goals deter performance: Transfer of skills in integrative negotiations. *Organizational Behavior and Human Decision Processes*, 93(2), 142-154.
- Boehme, T., Childerhouse, P., Deakins, E., Potter, A., & Towill, D. (2008). Supply Chain Diagnosis. *Operations Management*, 34(2), 12 - 17.
- Bryman, A. (1984). The Debate about Quantitative and Qualitative Research: A Question of Method or Epistemology? *The British Journal of Sociology*, 35(1), 75-92.
- Bui, H., & Baruch, Y. (2010). Creating learning organizations: a systems perspective. *Learning Organization*, 17(3), 208-227.
- Burrell, G., & Morgan, G. (1979). *Sociological Paradigms and Organisational Analysis*. London: Heinemann.
- Cameron, N. S., & Braiden, P. M. (2004). Using business process re-engineering for the development of production efficiency in companies making engineered to order products. *International Journal of Production Economics*, 89(3), 261-273. doi: 10.1016/s0925-5273(02)00448-6
- Campbell, T., & Cairns, H. (1994). Developing and Measuring the Learning Organization. *Industrial & Commercial Training*, 26(7/8), 10-15.
- Cao, G., Clarke, S., & Lehaney, B. (2001). A critique of BPR from a holistic perspective. [DOI: 10.1108/EUM0000000005732]. *Business Process Management Journal*, 7(4), 332-339.
- Casey, A. (2005). Enhancing Individual and Organizational Learning: A Sociological Model. *Management Learning*, 36(2), 131-147. doi: 10.1177/1350507605052555
- Chang, S., & Lee, M. (2007). A study on relationship among leadership, organizational culture, the operation of learning organization and employees' job satisfaction. *The Learning Organization*, 14(2), 155 - 185.
- Chermack, T., Lynham, S., & van der Merwe, L. (2006). Exploring the relationship between scenario planning and perceptions of learning organization characteristics. *Futures*, 38(7), 767-777.
- Childerhouse, P., & Towill, D. (2011). Effective Supply Chain Research Via the Quick Scan Audit Methodology. *Supply Chain Management*, 16(1), 5 - 10.
- Cohen, W., & Levinthal, D. (1990). Absorptive Capacity: A New Perspective on Learning and Innovation. *Administrative Science Quarterly*, 35(1), 128-152.
- Connell, N., Klein, J., & Powell, P. (2003). It's tacit knowledge but not as we know it: Redirecting the search for knowledge. *The Journal of the Operational Research Society*, 54(2), 140.
- Contu, A., Grey, C., & Örtenblad, A. (2003). Against Learning. *Human Relations*, 56(8), 931-952. doi: 10.1177/00187267030568002

- Coopey, J. (1995). The Learning Organization, Power, Politics and Ideology Introduction. *Management Learning*, 26(2), 193-213. doi: 10.1177/135050769502600204
- Crossan, M., & Berdrow, I. (2003). Organizational Learning and Strategic Renewal. *Strategic Management Journal*, 24(11), 1087.
- Crossan, M., Lane, H., & White, R. (1999). An Organisational Learning Framework: From Intuition to Institution. *Academy of Management Review*, 24(3), 522-537.
- Cua, K. O., McKone, K. E., & Schroeder, R. G. (2001). Relationships between implementation of TQM, JIT, and TPM and manufacturing performance. *Journal of Operations Management*, 19(6), 675-694. doi: 10.1016/s0272-6963(01)00066-3
- Cunliffe, A. L. (2008). Orientations to Social Constructionism: Relationally Responsive Social Constructionism and its Implications for Knowledge and Learning. *Management Learning*, 39(2), 123-139. doi: 10.1177/1350507607087578
- Cunliffe, A. L. (2011). Crafting Qualitative Research: Morgan and Smircich 30 Years On. *Organizational Research Methods*, 14(4), 647-673. doi: 10.1177/1094428110373658
- Darke, P., Shanks, G., & Broadbent, M. (1998). Successfully completing case study research: combining rigour, relevance and pragmatism. [Article]. *Information Systems Journal*, 8(4), 273-289. doi: 10.1046/j.1365-2575.1998.00040.x
- De Geus, A. (1997a). *The Living Company*: Harvard Business School Press.
- De Geus, A. (1997b). The living company.(commercial corporations). (*commercial corporations*), v75(n2), p51(59).
- De Villiers, W. (2008). The Learning Organization: Validity A Measuring Instrument. *Journal of Applied Business Research*, 24(4), 11 - 22.
- Dedhia, N. S. (2005). Six sigma basics. *Total Quality Management & Business Excellence*, 16(5), 567-574. doi: 10.1080/14783360500077468
- Denzin, N. (1970). *The Research Act: A Theoretical Introduction to Sociological Methods*: Butterworths (London).
- DiBella, A. (2001). *Learning Practices: Assessment and Action for Organizational Improvement*. Upper Saddle River, NJ: Prentice Hall.
- Dowd, J. (1999). Learning Organizations: An Introduction. *Managed Care Quarterly*, 7(2), 43.
- Draft, R., & Marcic, D. (1998). *Understanding Management*. Ft. Worth: The Dryden Press.
- Driver, M. (2002). The learning organization: Foucauldian gloom or Utopian sunshine? *Human Relations*, 55(1), 33-53.
- Dunphy, D., Turner, D., & Crawford, M. (1997). Organizational learning as the creation of corporate competencies. *The Journal of Management Development*, 16(4), 232.
- Dymock, D., & McCarthy, C. (2006). Towards a learning organization? Employee perceptions. *The Learning Organization*, 13(5), 525 - 536.
- Easterby-Smith, M. (1997). Disciplines of organizational learning: Contributions and Critiques. *Human Relations*, 50(9), 1085.
- Eisenhardt, K. M. (1989). Building theories from case study research. *The Academy of Management Review*, 14(4), 532-550. doi: 10.2307/258557
- Elkjaer, B. (2001). The Learning Organization: An Undelivered Promise. *Management Learning*, 32(4), 437-452. doi: 10.1177/1350507601324002
- Fisser, S., & Browaeyns, M. (2010). Team learning on the edge of chaos. *The Learning Organization*, 17(1), 58 - 68.
- Flyvbjerg, B. (2006). Five Misunderstandings About Case-Study Research. *Qualitative Inquiry*, 12(2), 219-245.
- Friedman, V., Lipshitz, R., & Popper, M. (2005). The Mystification of Organizational Learning. *Journal of Management Inquiry*, 14(1), 19-30. doi: 10.1177/1056492604273758
- Garvin, D. (1993). Building a learning organization. *Harvard Business Review*, 71(4), 78-91.
- Gephart, M., & Marsick, V. (1996). Learning organizations come alive. *Training & Development*, 50(12), 34.

- Gioia, D., & Pitre, E. (1990). Multiparadigm Perspectives on Theory Building. *The Academy of Management Review*, 15(4), 584 - 602.
- Godkin, L., & Allcorn, S. (2009). Institutional narcissism, arrogant organization disorder and interruptions in organizational learning. *The Learning Organization*, 16(1), 40 - 57.
- Goh, S., & Richards, G. (1997). Benchmarking the learning capability of organizations. *European Management Journal*, 15(5), 575-583.
- Goh, S., & Ryan, P. (2008). The organizational performance of learning companies: A longitudinal and competitor analysis using market and accounting financial data. *The Learning Organization*, 15(3).
- Golafshani, N. (2003). Understanding Reliability and Validity in Qualitative Research. *The Qualitative Report*, 8(4), 597 - 607.
- Graham, C., & Nafukho, F. (2007). Employees' perception toward the dimension of culture in enhancing organizational learning. *The Learning Organization*, 14(3), 281 - 292.
- Griego, O., Geroy, D., & Wright, P. (2000). Predictors of learning organizations: a human resource development practitioner's perspective *The Learning Organization*, 7(1), 5 - 12.
- Grieves, J. (2008). Why we should abandon the idea of the learning organization. *The Learning Organization*, 15(6), 463-473.
- Hasan, H., & Crawford, K. (2003). Codifying or enabling: The challenge of knowledge management systems. *The Journal of the Operational Research Society*, 54(2), 184.
- Hawkes, L. C., & Adams, M., B. . (1995). Total quality management and the internal audit: empirical evidence. [DOI: 10.1108/02686909510077361]. *Managerial Auditing Journal*, 10(1), 31-36.
- Huber, G. (1991). Organizational Learning: The Contributing Processes and the Literatures. *Organization Science*, 2(1), 88.
- Hussey, J., & Hussey, R. (1997). *Business Research: A practical guide for undergraduate and post graduate students* (First Edition ed.). New York: Palgrave.
- Isaacs, W. (1993). Taking Flight: Dialogue, Collective Thinking, and Organizational Learning. *Organizational Dynamics*, 22(2), 24-39.
- Jackson, B. (2000). A Fantasy Theme Analysis of Peter Senge's Learning Organization. *The Journal of Applied Behavioral Science*, 36(2), 193-209. doi: 10.1177/0021886300362005
- Jakubik, M. (2008). Experiencing collaborative knowledge creation processes. *The Learning Organization*, 15(1), 5-25.
- Jamali, D., Khoury, G., & Sahyoun, H. (2006). From bureaucratic organizations to learning organizations: An evolutionary roadmap. *The Learning Organization*, 13(4), 337 - 352.
- Jamali, D., & Sidani, Y. (2008). Learning organizations: diagnosis and measurement in a developing country context: The case of Lebanon. *The Learning Organization*, 15(1), 58-74.
- Jamali, D., Sidani, Y., & Zouein, C. (2009). The learning organization: tracking progress in a developing country: A comparative analysis using the DLOQ. *The Learning Organization*, 16(2), 103 - 121.
- James, C. R. (2003). Designing Learning Organizations. *Organizational Dynamics*, 32(1), 46-61. doi: 10.1016/S0090-2616(02)00137-7
- Jansen, J., Van den Bosch, F., & Volberda, H. (2005). Managing Potential and Realized Absorptive Capacity: How Do Organizational Antecedents Matter? *Academy of Management Journal*, 48(6), 999-1015.
- Jerez-Gomez, P., Cespedes-Lorente, J., & Valle-Cabrera, R. (2005a). Organizational Learning and Compensation Strategies: Evidence From the Spanish Chemical Industry. *Human Resource Management*, 44(3), 279.
- Jerez-Gomez, P., Cespedes-Lorente, J., & Valle-Cabrera, R. (2005b). Organizational learning capability: a proposal of measurement. *Journal of Business Research*, 58(6), 715-725.
- Jick, T. D. (1979). Mixing Qualitative and Quantitative Methods: Triangulation in Action. *Administrative Science Quarterly*, 24(4), 602-611.

- Johnson, R. B. (1997). Examining the validity structure of qualitative research. *Education, 118*(2), 282 - 292.
- Johnson, R. B., & Onwuegbuzie, A. J. (2004). Mixed Methods Research: A Research Paradigm Whose Time Has Come. *Educational Researcher, 33*(7), 14-26.
- Johnston, R., Brignall, S., & Fitzgerald, L. (2002). 'Good enough' performance measurement: A trade-off between activity and action. *The Journal of the Operational Research Society, 53*(3), 256.
- Karapetrovic, S., & Willborn, W. (2000). Generic audit of management systems: fundamentals. [DOI: 10.1108/02686900010344287]. *Managerial Auditing Journal, 15*(6), 279-294.
- Kelley, L., Blackman, D. A., & Hurst, J. (2007). An exploration of the relationship between learning organisations and the retention of knowledge workers. *The Learning Organization, 14*(3), 204 - 221.
- Keys, J. B., Fulmer, R. M., & Stumpf, S. A. (1996). Microworlds and Simuworlids: Practice Fields for the Learning Organization. *Organizational Dynamics, 24*(4), 36-49.
- Khadra, M., & Rawabdeh, I. (2006). Assessment of development of the learning organization concept in Jordanian industrial companies. *The Learning Organization, 13*(5), 455 - 474.
- Kiedrowski, P. (2006). Quantitative assessment of a Senge learning organization intervention. *The Learning Organization, 13*(4), 369 - 383.
- Kilmann, R. H. (1996). Management Learning Organizations: Enhancing Business Education for the 21 st Century. *Management Learning, 27*(2), 203-237. doi: 10.1177/1350507696272003
- Klein, H. K., & Myers, M. D. (1999). A Set of Principles for Conducting and Evaluating Interpretive Field Studies in Information Systems. [Article]. *MIS Quarterly, 23*(1), 67-93.
- Klimecki, R., & Lasseben, H. (1998). Modes of Organizational Learning: Indications from an Empirical Study. *Management Learning, 29*(4), 405-430. doi: 10.1177/1350507698294002
- Kofman, F., & Senge, P. M. (1993). Communities of Commitment: The Heart of Learning Organizations. *Organizational Dynamics, 22*(2), 4-23.
- Lähteenmäki, S., Toivonen, J., & Mattila, M. (2001). Critical Aspects of Organizational Learning Research and Proposals for Its Measurement. *British Journal of Management, 12*(2), 113.
- Lane, P. J., Koka, B. R., & Pathak, S. (2006). The Reification of Absorptive Capacity: A Critical Review and Rejuvenation of the Construct. *Academy of Management Review, 31*(4), 833-863.
- Lebas, M. J. (1995). Performance measurement and performance management. *International Journal of Production Economics, 41*(1-3), 23-35. doi: 10.1016/0925-5273(95)00081-x
- Leech, N. L., & Onwuegbuzie, A. J. (2007). An array of qualitative data analysis tools: A call for data analysis triangulation. *School Psychology Quarterly, 22*(4). doi: 10.1037/1045-3830.22.4.557
- Leonard-Barton, D. (1992). The Factory as a Learning Laboratory. *Sloan Management Review, 34*(1), 23-38.
- Levinthal, D. A., & March, J. G. (1993). The Myopia of Learning. *Strategic Management Journal, 14*, 95-112.
- Lewis, D. (2002). Five years on--the organizational culture saga revisited. *Leadership & Organization Development Journal, 23*(5/6), 280.
- Long, T., & Johnson, M. (2000). Rigour, Reliability and Validity in Qualitative Research. *Clinical Effectiveness in Nursing, 4*, 30 - 37.
- Lopez, S. P., Peon, J. M. M., & Ordas, C. J. V. (2006). Human Resource Management as a Determining Factor in Organizational Learning. *Management Learning, 37*(2), 215-239. doi: 10.1177/1350507606063443
- Lustri, D. (2007). Knowledge management model: practical application for competency development. *The Learning Organization, 14*(2), 186 - 202
- Maqsood, T., & Walker, D. (2007). Extending the "knowledge advantage": creating learning chains. *The Learning Organization, 14*(2), 123 - 141.
- Marsick, V., & Watkins, K. (2003). Demonstrating the Value of an Organization's Learning Culture: The Dimensions of the Learning Organization Questionnaire. *Advances in Developing Human Resources, 5*(2), 132-151. doi: 10.1177/1523422303005002002

- Maxwell, J. (1992). Understanding and Validity in Qualitative Research. *Harvard Educational Review*, 62(3), 279-279.
- Mayo, A., & Lank, E. (1994). *The power of Learning. A guide to Gaining Competitive Advantage*. London: IPD House.
- McAdam, R., & Lafferty, B. (2004). A multilevel case study critique of six sigma: statistical control or strategic change? [DOI: 10.1108/01443570410532579]. *International Journal of Operations & Production Management*, 24(5), 530-549.
- McCutcheon, D., & Meredith, J. (1993). Conducting case study research in operations management. *Journal of Operations Management*, 11(3), 239-256. doi: 10.1016/0272-6963(93)90002-7
- McGill, M. E., & Slocum Jr, J. W. (1993). Unlearning the Organization. *Organizational Dynamics*, 22(2), 67-79.
- Mirvis, P. H. (1996). Historical foundations of organization learning. [DOI: 10.1108/09534819610107295]. *Journal of Organizational Change Management*, 9(1), 13-31.
- Moilanen, R. (2001). Diagnostic tools for learning organizations. [DOI: 10.1108/09696470110366507]. *Learning Organization, The*, 8(1), 6-20.
- Moilanen, R. (2005). Diagnosing and measuring learning organizations. *The Learning Organization*, 12(1), 71.
- Naim, M., Childerhouse, P., Disney, S., & Towill, D. (2002). A supply chain diagnostic methodology: determining the vector of change. *Computers & Industrial Engineering*, 43(1-2), 135-157.
- Nevis, E. C., DiBella, A. J., & Gould, J. M. (1995). Understanding organizations as learning systems. *Sloan Management Review*, v36(n2), p73(13).
- Ng, P. T. (2009). Examining the use of new science metaphors in the learning organisation. *The Learning Organization*, 16(2), 168 - 180.
- Ngoc, T., & Swierczek, W. (2006). Facilitators of organizational learning in design. *The Learning Organization*, 13(2), 186 - 201.
- Nonaka, I., & Takeuchi, H. (1995). *The Knowledge Creating Company* (1st Edition ed.). New York: Oxford University Press.
- Nonaka, I., & Takeuchi, H. (1996). The Theory of Organisational Knowledge Creation. *International Journal of Technology Management*, 11(7/8), 883-845.
- Noor, K. B. M. (2008). Case Study: A Strategic Research Methodology. *American Journal of Applied Sciences*, 5(11), 1602 - 1604.
- Offermann, L. R., & Spiros, R. K. (2001). The Science and Practice of Team Development: Improving the Link. *Academy of Management Journal*, 44(2), 376-392.
- Onwuegbuzie, A. J., & Leech, N. L. (2007). Validity and Qualitative Research: An Oxymoron? *Quality and Quantity*, 41(2), 233-249. doi: 10.1007/s11135-006-9000-3
- Örtenblad, A. (2002). Organizational Learning: A Radical Perspective. *International Journal of Management Reviews*, 4(1), 71.
- Örtenblad, A. (2007). Senge's many faces: problem or opportunity? *The Learning Organization*, 14(2), 108 -122.
- Otala, L. (1996). *Oppimisen etu - Kilpailukykyä muutoksessa*. Porvoo: WSOY.
- Palaima, T., & Skaržauskiene, A. (2010). Systems thinking as a platform for leadership performance in a complex world. [DOI: 10.1108/17465261011079749]. *Baltic Journal of Management*, 5(3), 330-355.
- Pearn, M., Roderick, C., & Mulrooney, C. (1995). *Learning Organisations in Practice*. Maidenhead: McGraw-Hill.
- Pedler, M., Boydell, T., & Burgoyne, J. (1988). *Learning Company Project Report*. Sheffield: Training Agency.
- Pedler, M., Boydell, T., & Burgoyne, J. (1989). Towards the Learning Company. *Management Learning*, 20(1), 1-8. doi: 10.1177/135050768902000101
- Pinsonneault, A., & Kraemer, K. L. (1993). Survey research methodology in management information systems: An assessment. *Journal of Management Information Systems*, 10(2), 75 - 105.

- Popper, M., & Lipshitz, R. (2000). Organizational Learning: Mechanisms, Culture, and Feasibility. *Management Learning*, 31(2), 181-196. doi: 10.1177/1350507600312003
- Power, M. (2000). The Audit Society — Second Thoughts. *International Journal of Auditing*, 4(1), 111-119. doi: 10.1111/1099-1123.00306
- Power, M. (2004). Counting, Control and Calculation: Reflections on Measuring and Management. *Human Relations*, 57(6), 765-783. doi: 10.1177/0018726704044955
- Prieto, I. M., & Revilla, E. (2006a). Assessing the Impact of Learning Capability on Business Performance: Empirical Evidence from Spain. *Management Learning*, 37(4), 499-522. doi: 10.1177/1350507606070222
- Prieto, I. M., & Revilla, E. (2006b). Learning capability and business performance: a non-financial and financial assessment. *The Learning Organization*, 13(2), 166 - 185.
- Prietula, M. J., & Simon, H. A. (1989). The Experts in Your Midst. *Harvard Business Review*, 67(1), 120-124.
- Rebelo, T. M., & Gomes, A. D. (2008). Organizational learning and the learning organization: Reviewing evolution for prospecting the future. *The Learning Organization*, 15(4), 249 - 308.
- Redding, J. C., & Catalanello, R. F. (1997). Learning Organization Capability Assessment, Survey Questionnaire, Sample Items: Institute for Strategic Learning, Antioch, CA.
- Romme, A. G. L. (1997). Organizational Learning, Circularity and Double-Linking. *Management Learning*, 28(2), 149-160. doi: 10.1177/1350507697282004
- Rowley, J., & Gibbs, P. (2008). From learning organization to practically wise organization. *The Learning Organization*, 15(5), 356 - 372.
- Sarala, U., & Sarala, A. (1996). *Oppiva organisaatio - oppimisen, laadun ja tuottavuuden yhdistäminen*. Tampere: Tammer-Paino.
- Senge, P. (1990). *The Fifth Discipline: The Art and Practice of the Learning Organisation*. New York: Currency/Doubleday.
- Senge, P., Kleiner, A., Roberts, C., Ross, R., Roth, G., & Smith, B. (1999). *The Dance of Change: The Challenges to Sustaining Momentum in Learning Organisations*. New York: Currency Doubleday.
- Sheaff, R., & Pilgrim, D. (2006). Can learning organizations survive in the newer NHS? *Implementation Science*, 1(1), 27.
- Smith, J. K. (1984). The problem of criteria for judging interpretive enquiry. *Education Evaluation and Policy Analysis*, 6, 379 - 391.
- Snell, R. S. (2002). The Learning Organization, Sensegiving and Psychological Contracts: A Hong Kong Case. *Organization Studies*, 23(4), 549-569. doi: 10.1177/0170840602234003
- Snyder, C. A., McManus, D. J., & Wilson, L. T. (2000). Corporate memory management: a knowledge management process model. *International Journal of Technology Management*, 20(5-8), 752 - 764
- Somech, A., & Drach-zahavy, A. (2004). Exploring organizational citizenship behaviour from an organizational perspective: The relationship between organizational learning and organizational citizenship behaviour. *Journal of Occupational & Organizational Psychology*, 77(3), 281-298.
- Sun, Y. T. P., & Scott, J. L. (2003a). Exploring the divide--organizational learning and learning organization. *The Learning Organization*, 10(4/5), 202.
- Sun, Y. T. P., & Scott, J. L. (2003b). Towards better qualitative performance measurement in organizations. *The Learning Organization*, 10(4/5), 258.
- Tannebaum, S. (1997). Enhancing Continuous Learning: Diagnostic Findings from Multiple Companies. *Human Resource Management*, 36(4), 437-452.
- Taylor, G. S., Templeton, G. F., & Baker, L. T. (2009). Factors influencing the success of organizational learning implementation: A policy facet perspective. *International Journal of Management Reviews*, 9999(9999).

- Taylor, G. S., Templeton, G. F., & Baker, L. T. (2010). Factors influencing the success of organizational learning implementation: A policy facet perspective. *International Journal of Management Reviews*, 12, 353 - 364. doi: 10.1111/j.1468-2370.2009.00268.x
- Templeton, G. F., Lewis, B. R., & Snyder, C. A. (2002). Development of a Measure for the Organizational Learning Construct. *Journal of Management Information Systems*, 19(2), 175-218.
- Templeton, G. F., & Snyder, C. A. (2000). Precursors, contexts and consequences of organisational learning. *International Journal of Technology Management* 20(5 - 8), 765 - 781
- Thomas, K., & Allen, S. (2006). The learning organisation: a meta-analysis of themes in literature. *The Learning Organization*, 13(2), 123-139.
- Thomas, R., & Barton, R. (2011). Using the Quick Scan Audit Methodology (QSAM) as a precursor towards successful Lean Six Sigma implementation. *Journal of Lean Six Sigma*, 2(1), 41 - 54.
- Tjosvold, D., Zi-you, Y., & Chun, H. (2004). Team Learning from Mistakes: The Contribution of Cooperative Goals and Problem-Solving. *Journal of Management Studies*, 41(7), 1223-1245.
- Tushman, M. L., & O'Reilly, C. A. (1996). Ambidextrous organizations: Managing evolutionary and revolutionary change. *California Management Review*, 38(4), 8.
- Van Maanen, J. (1979). Reclaiming Qualitative Methods for Organizational Research: A Preface. *Administrative Science Quarterly*, 24(4), 520-526.
- Vince, R. (2001). Power and emotion in organizational learning. *Human Relations*, 54(10), 1325-1351.
- Voss, C., Tsiriktsis, N., & Frohlich, M. (2002). Case research in operations management. [DOI: 10.1108/01443570210414329]. *International Journal of Operations & Production Management*, 22(2), 195-219.
- Walsh, J. P., & Ungson, G. R. (1991). Organizational Memory. *Academy of Management Review*, 16(1), 57.
- Watkins, K., & Marsick, V. (1998). *Dimensions of the Learning Organisation Questionnaire*. Warwick, RI: Partners for the Learning Organisation.
- Weldy, T. G., & Gillis, W. E. (2010). The learning organization: variations at different organizational levels. *Learning Organization, The*, 17(5), 455-470.
- Westbrook, R. (1995). Action research: a new paradigm for research in production and operations management. [DOI: 10.1108/01443579510104466]. *International Journal of Operations & Production Management*, 15(12), 6-20.
- Whittemore, R., Chase, S. K., & Mandle, C. L. (2001). Validity in Qualitative Research. *Qualitative Health Research*, 11(4), 522-537. doi: 10.1177/104973201129119299
- Wijnhoven, F. (2001). Acquiring Organizational Learning Norms: A Contingency Approach for Understanding Deutero Learning. *Management Learning*, 32(2), 181-200. doi: 10.1177/1350507601322002
- Yang, B., Watkins, K., & Marsick, V. (2004). The construct of the learning organization: Dimensions, measurement, and validation. *Human Resource Development Quarterly*, 15(1), 31-55.
- Yeung, A. K., Urlich, D., Nason, S. W., & Von Glinow, M. A. (1999). *Organizational Learning Capability: Generating and Generalizing Ideas with Impact* New York: Oxford University Press.
- Yin, R. K. (1981). The Case Study Crisis: Some Answers. *Administrative Sciences Quarterly*, 26(1), 58 - 65.

## **Appendix 1 – The survey questionnaire used in Case 4**

Appendix 1 contains the survey questionnaire used in Case 4. This survey can be seen on the next page.



**Instructions & information**

1. This questionnaire is part of a research project conducted by the University of Waikato
2. The organisation managers will not have access to your individual survey responses
3. These survey responses are completely anonymous
4. Please fill in these surveys as completely and honestly as possible
5. Thank you very much for your participation

**Before you fill out the main questionnaire, please answer the following:**

1. How long have you worked in this organisation? \_\_\_\_\_ years.
2. Please indicate (circle, underline or highlight one) which best describes the business area you work for: |**Management**| |**Field Staff**| |**Admin**| |**Technical/Professional**| |**Other**|

**Quick-Scan Questionnaire**

<b>1. The levels of work-related stress I experience in my job are acceptable.</b>						
<i>Please tick one</i>						
<b>1. Strongly disagree</b>	<b>2. Disagree</b>	<b>3. Disagree slightly</b>	<b>4. Neither agree nor disagree</b>	<b>5. Agree Slightly</b>	<b>6. Agree</b>	<b>7. Strongly agree</b>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

<b>2. This organisation cares about the well-being of its people.</b>						
<i>Please tick one</i>						
<b>1. Strongly disagree</b>	<b>2. Disagree</b>	<b>3. Disagree slightly</b>	<b>4. Neither agree nor disagree</b>	<b>5. Agree Slightly</b>	<b>6. Agree</b>	<b>7. Strongly agree</b>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**3. At LineCo4, people spend time building trust with each other.**

*Please tick one*

<b>1. Strongly disagree</b>	<b>2. Disagree</b>	<b>3. Disagree slightly</b>	<b>4. Neither agree nor disagree</b>	<b>5. Agree Slightly</b>	<b>6. Agree</b>	<b>7. Strongly agree</b>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**4. At LineCo4, people treat each other with respect.**

*Please tick one*

<b>1. Strongly disagree</b>	<b>2. Disagree</b>	<b>3. Disagree slightly</b>	<b>4. Neither agree nor disagree</b>	<b>5. Agree Slightly</b>	<b>6. Agree</b>	<b>7. Strongly agree</b>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**5. LineCo4 encourages employees to balance work and family.**

*Please tick one*

<b>1. Strongly disagree</b>	<b>2. Disagree</b>	<b>3. Disagree slightly</b>	<b>4. Neither agree nor disagree</b>	<b>5. Agree Slightly</b>	<b>6. Agree</b>	<b>7. Strongly agree</b>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**6. LineCo4 trains me to do several different jobs which I switch between from time to time.**

*Please tick one*

<b>1. Strongly disagree</b>	<b>2. Disagree</b>	<b>3. Disagree slightly</b>	<b>4. Neither agree nor disagree</b>	<b>5. Agree Slightly</b>	<b>6. Agree</b>	<b>7. Strongly agree</b>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**7. LineCo4 rewards me for learning.**

*Please tick one*

1. Strongly disagree	2. Disagree	3. Disagree slightly	4. Neither agree nor disagree	5. Agree Slightly	6. Agree	7. Strongly agree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**8. LineCo4 rewards people for their level of expertise.**

*Please tick one*

1. Strongly disagree	2. Disagree	3. Disagree slightly	4. Neither agree nor disagree	5. Agree Slightly	6. Agree	7. Strongly agree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**9. I feel that I am committed to help LineCo4 reach its goals.**

*Please tick one*

1. Strongly disagree	2. Disagree	3. Disagree slightly	4. Neither agree nor disagree	5. Agree Slightly	6. Agree	7. Strongly agree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**10. At LineCo4, people are encouraged to ask “why” regardless of rank or position.**

*Please tick one*

1. Strongly disagree	2. Disagree	3. Disagree slightly	4. Neither agree nor disagree	5. Agree Slightly	6. Agree	7. Strongly agree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**11. At LineCo4, people give open and honest feedback to each other.**

*Please tick one*

1. Strongly disagree	2. Disagree	3. Disagree slightly	4. Neither agree nor disagree	5. Agree Slightly	6. Agree	7. Strongly agree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**12. LineCo4 regards mistakes as an opportunity for learning and not something that should be punished.**

*Please tick one*

1. Strongly disagree	2. Disagree	3. Disagree slightly	4. Neither agree nor disagree	5. Agree Slightly	6. Agree	7. Strongly agree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**13. If I have an idea, LineCo4 encourages me to try it out instead of saying that I should do it their way.**

*Please tick one*

1. Strongly disagree	2. Disagree	3. Disagree slightly	4. Neither agree nor disagree	5. Agree Slightly	6. Agree	7. Strongly agree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**14. LineCo4 has a *no-blame* culture.**

*Please tick one*

1. Strongly disagree	2. Disagree	3. Disagree slightly	4. Neither agree nor disagree	5. Agree Slightly	6. Agree	7. Strongly agree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**15. We openly share our successes within LineCo4.**

*Please tick one*

<b>1. Strongly disagree</b>	<b>2. Disagree</b>	<b>3. Disagree slightly</b>	<b>4. Neither agree nor disagree</b>	<b>5. Agree Slightly</b>	<b>6. Agree</b>	<b>7. Strongly agree</b>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**16. We openly share our failures within LineCo4.**

*Please tick one*

<b>1. Strongly disagree</b>	<b>2. Disagree</b>	<b>3. Disagree slightly</b>	<b>4. Neither agree nor disagree</b>	<b>5. Agree Slightly</b>	<b>6. Agree</b>	<b>7. Strongly agree</b>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**17. At LineCo4, people openly discuss mistakes in order to learn from them.**

*Please tick one*

<b>1. Strongly disagree</b>	<b>2. Disagree</b>	<b>3. Disagree slightly</b>	<b>4. Neither agree nor disagree</b>	<b>5. Agree Slightly</b>	<b>6. Agree</b>	<b>7. Strongly agree</b>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**18. LineCo4 assisted me in developing a learning plan.**

*Please tick one*

<b>1. Strongly disagree</b>	<b>2. Disagree</b>	<b>3. Disagree slightly</b>	<b>4. Neither agree nor disagree</b>	<b>5. Agree Slightly</b>	<b>6. Agree</b>	<b>7. Strongly agree</b>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**19. There is great communication here at LineCo4.**

*Please tick one*

<b>1. Strongly disagree</b>	<b>2. Disagree</b>	<b>3. Disagree slightly</b>	<b>4. Neither agree nor disagree</b>	<b>5. Agree Slightly</b>	<b>6. Agree</b>	<b>7. Strongly agree</b>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**20. My organisation encourages me to chat and socialise with other employees both at work time and at other times.**

*Please tick one*

<b>1. Strongly disagree</b>	<b>2. Disagree</b>	<b>3. Disagree slightly</b>	<b>4. Neither agree nor disagree</b>	<b>5. Agree Slightly</b>	<b>6. Agree</b>	<b>7. Strongly agree</b>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**21. I helped LineCo4 create its vision.**

*Please tick one*

<b>1. Strongly disagree</b>	<b>2. Disagree</b>	<b>3. Disagree slightly</b>	<b>4. Neither agree nor disagree</b>	<b>5. Agree Slightly</b>	<b>6. Agree</b>	<b>7. Strongly agree</b>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**22. I like working here at LineCo4.**

*Please tick one*

<b>1. Strongly disagree</b>	<b>2. Disagree</b>	<b>3. Disagree slightly</b>	<b>4. Neither agree nor disagree</b>	<b>5. Agree Slightly</b>	<b>6. Agree</b>	<b>7. Strongly agree</b>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**23. At LineCo4, there are no problems getting money and other resources to support my learning.**

*Please tick one*

1. Strongly disagree	2. Disagree	3. Disagree slightly	4. Neither agree nor disagree	5. Agree Slightly	6. Agree	7. Strongly agree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**24. LineCo4 is committed to continuous improvement.**

*Please tick one*

1. Strongly disagree	2. Disagree	3. Disagree slightly	4. Neither agree nor disagree	5. Agree Slightly	6. Agree	7. Strongly agree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**25. At LineCo4, my leaders mentor and coach me.**

*Please tick one*

1. Strongly disagree	2. Disagree	3. Disagree slightly	4. Neither agree nor disagree	5. Agree Slightly	6. Agree	7. Strongly agree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**26. At LineCo4, my leaders share up-to-date information with us about competitors, and industry trends.**

*Please tick one*

1. Strongly disagree	2. Disagree	3. Disagree slightly	4. Neither agree nor disagree	5. Agree Slightly	6. Agree	7. Strongly agree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**27. At LineCo4, we are encouraged to think about what we want out of our own lives.**

*Please tick one*

<b>1. Strongly disagree</b>	<b>2. Disagree</b>	<b>3. Disagree slightly</b>	<b>4. Neither agree nor disagree</b>	<b>5. Agree Slightly</b>	<b>6. Agree</b>	<b>7. Strongly agree</b>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**28. I know what I have to do to reach my own goals.**

*Please tick one*

<b>1. Strongly disagree</b>	<b>2. Disagree</b>	<b>3. Disagree slightly</b>	<b>4. Neither agree nor disagree</b>	<b>5. Agree Slightly</b>	<b>6. Agree</b>	<b>7. Strongly agree</b>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**29. My goals really drive me to want to keep learning.**

*Please tick one*

<b>1. Strongly disagree</b>	<b>2. Disagree</b>	<b>3. Disagree slightly</b>	<b>4. Neither agree nor disagree</b>	<b>5. Agree Slightly</b>	<b>6. Agree</b>	<b>7. Strongly agree</b>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**30. LineCo4 encourages me to think about our customers' views when making decisions.**

*Please tick one*

<b>1. Strongly disagree</b>	<b>2. Disagree</b>	<b>3. Disagree slightly</b>	<b>4. Neither agree nor disagree</b>	<b>5. Agree Slightly</b>	<b>6. Agree</b>	<b>7. Strongly agree</b>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**31. LineCo4 listens to the views of my teams/groups and act on our recommendations.**

*Please tick one*

1. Strongly disagree	2. Disagree	3. Disagree slightly	4. Neither agree nor disagree	5. Agree Slightly	6. Agree	7. Strongly agree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**32. LineCo4 likes people to take initiative.**

*Please tick one*

1. Strongly disagree	2. Disagree	3. Disagree slightly	4. Neither agree nor disagree	5. Agree Slightly	6. Agree	7. Strongly agree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**33. At LineCo4, people help each other learn.**

*Please tick one*

1. Strongly disagree	2. Disagree	3. Disagree slightly	4. Neither agree nor disagree	5. Agree Slightly	6. Agree	7. Strongly agree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**34. At LineCo4, people are given time to support learning.**

*Please tick one*

1. Strongly disagree	2. Disagree	3. Disagree slightly	4. Neither agree nor disagree	5. Agree Slightly	6. Agree	7. Strongly agree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**35. We are good at sorting out conflict when working in groups.**

*Please tick one*

<b>1. Strongly disagree</b>	<b>2. Disagree</b>	<b>3. Disagree slightly</b>	<b>4. Neither agree nor disagree</b>	<b>5. Agree Slightly</b>	<b>6. Agree</b>	<b>7. Strongly agree</b>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**36. In teams, we all get to discuss and decide who does what.**

*Please tick one*

<b>1. Strongly disagree</b>	<b>2. Disagree</b>	<b>3. Disagree slightly</b>	<b>4. Neither agree nor disagree</b>	<b>5. Agree Slightly</b>	<b>6. Agree</b>	<b>7. Strongly agree</b>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**37. LineCo4 gives teams/groups control over the resources they need to accomplish their work.**

*Please tick one*

<b>1. Strongly disagree</b>	<b>2. Disagree</b>	<b>3. Disagree slightly</b>	<b>4. Neither agree nor disagree</b>	<b>5. Agree Slightly</b>	<b>6. Agree</b>	<b>7. Strongly agree</b>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**38. At LineCo4, teams/groups have the freedom to set their own goals.**

*Please tick one*

<b>1. Strongly disagree</b>	<b>2. Disagree</b>	<b>3. Disagree slightly</b>	<b>4. Neither agree nor disagree</b>	<b>5. Agree Slightly</b>	<b>6. Agree</b>	<b>7. Strongly agree</b>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**39. In teams or groups we often discuss how well our group is working.**

*Please tick one*

<b>1. Strongly disagree</b>	<b>2. Disagree</b>	<b>3. Disagree slightly</b>	<b>4. Neither agree nor disagree</b>	<b>5. Agree Slightly</b>	<b>6. Agree</b>	<b>7. Strongly agree</b>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**40. At LineCo4, we share knowledge with and learn from other organisations.**

*Please tick one*

<b>1. Strongly disagree</b>	<b>2. Disagree</b>	<b>3. Disagree slightly</b>	<b>4. Neither agree nor disagree</b>	<b>5. Agree Slightly</b>	<b>6. Agree</b>	<b>7. Strongly agree</b>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**41. At LineCo4 people are truthful.**

*Please tick one*

<b>1. Strongly disagree</b>	<b>2. Disagree</b>	<b>3. Disagree slightly</b>	<b>4. Neither agree nor disagree</b>	<b>5. Agree Slightly</b>	<b>6. Agree</b>	<b>7. Strongly agree</b>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**42. The demands placed upon me at work are reasonable.**

*Please tick one*

<b>1. Strongly disagree</b>	<b>2. Disagree</b>	<b>3. Disagree slightly</b>	<b>4. Neither agree nor disagree</b>	<b>5. Agree Slightly</b>	<b>6. Agree</b>	<b>7. Strongly agree</b>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**43. There are career and personal development opportunities for me in this organisation.**

*Please tick one*

1. Strongly disagree	2. Disagree	3. Disagree slightly	4. Neither agree nor disagree	5. Agree Slightly	6. Agree	7. Strongly agree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**44. I take pride in my work.**

*Please tick one*

1. Strongly disagree	2. Disagree	3. Disagree slightly	4. Neither agree nor disagree	5. Agree Slightly	6. Agree	7. Strongly agree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**45. There is a career path for me at LineCo4.**

*Please tick one*

1. Strongly disagree	2. Disagree	3. Disagree slightly	4. Neither agree nor disagree	5. Agree Slightly	6. Agree	7. Strongly agree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**46. LineCo4 listens to my ideas.**

*Please tick one*

1. Strongly disagree	2. Disagree	3. Disagree slightly	4. Neither agree nor disagree	5. Agree Slightly	6. Agree	7. Strongly agree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

## **Appendix 2 – The structured interview plan for managers**

Appendix 2 contains the structured interview plan for managers used in Case 4. This interview plan can be seen on the next page.

It is important to note that the self-scoring box only relates to the statement being read out and not to any of the probing questions.

<b>Interviewee:</b>	<b>Position:</b>	<b>Num years in organisation:</b>
---------------------	------------------	-----------------------------------

<b>Scoring:</b> 5 – Always 4 – Usually 3 – Sometimes 2 – Seldom 1 - Never
--

### Interview questions – Management

<b>1. Rate:</b> LineCo4 selectively recruits employees based on organisational knowledge needs and cultural knowledge needs.	<b>Score:</b>
<b>Expand:</b> What sorts of things do you do to ensure this?	
<b>Probe:</b>	
<ul style="list-style-type: none"> <li>a) Is recruitment preceded by an investigation of how the position could be filled internally?</li> <li>b) Are potential candidates assessed upon their ability to learn?</li> <li>c) Are potential candidates assessed upon their willingness to change and adapt?</li> <li>d) Are assessment methods grounded in researched best practice?</li> </ul>	
<b>2. Rate:</b> LineCo4 actively strives to maximise retention within the organisation.	<b>Score:</b>
<b>Expand:</b> What sorts of things do you do to ensure this?	
<b>Probe:</b>	
<ul style="list-style-type: none"> <li>a) Do you feel there is a culture of trust and respect here at LineCo4?</li> <li>b) Do you have training plans in place for everybody (including managers)?</li> <li>c) Does the organisation have processes in place to identify and utilise natural leaders?</li> </ul>	
<b>3. Rate:</b> LineCo4 promotes a lifestyle balance within the organisation.	<b>Score:</b>
<b>Expand:</b> What sorts of things do you do to ensure this?	
<b>Probe:</b>	
<ul style="list-style-type: none"> <li>a) Does the organisation have processes in place that address issues of care and concern?</li> </ul>	

<b>4. Rate:</b> LineCo4 strives to remunerate skill & expertise (skills based pay as opposed to position based pay).	<b>Score:</b>
<b>Expand:</b> How do you do this?	
<b>Probe:</b> a) Is learning/expertise recognised & rewarded? b) Do people have career and personal development opportunities for people here? c) Have you developed a schedule of skills of employees?	
<b>5. Rate:</b> LineCo4 encourages commitment to continuous improvement/change.	<b>Score:</b>
<b>Expand:</b> How do you do this?	
<b>Probe:</b> a) Does the organisation have a process for securing commitment to organisational goals? b) How are ideas communicated upwards in this organisation? c) Are there organisational measures that provide indicators for organisational progress?	
<b>6. Rate:</b> Apart from issues of safety, LineCo4 has a positive attitude to risk taking.	<b>Score:</b>
<b>Expand:</b> In what way?	
<b>Probe:</b> a) Is there a tolerance of mistakes? b) Is there a tolerance of experimentation? c) Is there a no blame culture? d) Are successes openly shared? e) Are failures openly shared? f) Does the organisation encourage employees to take initiatives?	

<b>7. Rate:</b> Performance gaps are regarded as an opportunity for learning.	<b>Score:</b>
<b>Expand:</b> How do you ensure this?	
<b>Probe:</b> a) Does the organisation set goals focused on learning rather than performance? b) Does this organisation set competitive goals for teams?	
<b>8. Rate:</b> LineCo4 has very well developed communication processes that work well.	<b>Score:</b>
<b>Expand:</b> How does communication happen within LineCo4?	
<b>Probe:</b> a) Newsletter to employees? b) Newsletters to other stakeholders? c) Is leadership accessible to employees? d) Are there open channels of communication up and down the hierarchy? e) Are there regular cross-functional meetings? f) Is communication through social channels encouraged?	
<b>9. Rate:</b> LineCo4 Networks has built a shared vision (purpose, mission and values).	<b>Score:</b>
<b>Expand:</b> How was this developed?	
<b>Probe:</b> a) Was the vision co-created? b) Is the purpose clear and unambiguous? c) Are there plans to regularly revisit the vision in order for it to remain fresh? d) Is that vision interpreted by each business unit in order that it remains relevant throughout the organisation?	

<b>10. Rate:</b> LineCo4 Networks regards the learning organisation as a desirable state?	<b>Score:</b>
<b>Expand:</b> What is your understanding of The Learning Organisation?	
<b>Probe:</b> <ul style="list-style-type: none"> <li>a) Are there multiple advocates within the organisation?</li> <li>b) Are employees empowered to develop their own personal aspirations?</li> <li>c) Is the organisation aware of individuals' aspirations, how do you use them?</li> </ul>	
<b>11. Rate:</b> The leadership team within LineCo4 regards itself as being facilitative rather than command and control?	<b>Score:</b>
<b>Expand:</b> What does this mean to you in practise?	
<b>Probe:</b> <ul style="list-style-type: none"> <li>a) Is decision making pushed as far down the hierarchy as possible?</li> <li>b) Do leaders act as coaches and mentors?</li> <li>c) Do you feel that leaders model learning?</li> <li>d) Is decision making within separate business units autonomous?</li> <li>e) Other than for safety, are formalised rules kept to a minimum?</li> <li>f) How does LineCo4 deal with narcissistic management behaviours?</li> </ul>	
<b>12. Rate:</b> LineCo4 Networks has a learning approach to strategy?	<b>Score:</b>
<b>Expand:</b> How is learning reflected in strategy?	
<b>Probe:</b> <ul style="list-style-type: none"> <li>a) Are there policies in place that articulate the organisation's value of learning?</li> <li>b) Is continuous development a theme for individuals, teams and the whole organisation?</li> <li>c) Does the organisation provide members with access to business and strategic information?</li> <li>d) Does LineCo4 engage in scenario planning?</li> <li>e) Is there sufficient redundancy within the organisation to allow time for learning?</li> <li>f) Does the organisation strive to identify and alleviate barriers to learning?</li> </ul>	

<b>13. Rate:</b> LineCo4 keeps track of learning that occurs within the organisation?	<b>Score:</b>
<b>Expand:</b> How is this done?	
<b>Probe:</b> <ul style="list-style-type: none"> <li>a) Are goals set focused on learning as opposed to performance?</li> <li>b) Has LineCo4 undertaken a mapping work &amp; non-work related skills within the org?</li> <li>c) Has LineCo4 recorded the ambitions of individual members of its workforce?</li> </ul>	
<b>14. Rate:</b> LineCo4 places great importance upon team work?	<b>Score:</b>
<b>Expand:</b> How are teams formed?	
<b>Probe:</b> <ul style="list-style-type: none"> <li>a) Do teams manage their own conflict?</li> <li>b) Do teams manage their own role issues?</li> <li>c) Do teams manage their own resources?</li> <li>d) Do teams have the autonomy to set their own goals?</li> <li>e) Do teams self-review?</li> <li>f) Do teams within the organisation collaborate?</li> </ul>	
<b>15. Rate:</b> LineCo4 invests in knowledge flow and succession planning?	<b>Score:</b>
<b>Expand:</b> Can you describe what you have in place?	
<b>Probe:</b> <ul style="list-style-type: none"> <li>a) Does LineCo4 strive to capitalise knowledge, capability and practices of other companies?</li> <li>b) Does LineCo4 engage in inter-company learning through maintained links and connections?</li> <li>c) Does the organisation have R &amp; D capabilities?</li> <li>d) Does the organisation have a free flow of ideas and know how?</li> <li>e) Are there forums in place that examine business opportunities from acquired knowledge?</li> <li>f) Does the organisation have forums in place that develop new practises from acquired knowledge?</li> </ul>	

<b>16. Rate:</b> Does this organisation discuss cause & effect?	<b>Score:</b>
<b>Expand:</b> Can you describe how?	
<b>Probe:</b> <ul style="list-style-type: none"> <li>a) Do you feel that LineCo4 manages for the long term?</li> <li>b) Does the organisation regard long term survival as being more important than the short-term bottom line?</li> <li>c) Does the organisation regard itself as a community rather than a collection of resources?</li> <li>d) Does the organisation utilise scenario planning (analyses multiple possible outcomes of events that have not yet occurred)?</li> </ul>	

## **Appendix 3 – The structured interview plan for employees**

Appendix 3 contains the structured interview plan for employees used in Case 4. This interview plan can be seen on the next page.

It is important to note that the self-scoring box only relates to the statement being read out and not to any of the probing questions.

<b>Interviewee:</b>	<b>Position:</b>	<b>Num years in organisation:</b>
---------------------	------------------	-----------------------------------

<b>Scoring:</b> 5 – Always 4 – Usually 3 – Sometimes 2 – Seldom 1 - Never
--

**Interview questions – Employees**

<b>1. Rate:</b> There is a culture of trust and respect here at LineCo4.	<b>Score:</b>
<b>Expand:</b>	
<b>Probe:</b>	
<ul style="list-style-type: none"> <li>a) Would you say that LineCo4 has a no-blame culture?</li> <li>b) Do you feel that LineCo4 promotes a life-style balance?</li> <li>c) Is it stressful working here at LineCo4?</li> <li>d) Do you feel that LineCo4 attends to issues of care and concern?</li> <li>e) Are there lots of perks on offer when working at LineCo4? What are they?</li> </ul>	

<b>2. Rate:</b> LineCo4 has a command and control structure.	<b>Score:</b>
<b>Expand:</b>	
<b>Probe:</b>	
<ul style="list-style-type: none"> <li>a) Do you feel that there is a culture of openness and transparency in decisions made by management?</li> <li>b) Do you feel that you are able to voice an opinion without fear of retribution?</li> <li>c) Do you feel that LineCo4 has a tolerance of mistakes...mistakes are regarded as an opportunity for learning and not something that should be punished?</li> <li>d) Do you feel that LineCo4 has a tolerance of experimentation...do you feel that you can try new things out or different ways of doing things?</li> <li>e) Are successes openly shared here at LineCo4?</li> <li>f) Are failures openly shared here?</li> <li>g) Do you feel that managers are accessible here at LineCo4?</li> <li>h) Do you feel that managers are visible here at LineCo4?</li> <li>i) Do you ever get to see them out in the field?</li> <li>j) Do you feel that LineCo4 encourages you to take initiative?</li> <li>k) Do you feel that you are able to make your own decision at work?</li> </ul>	

<b>3. Rate:</b> LineCo4 is committed to continuous improvement.	<b>Score:</b>
<b>Expand:</b>	
<b>Probe:</b>	
<ul style="list-style-type: none"> <li>a) Do you have a learning plan in place?</li> <li>b) Do you feel that you have a career pathway mapped out for you?</li> <li>c) Does LineCo4 have a system of cross training job rotation implemented?</li> <li>d) Does LineCo4 reward learning?</li> <li>e) Does LineCo4 reward expertise?</li> <li>f) Is social interaction encouraged here at LineCo4?</li> <li>g) Do you have any problem getting the resources you need to support your learning?</li> <li>h) Do you feel that the leaders and managers here at LineCo4 act as coaches and mentors?</li> <li>i) Have you ever been asked by HR what it is you want out of your life and career?</li> <li>j) Do you have regular performance reviews here at LineCo4?</li> <li>k) Do you have goals set for you at each review? Are they learning focused or performance focused?</li> <li>l) Is your learning and development tracked here at LineCo4?</li> </ul>	

<b>4. Rate:</b> LineCo4 has a free-flow of ideas and know-how.	<b>Score:</b>
<b>Expand:</b>	
<b>Probe:</b>	
<ul style="list-style-type: none"> <li>a) Are there forums for discussing new ideas here at LineCo4?</li> <li>b) Do these ideas get passed on to management?</li> <li>c) Is LineCo4 involved in collaborative learning with other organisations?</li> <li>d) Does LineCo4 collaborate with other organisations and share practices in any way?</li> <li>e) Has LineCo4 attempted to record tacit knowledge?</li> <li>f) Are there processes in place for the ‘oldies’ here to pass on their tacit knowledge to the ‘newbies’?</li> <li>g) Do you know if there are any forums in place for discussing new business opportunities?</li> </ul>	

<b>5. Rate:</b> There is great communication here at LineCo4.	<b>Score:</b>
<b>Expand:</b>	
<b>Probe:</b>	
<ul style="list-style-type: none"> <li>a) Are there regular meeting for all staff held here at LineCo4?</li> <li>b) Are there ever cross functional meetings held here at LineCo4?</li> <li>c) Do you get regular newsletters here at LineCo4?</li> <li>d) Do you feel that there are well defined information distribution flows here at LineCo4?</li> </ul>	

<b>6. Rate:</b> There is great team work here at LineCo4.	<b>Score:</b>
<b>Expand:</b>	
<b>Probe:</b>	
<ul style="list-style-type: none"> <li>a) Do teams collaborate with other teams here at LineCo4?</li> <li>b) Do teams come together to discuss current practices and develop new ones?</li> <li>c) Do teams manage their own conflict here at LineCo4?</li> <li>d) Do teams manage their own roles here at LineCo4?</li> <li>e) Do teams manage their own resources here at LineCo4?</li> <li>f) Do teams self-review here at LineCo4?</li> </ul>	

<b>7. Rate:</b> I enjoy working here at LineCo4.	<b>Score:</b>
<b>Expand:</b>	
<b>Probe:</b>	
<ul style="list-style-type: none"> <li>a) Do you think people in general have a sense pride in there work here at LineCo4?</li> <li>b) Have you been involved in creating the vision here at LineCo4?</li> <li>c) Have you played a part in strategy and policy development here at LineCo4?</li> </ul>	

## Appendix 4 – Attributes Distilled from the Literature

Attribute	Expansion	Authors
Career development	Opportunity for...	(Dunphy et al., 1997)
Celebrate success	Success as learning opportunity	(Campbell & Cairns, 1994; Pedler et al., 1989; Somech & Drachzahavy, 2004)
Change	Commitment to...organisational and personal...collective transformation...manage evolutionary and revolutionary change...continuous improvement...capacity for change...flexibility...gradual evolution	(Jamali et al., 2006; Nonaka & Takeuchi, 1996; Snell, 2002; Tushman & O'Reilly, 1996; Yeung et al., 1999)
Communication	Open, closed, formal, informal and cross functional...all stakeholders...organisational members...free flow of ideas, knowledge, strategies and reasoning up and down an organisational hierarchy	(Campbell & Cairns, 1994; Connell et al., 2003; Jamali et al., 2006; Klimecki & Lassleben, 1998; Maqsood & Walker, 2007; Offermann & Spiros, 2001; Templeton et al., 2002)
Concern for measurement/goals	Learning, not necessarily performance...fit process and outcome related performance to organisational goals...cooperative goals instead of competitive goals...minimise independent goals... Action/reflection...awareness of business objectives...learning goals as opposed to performance goals...tracking individuals' development and contributions...identifying areas for improvement...providing indicators for organisational progress...measurement as a way of ensuring learning takes place and is sustainable	(Bereby-Meyer et al., 2004; Casey, 2005; DiBella, 2001; Gephart & Marsick, 1996; Khadra & Rawabdeh, 2006; Lähteenmäki et al., 2001; Nevis et al., 1995; Templeton et al., 2002; Tjosvold et al., 2004); (Ng, 2009)
Continuous learning	For individuals, team and organisation. Capturing and recognising value of new knowledge. Intuition...Knowledge acquisition...willingness to develop oneself...personal development...Individual training...work training...understanding learning disabilities...structures for...develop experience, expertise and skills amongst existing employees...creates practical new knowledge...includes training and education...systematic employee development	(A. Armstrong & Foley, 2003; Campbell & Cairns, 1994; Chermack et al., 2006; Cohen & Levinthal, 1990; Crossan et al., 1999; DiBella, 2001; Dowd, 1999; Dymock & McCarthy, 2006; Garvin, 1993; Gephart & Marsick, 1996; Griego et al., 2000; Huber, 1991; Jakubik, 2008; Jamali & Sidani, 2008; Lähteenmäki et al., 2001; Marsick & Watkins, 2003; Nonaka & Takeuchi, 1996; Pedler et al., 1989; Popper &

		Lipshitz, 2000; Prieto & Revilla, 2006a, 2006b; Senge, 1990; Snell, 2002; Somech & Drachzahavy, 2004; Templeton et al., 2002; K. Thomas & Allen, 2006)
Creativity	Understanding creative tension...structural tension	(McGill & Slocum Jr, 1993; Senge, 1990)
Data-based decision making	With intuition	(Campbell & Cairns, 1994)
Dialogue	Incorporating inquiry and advocacy...take time for, make time for...senior members surrendering their seniority thus avoiding domination...junior member surrendering their junior status thus avoiding the comfort of non-participation	(Chermack et al., 2006; Gephart & Marsick, 1996; Isaacs, 1993; Jamali & Sidani, 2008; James, 2003; Marsick & Watkins, 2003; Pedler et al., 1989; Senge, 1990; Snell, 2002; K. Thomas & Allen, 2006)
Distributed leadership	Autonomous decision making...preconditions for taking initiative...independent problem solving...individuals support group decisions...localness...reduction of formalised rules and procedures...empowerment...empower people towards collective action	(Campbell & Cairns, 1994; Dowd, 1999; Elkjaer, 2001; Gephart & Marsick, 1996; Jamali et al., 2006; James, 2003; Jansen et al., 2005; Lähteenmäki et al., 2001; Leonard-Barton, 1992; Maqsood & Walker, 2007; Marsick & Watkins, 2003; Offermann & Spiros, 2001; Prieto & Revilla, 2006a, 2006b; Senge, 1990; Snell, 2002; Somech & Drachzahavy, 2004); (Fisser & Browaeys, 2010)
Egalitarian culture	Professionalism...accountability...skilled and knowledgeable individuals...responsibility...confidence...differences of all sorts are tolerated...supportive culture, cultural awareness	(Jamali & Sidani, 2008; James, 2003; Khadra & Rawabdeh, 2006; Maqsood & Walker, 2007; Popper & Lipshitz, 2000; Prieto & Revilla, 2006a; Somech & Drachzahavy, 2004)
Empathy		(McGill & Slocum Jr, 1993)
Environment	Attention to...connecting organisation to...scanning of...minimise organisational boundaries...environmental uncertainty...scenario planning...environmental adaptability...boundary workers...tapping sources outside the organisation for information	(Campbell & Cairns, 1994; Casey, 2005; Chermack et al., 2006; De Geus, 1997a; Gephart & Marsick, 1996; James, 2003; Marsick & Watkins, 2003; Nevis et al., 1995; Pedler et al., 1989; Popper & Lipshitz, 2000; Senge, 1990; Templeton et al., 2002; K. Thomas & Allen, 2006)

Experimentation	Promotion and encouragement of...	(Campbell & Cairns, 1994; De Geus, 1997a; DiBella, 2001; Garvin, 1993; Gephart & Marsick, 1996; Goh & Richards, 1997; Jamali & Sidani, 2008; James, 2003; Jerez-Gomez et al., 2005b; Keys et al., 1996; Leonard-Barton, 1992; Maqsood & Walker, 2007; Nevis et al., 1995; Pedler et al., 1989; Yeung et al., 1999)
Exploitation	Of learning, new knowledge...Institutionalising... Exploitative learning...capitalisation of knowledge, practices and internal capabilities of other organisation ...inter-company learning...maintain links and connections	(Campbell & Cairns, 1994; Cohen & Levinthal, 1990; Crossan et al., 1999; James, 2003; Lane et al., 2006; Templeton et al., 2002; K. Thomas & Allen, 2006)
Explorative learning	Learning through investigation	(Jamali & Sidani, 2008; Lane et al., 2006; Prieto & Revilla, 2006a)
Grow commitment	Individual commitment...communities of commitment...Engagement in work...to change...of objectives	(Campbell & Cairns, 1994; Jakubik, 2008; Jamali et al., 2006; Klimecki & Lassleben, 1998; Kofman & Senge, 1993; Lähteenmäki et al., 2001; Maqsood & Walker, 2007)
Identity	Cohesiveness...a strong sense of ...distinctive culture	(Chang & Lee, 2007; De Geus, 1997a; Jansen et al., 2005; Prieto & Revilla, 2006a, 2006b; Snell, 2002; Snyder et al., 2000)
Integration	Dissemination/diffusion of learning or new knowledge...information distribution/flows...transfer of knowledge...transformative learning ...internal and external knowledge...awareness of issues...organisational free flows of ideas and know how	(Casey, 2005; Cohen & Levinthal, 1990; Crossan et al., 1999; Garvin, 1993; Gephart & Marsick, 1996; Goh & Richards, 1997; Huber, 1991; James, 2003; Jerez-Gomez et al., 2005b; Lähteenmäki et al., 2001; Lane et al., 2006; Leonard-Barton, 1992; Lopez et al., 2006; Pedler et al., 1989; Popper & Lipshitz, 2000; Prieto & Revilla, 2006a, 2006b; Snell, 2002; Somech & Drach-zahavy, 2004)
Interpretation	Of knowledge or learning	(Crossan et al., 1999; Huber, 1991; Somech & Drach-zahavy, 2004)
Involved leadership/management	Leadership/management	(A. Armstrong & Foley,

	<p>commitment...responsive leadership...commitment for learning...culture for learning...learning approach to strategy...learning climate/environment...multiple advocates...conditions for learning...modelling learning behaviour...provide systems that facilitate learning...freeing resources in order to signal organisations commitment to learning...encouraging people to contribute new ideas...facilitates work and learning across external boundaries...provides access to pertinent business and strategic knowledge...freeing resources in order to signal the organisation's commitment to learning...modelling learning behaviour...encouraging people to contribute new ideas...creating policies to ensure that all employees value learning...reinforce learning culture...employees are involved in policy and strategy formation...facilitative leadership</p>	<p>2003; Chang &amp; Lee, 2007; DiBella, 2001; Dowd, 1999; Gephart &amp; Marsick, 1996; Goh &amp; Richards, 1997; Graham &amp; Nafukho, 2007; Jamali &amp; Sidani, 2008; Jerez-Gomez et al., 2005b; Keys et al., 1996; Khadra &amp; Rawabdeh, 2006; Klimecki &amp; Lassleben, 1998; Lähteenmäki et al., 2001; Marsick &amp; Watkins, 2003; Nevis et al., 1995; Ngoc &amp; Swierczek, 2006; Popper &amp; Lipshitz, 2000; Prieto &amp; Revilla, 2006b; Somech &amp; Drach-zahavy, 2004; K. Thomas &amp; Allen, 2006; Wijnhoven, 2001; Yeung et al., 1999)</p>
Job rotation	Interdisciplinary training...changing roles to challenge assumptions	(Dunphy et al., 1997; Jansen et al., 2005; Prieto & Revilla, 2006a, 2006b)
Knowledge management	To capture and share learning...organisational memory...past experience is considered and may influence future organisational behaviour...retention of information...awareness of information that exists in KM system...management of knowledge, skills and other intellectual capital for long terms strategic gain...utilise the possibilities of information technology...manage organisational memory...creating embedded structures for capturing and sharing learning...holistic and forward looking approach...sharing learning	(Chermack et al., 2006; Hasan & Crawford, 2003; Huber, 1991; Khadra & Rawabdeh, 2006; Maqsood & Walker, 2007; Marsick & Watkins, 2003; Nonaka & Takeuchi, 1996; Pedler et al., 1989; Popper & Lipshitz, 2000; Prieto & Revilla, 2006a, 2006b; Snyder et al., 2000; Somech & Drach-zahavy, 2004; Templeton et al., 2002; K. Thomas & Allen, 2006; Walsh & Ungson, 1991); (Fisser & Browaeys, 2010)
Living entity view	Of organisation...as opposed to machine view	(De Geus, 1997a; Nonaka & Takeuchi, 1996); (Ng, 2009)
Long term thinking	As opposed to short term thinking...allowing initiatives time to bear fruit	(De Geus, 1997a; Templeton et al., 2002); (Ng, 2009)
Meaningful work	Challenging work	(Dunphy et al., 1997; Kelley et al., 2007; Kiedrowski, 2006; Lähteenmäki et al., 2001)
Mental models	Assumptions highlighted and held up to scrutiny	(Senge, 1990; Somech & Drach-zahavy, 2004)
Minimised stress and distress of personnel		(Lähteenmäki et al., 2001)

Openness	A climate of...transparency...trust	(DiBella, 2001; Dowd, 1999; Jamali et al., 2006; Jerez-Gomez et al., 2005b; Klimecki & Lassleben, 1998; Maqsood & Walker, 2007; McGill & Slocum Jr, 1993; Nevis et al., 1995; Popper & Lipshitz, 2000; Prieto & Revilla, 2006a; Snyder et al., 2000)
Operational variety	Business orientated	(DiBella, 2001; Lähteenmäki et al., 2001)
Overcoming learning myopia	Short sighted learning	(Levinthal & March, 1993)
Overcoming organisational defensive routines	Defensive reasoning tactics in order to avoid vulnerability, risk, embarrassment and the appearance of incompetence	(Argyris, 2004), (Fisser & Browaeys, 2010)
Pattern maintenance	Meaning/memory...Interpreting	(Casey, 2005; Crossan et al., 1999)
Performance gaps are opportunities	For learning...identify learning needs...identify knowledge gaps...identify development needs...needs attainment	(A. Armstrong & Foley, 2003; Campbell & Cairns, 1994; Connell et al., 2003; DiBella, 2001; Nevis et al., 1995; Wijnhoven, 2001)
Personal mastery	Efficacy...personal vision...commitment to the truth and current reality...for all...resources available for...continuous self-improvement...self-development opportunities...personal growth	(Dowd, 1999; Jamali & Sidani, 2008; Lähteenmäki et al., 2001; McGill & Slocum Jr, 1993; Nonaka & Takeuchi, 1996; Offermann & Spiros, 2001; Pedler et al., 1989; Senge, 1990; Snell, 2002; K. Thomas & Allen, 2006)
Policy	Policies that clearly articulate: (1) commitment to learning, which involves the symbolic behaviour of managers which influences member learning; (2) tolerance for failure, which involves policies that do not punish (but even reward) errors; and (3) commitment to the workforce, which is policy guiding behaviour that will lead to increased member commitment to the organization	(G. Stephen Taylor, Templeton, & Baker, 2009)
Psychological contracts	Protean career contracts...understanding power and emotion that accompany organisational learning...values the LineCo2l being of all employees	(Campbell & Cairns, 1994; Gephart & Marsick, 1996; Snell, 2002; Vince, 2001)
Remuneration and rewards	That rewards learning and expertise... Skills based pay as opposed to job based pay...Linking compensation strategies with organisational learning capabilities...knowledge workers valued...reward flexibility...supports and	(Campbell & Cairns, 1994; Dunphy et al., 1997; Gephart & Marsick, 1996; Goh & Richards, 1997; Graham & Nafukho, 2007; Griego

	rewards learning and innovation...rewards for implementing learning and knowledge...recognition	et al., 2000; Jamali & Sidani, 2008; Jerez-Gomez et al., 2005a; Kelley et al., 2007; Khadra & Rawabdeh, 2006; Lopez et al., 2006; Ngoc & Swierczek, 2006; Offermann & Spiros, 2001; Prietula & Simon, 1989; Snyder et al., 2000; K. Thomas & Allen, 2006)
Retention	Of employees...job satisfaction	(Kelley et al., 2007; Lopez et al., 2006)
Risk taking	Positive attitude towards...	(Gephart & Marsick, 1996; Jamali & Sidani, 2008; Lähteenmäki et al., 2001; Lopez et al., 2006; Senge, 1990)
Selective recruitment	Targeting knowledge needs and cultural needs...ability to learn...competence acquisition...expertise attainment	(Connell et al., 2003; Dunphy et al., 1997; Lopez et al., 2006; Snyder et al., 2000; Yeung et al., 1999)
Shared vision	Cross functional requiring empowerment of those concerned...clarity of purpose and mission...dispersed strategy...co-creation of vision...common purpose...shared mindset	(Campbell & Cairns, 1994; Chermack et al., 2006; Dowd, 1999; Gephart & Marsick, 1996; Goh & Richards, 1997; Graham & Nafukho, 2007; James, 2003; Maqsood & Walker, 2007; Prieto & Revilla, 2006a; Senge, 1990; Somech & Drachzahavy, 2004; K. Thomas & Allen, 2006; Yeung et al., 1999)
Socialisation	Flocking...collegial interactions...learning through social channels	(Jansen et al., 2005; Lustri, 2007; Ngoc & Swierczek, 2006; Somech & Drachzahavy, 2004; Templeton et al., 2002)
Structure	Horizontal and non-hierarchical...flat with necessary bureaucracy...overcomes internal divisions and rigidity...flexible organisational structure	(Gephart & Marsick, 1996; James, 2003; Khadra & Rawabdeh, 2006; Maqsood & Walker, 2007; Senge, 1990; K. Thomas & Allen, 2006); (Fisser & Browaeys, 2010)
Survival	Manage for...	(De Geus, 1997a; Dymock & McCarthy, 2006); (Fisser & Browaeys, 2010)
Systems Perspective	Including holistic vision... Holistic and efficient strategic thinking...looking for leverage...recognising archetype...systems thinking	(Campbell & Cairns, 1994; Chermack et al., 2006; DiBella, 2001; Garvin, 1993; Gephart &

		Marsick, 1996; Jamali et al., 2006; Jerez-Gomez et al., 2005b; Keys et al., 1996; Lähteenmäki et al., 2001; McGill & Slocum Jr, 1993; Nevis et al., 1995; Senge, 1990; Somech & Drachzahavy, 2004)
Team learning/team work	Incorporating collaboration...group problem solving...cross functional cooperation...conflict management...TQM...resource management...role issues...self-organising...develop common knowledge...balancing enquiry and advocacy...participative approach to policy making...boundary spanning...consultation...communities of practice...teams as networks of learning	(Chermack et al., 2006; Connell et al., 2003; Garvin, 1993; Gephart & Marsick, 1996; Goh & Richards, 1997; Jakubik, 2008; Jamali & Sidani, 2008; James, 2003; Jansen et al., 2005; Lähteenmäki et al., 2001; Maqsood & Walker, 2007; Marsick & Watkins, 2003; Offermann & Spiros, 2001; Prieto & Revilla, 2006a, 2006b; Romme, 1997; Senge, 1990; K. Thomas & Allen, 2006; Yeung et al., 1999); (Fisser & Browaeys, 2010)
Tolerance of mistakes	And failure...Opportunity for learning...even if potentially costly...avoid blame...mistakes are shared...successes and failures are shared	(Campbell & Cairns, 1994; Gephart & Marsick, 1996; Jamali & Sidani, 2008; Lähteenmäki et al., 2001; Pedler et al., 1989; Popper & Lipshitz, 2000; Prieto & Revilla, 2006a, 2006b; Somech & Drachzahavy, 2004; K. Thomas & Allen, 2006; Tjosvold et al., 2004)
Training	Growing competency	(Dunphy et al., 1997)
Transformational leadership	Embracing change...change management	(James, 2003; Snyder et al., 2000)
Virtual learning spaces and technologies available	Practice fields, Simuworlids, Microworlids	(Keys et al., 1996; Kofman & Senge, 1993; Senge, 1990)

## Appendix 5 – Amended LOQS Activities by Dimensions

The following is a list of LOQS Activities refined slightly after Case 4

### Culture

- Recruitment is preceded by an investigation of how the position could be filled internally
- Recruitment is preceded by an analysis of knowledge needs of the organisation
- Recruitment is preceded by analysis of the type of person needed to either fit in, or encourage a desired change in the organisation's culture
- Potential candidates assessed on their ability to learn
- Potential candidates are assessed on their willingness to change and adapt
- Candidate assessment methods are grounded in researched best practices
- The organisation has a system of protean contracts that evolve as employees develop
- Learning pathways (plans) are in place for each organisational member
- The organisation has processes in place to minimise stress
- Members feel that the demands placed upon them are reasonable
- Members enjoy working for the organisation
- The organisation has processes in place to minimise distress: attends to issues of care and concern
- The organisation has a culture of trust
- The organisation has a culture of respect
- The organisation promotes a lifestyle balance
- The organisation has implemented cross training and job rotation
- The organisation offer a smorgasbord of perks and other benefits to motivate as broad a selection of people as possible
- The organisation recognises and rewards learning
- The organisation recognises and rewards expertise
- The organisation has a system of skills based pay as opposed to position based pay
- The organisation is committed to continuous improvement
- The organisation has a process for securing commitment to organisational goals
- Organisational members have a sense of pride in their work
- Members enjoy working for their organisation
- There is a culture of openness and transparency when making decision
- Members feel they are able to voice opinions without fear of retribution
- The organisation regards performance gaps as opportunities for learning
- Organisational members help each other to learn
- The organisation has a tolerance of mistakes within the organisation: mistakes are regarded as an opportunity for learning
- Members regard the organisation as one of no-blame
- The organisation has a tolerance of experimentation: members feel they can try out new things and new ways of doing things
- Successes are openly shared within the organisation
- Failures are openly shared within the organisation
- There is a commitment to the truth within the organisation
- Managers and leaders within the organisation are accessible to members
- There are regular cross-functional meetings
- There are regular internal newsletters
- There are regular external newsletters

- Social interaction is regarded as communication/learning
- There are open days for the organisation's community (general public)
- Open and honest feedback is given to all within the organisation
- Members feel there is good communication within the organisation
- The organisation's vision has been co-created
- The vision has a scheduled review in order to make sure it remains fresh
- The organisation's purpose is clear and un-ambiguous
- The vision is interpreted by each department so that it remains relevant
- Organisational members have a voice in strategy and policy development
- The organisation keeps track of work related competencies and experiences of its workforce
- The organisation keeps track of non-work related competencies and experiences of its workforce
- The organisation is aware of the aspirations of its members
- The shared vision for the organisation takes all stakeholders into account
- There are processes in place to eradicate bullying at all levels within the organisation

## **Leadership**

- The learning organisation as a desired state has multiple advocates among the leadership team
- Leadership display a minimum of Command & Control
- Leadership disseminates knowledge of the learning organisation to organisational members
- The leaders' major role is to create and shape a learning culture, climate and environment
- The priority for learning is reflected in the resources allocated
- The leaders in the organisation act as coaches and mentors
- The leaders provide strategic and business information to members
- There are the following policies in place that articulate the organisation's value of learning
  - Commitment to learning
  - Tolerance for failure
  - Commitment to the workforce
- The organisation's leadership ensures there is sufficient redundancy within the organisation to allow time for learning
- The organisation's leadership strives to identify and alleviate barriers to learning
- Clear career paths are in place for organisational members
- The organisation facilitates its membership to develop personal visions
- The organisation assists its members in understanding how they can use their creative tension to motivate learning
- The organisation's leadership models learning
- Decision making is pushed as far down the hierarchy as possible
- The organisation strives to minimise formalised rules
- The organisation's leadership encourages members to take initiative (independent problem solving)
- The organisation's leadership have processes in place where natural leaders can be identified and utilised
- Organisational members feel they can question decisions made by leadership
- The organisation has structures and the processes within the organisation aimed at maximising the capacity and flexibility for change
- The organisation sets goals that are focused on learning rather than performance

- The organisation prefers goals to be cooperative rather than competitive
- The organisation tracks members' development
- Organisational measurements provide indicators for organisational progress
- Organisational members consider other stakeholders in their decision making
- The organisation regards itself as a community rather than a collection of resources
- The long term survival of the organisation is more important than short term bottom lines
- Leaders actively engage in scenario planning
- The organisation actively monitors and has systems in place that minimise individual narcissistic leader behaviours
- Leaders' behaviour is always geared to protecting the dignity of more junior members

### **Team**

- Teams within organisation collaborate as much as possible
- Members within the team have learned to balance enquiry & advocacy
- Teams come together to form communities of practise that discuss current practise and evaluate emerging practise
- In the process of dialogue, senior people within a team surrender the privilege of having their views prevail due to that seniority
- In the process of dialogue, junior people within a team surrender the comfort of non-disclosure due to their junior position
- In the process of dialogue, team members openly expose closely held assumptions and hold them up for scrutiny
- Teams manage their own conflict
- Teams manage their own roles within the team
- Teams manage the resources they need
- Teams have the autonomy to manage their own goals
- Teams self-review
- The organisation looks at the impact of proposed solutions outside of the business unit for which the solution has been proposed
- The organisation performs root cause analysis in order to resolve issues
- The organisation analyses strategies for multiple outcomes of events that have not yet occurred

### **Knowledge Flow**

- The organisation has research and development capabilities
- The organisation is involved in collaborative learning through maintained links and connections with other organisations
- The organisation has a free flow of ideas and know-how
- The organisation has processes in place for looking at practices and capabilities of other organisations
- The organisation has well defined information distribution flows
- There are forums in place that examines business opportunities of acquired knowledge
- There are forums in place that uses acquired knowledge to develop new practices
- The organisation listens to views and recommendations of its members
- Older members pass on their knowledge on to younger members (tacit knowledge transfer)
- The organisation identifies individuals that will step into the shoes of older members well before they retire from the organisation

- Older members are utilised in the work planning process in order that their tacit knowledge is leveraged to ensure robust decision making
- The organisation makes use of unofficial networks within the organisation
- The organisation uses simulators for learning

## Appendix 6 – Attributes and Activities by Dimensions

The following is a list of LOQS Activities arranged by LO Attribute and by LOQS Dimensions as developed prior to Case 3 when there were five dimension as opposed to the current four.

Dimension	Attribute	sub-attribute
Culture	A learning organisation selectively recruits its members	
Culture		1 Recruitment is preceded by an investigation of how the position could be filled internally
Culture		2 Recruitment is preceded by an analysis of knowledge needs of the organisation
Culture		3 Recruitment is preceded by analysis of the type of person needed to either fit in, or encourage a desired change in the organisation's culture
Culture		4 Potential candidates assessed on their ability to learn
Culture		5 Potential candidates are assessed on their willingness to change and adapt
Culture		6 Candidate assessment methods are grounded in researched best practices
Culture	A learning organisation strives to maximise retention	
Culture		1 The organisation has a system of protean contracts that evolve as employees develop
Culture		2 Learning pathways (plans) are in place for each organisational member
Culture		3 The organisation has processes in place to minimise stress
		4 Members feel that the demands placed upon them are reasonable
Culture		5 The organisation has processes in place to minimise distress: attends to issues of care and concern
Culture		6 The organisation has a culture of trust
Culture		7 The organisation has a culture of respect
Culture		8 The organisation promotes a lifestyle balance
Culture		9 The organisation has implemented cross training and job rotation

<b>Culture</b>		10	The organisation offers a selection of benefits that members can choose from for their remuneration package
<b>Culture</b>	A learning organisation rewards its members for learning		
<b>Culture</b>		1	The organisation recognises learning
<b>Culture</b>		2	The organisation rewards learning
<b>Culture</b>	A learning organisation acknowledges members' expertise		
<b>Culture</b>		1	The organisation recognises expertise
<b>Culture</b>		2	The organisation rewards expertise
<b>Culture</b>		3	The organisation has a system of skills based pay as opposed to position based pay
<b>Culture</b>	A learning organisation grows commitment within the organisation		
<b>Culture</b>		1	The organisation is committed to continuous improvement
<b>Culture</b>		2	The organisation has a process for securing commitment to organisational goals
<b>Culture</b>		3	Organisational members have a sense of pride in their work
<b>Culture</b>		4	Members enjoy working for their organisation
<b>Culture</b>	A learning organisation has an egalitarian culture		
<b>Culture</b>		1	Management displays a minimum of Command & Control
<b>Culture</b>		2	There is a culture of openness and transparency when making decision
<b>Culture</b>		3	Members feel they are able to voice opinions without fear of retribution
<b>Culture</b>		4	The organisation regards performance gaps as opportunities for learning
<b>Culture</b>		5	Organisational members help each other to learn
<b>Culture</b>	A learning organisation has a positive attitude to risk taking		
<b>Culture</b>		1	The organisation has a tolerance of mistakes within the organisation: mistakes are regarded as an opportunity for learning

<b>Culture</b>		2	Members regard the organisation as one of no-blame
			The organisation has a tolerance of experimentation: members feel they can try out new things and new ways of doing things
<b>Culture</b>		3	
<b>Culture</b>		4	Successes are openly shared within the organisation
<b>Culture</b>		5	Failures are openly shared within the organisation
<b>Culture</b>		6	There is a commitment to the truth within the organisation
<b>Culture</b>	A learning organisation strives to maximise communication		
<b>Culture</b>		1	Managers and leaders within the organisation are accessible to members
<b>Culture</b>		2	There are regular cross-functional meetings
<b>Culture</b>		3	There are regular internal newsletters
<b>Culture</b>		4	There are regular external newsletters
<b>Culture</b>		5	Social interaction is regarded as communication/learning
<b>Culture</b>		6	There are open days for the organisations community (general public)
<b>Culture</b>		7	Open and honest feedback is given to all within the organisation
<b>Culture</b>		8	Members feel there is good communication within the organisation
<b>Culture</b>	A learning organisation builds a shared vision from the bottom up		
<b>Culture</b>		1	The organisation's vision has been co-created
<b>Culture</b>		2	The vision has a scheduled review in order to make sure it remains fresh
<b>Culture</b>		3	The organisation's purpose is clear and un-ambiguous
<b>Culture</b>		4	The vision is interpreted by each department so that it remains relevant
		5	Organisational members have a voice in strategy and policy development
<b>Leadership</b>	A learning organisation has a leadership that knows what a learning organisation is		

<b>Leadership</b>		1	The learning organisation as a desired state has multiple advocates among the leadership team
<b>Leadership</b>		2	Leadership disseminates knowledge of the learning organisation to organisational members
<b>Leadership</b>	The learning organisation has a leadership that is facilitative as opposed to command and control		
<b>Leadership</b>		1	The leaders' major role is to create and shape a learning culture, climate and environment
<b>Leadership</b>		2	The priority for learning is reflected in the resources allocated
<b>Leadership</b>		3	The leaders in the organisation act as coaches and mentors
		4	The leaders provide strategic and business information to members
<b>Leadership</b>	The learning organisation has a learning approach to strategy		
<b>Leadership</b>		1	There are policies in place that articulate the organisation's value of learning
<b>Leadership</b>		2	The organisation's leadership ensures there is sufficient redundancy within the organisation to allow time for learning
<b>Leadership</b>		3	The organisation's leadership strives to identify and alleviate barriers to learning
<b>Leadership</b>		4	Clear career paths are in place for organisational members
<b>Leadership</b>	The learning organisation empowers its members to develop personal mastery		
<b>Leadership</b>		1	The organisation facilitates its membership to develop personal visions
<b>Leadership</b>		2	The organisation assists its members in understanding how they can use their creative tension to motivate learning
<b>Leadership</b>	The learning organisation has a learning leadership		
<b>Leadership</b>		1	The organisation's leadership models learning

<b>Leadership</b>	The learning organisation has a distributed leadership	
<b>Leadership</b>		1 Are decisions pushed as far down the hierarchy as possible
<b>Leadership</b>		2 The organisation encourages autonomous decision making
<b>Leadership</b>		3 The organisation strives to minimise formalised rules
<b>Leadership</b>		4 The organisation's leadership encourages members to take initiative (independent problem solving)
<b>Leadership</b>		5 The organisation's leadership have processes in place where natural leaders can be identified and utilised
<b>Leadership</b>		6 Organisational members feel they can question decisions made by leadership
<b>Leadership</b>	The learning organisation has a transformational leadership	
<b>Leadership</b>		1 The organisation has structures and the processes within the organisation aimed at maximising the capacity and flexibility for change
<b>Leadership</b>	The learning organisation sets and measures goals	
<b>Leadership</b>		1 The organisation sets goals that are focused on learning rather than performance
<b>Leadership</b>		2 The organisation prefers goals to be cooperative rather than competitive
<b>Leadership</b>		3 The organisation tracks members' development
<b>Leadership</b>		4 Organisational measurements provide indicators for organisational progress
<b>Team</b>	The learning organisation makes use of team capabilities	
<b>Team</b>		1 Teams within organisation collaborate as much as possible
<b>Team</b>	The learning organisation is made up of teams that have a common set of core skills	
<b>Team</b>		1 Members within the team have learned to balance enquiry & advocacy

<b>Team</b>		2	Teams come together to form communities of practise that discuss current practise and evaluate emerging practise
<b>Team</b>		3	In the process of dialogue, senior people within a team surrender the privilege of having their views prevail due to that seniority
<b>Team</b>		4	In the process of dialogue, junior people within a team surrender the comfort of non-disclosure due to their junior position
<b>Team</b>		5	In the process of dialogue, team members openly expose closely hold assumptions and hold them up for scrutiny
<b>Team</b>	In learning organisations, teams are self-organising		
<b>Team</b>		1	Teams manage their own conflict
<b>Team</b>		2	Teams manage their own roles within the team
<b>Team</b>		3	Teams manage the resources they need
<b>Team</b>		4	Teams have the autonomy to manage their own goals
<b>Team</b>		5	Teams self-review
<b>Knowledge Management</b>			
<b>Knowledge Management</b>	Learning organisations have the ability acquiring new knowledge		
<b>Knowledge Management</b>		1	The organisation has research and development capabilities
<b>Knowledge Management</b>		2	The organisation is involved in collaborative learning through maintained links and connections with other organisations
<b>Knowledge Management</b>		3	The organisation has a free flow of ideas and know-how
<b>Knowledge Management</b>		4	The organisation has processes in place for looking at practices and capabilities of other organisations
<b>Knowledge Management</b>	A learning organisation integrates and disseminates new knowledge		
<b>Knowledge Management</b>		1	The organisation has well defined information distribution flows
<b>Knowledge Management</b>	A learning organisation has the ability to exploit new knowledge		

<b>Knowledge Management</b>		1	There are forums in place that examines business opportunities of acquired knowledge
<b>Knowledge Management</b>		2	There are forums in place that uses acquired knowledge to develop new practices
		3	The organisation listens to views and recommendations of its members
<b>Knowledge Management</b>	A learning organisation records tacit knowledge		
<b>Knowledge Management</b>		1	The organisation looks at technologies that can facilitate recording tacit knowledge
<b>Knowledge Management</b>		2	The organisation has processes in place for turning tacit knowledge into explicit knowledge
<b>Knowledge Management</b>		3	The organisation has systems in place for passing on tacit knowledge
<b>Knowledge Management</b>	The learning organisation makes use of virtual learning spaces		
<b>Knowledge Management</b>		1	The organisation uses simulators for learning
<b>Systems</b>	The vision for the learning organisation is holistic		
<b>Systems</b>		1	The shared vision for the organisation takes all stakeholders into account
<b>Systems</b>	Holistic thinking is encouraged within the organisation		
<b>Systems</b>		1	Organisational members consider other stakeholders in their decision making
<b>Systems</b>	The learning organisation has a living entity view of itself		
<b>Systems</b>		1	The organisation regards itself as a community rather than a collection of resources
<b>Systems</b>	The learning organisation manages for survival		
<b>Systems</b>		1	The long term survival of the organisation is more important than short term bottom lines

<b>Systems</b>	The learning organisation looks upon challenges and problems systemically rather than fragmentally - understanding complexity	1	The organisation looks at the impact of proposed solutions outside of the business unit for which the solution has been proposed
<b>Systems</b>	The learning organisation has an understanding of cause and effect	1	The organisation performs root cause analysis in order to resolve issues
<b>Systems</b>	The learning organisation uses scenario planning	1	The organisation analyses strategies for multiple outcomes of events that have not yet occurred
<b>Systems</b>			

## **Appendix 7 – Mini-checklists**

As described in this thesis, mini checklists were derived from organisational activities. They were filled in while on site after or during data gathering.

These mini-checklists were used to populate a master checklist in Microsoft Excel which contained formulas that calculated the organisations' scores by dimension.

Examples of these mini-checklists as developed prior to Case 4 are shown in the following pages. The master checklist is not shown in these appendices.

## Appendix 7a – Survey mini-checklist

Attribute	Evidence exists	Comments
Recruitment is preceded by an investigation of how the position could be filled internally		
Recruitment is preceded by an analysis of knowledge needs of the organisation		
Recruitment is preceded by analysis of the type of person needed to either fit in, or encourage a desired change in the organisation's culture		
Potential candidates assessed on their ability to learn		
Potential candidates are assessed on their willingness to change and adapt		
Candidate assessment methods are grounded in researched best practices		
The organisation has a system of protean contracts that evolve as employees develop		
Learning pathways (plans) are in place for each organisational member		
The organisation has processes in place to minimise stress		
Members feel that the demands placed upon them are reasonable		
The organisation has processes in place to minimise distress: attends to issues of care and concern		
The organisation has a culture of trust		
The organisation has a culture of respect		
The organisation promotes a lifestyle balance		
The organisation has implemented cross training and job rotation		
The organisation offers a selection of benefits that the member can choose as part of their remuneration package		
The organisation recognises learning		
The organisation rewards learning		
The organisation recognises expertise		
The organisation rewards expertise		
The organisation has a system of skills based pay as opposed to position based pay		
The organisation is committed to continuous improvement		

The organisation has a process for securing commitment to organisational goals		
Organisational members have a sense of pride in their work		
Members enjoy working for their organisation		
Management displays a minimum of Command & Control		
There is a culture of openness and transparency when making decision		
Members feel they are able to voice opinions without fear of retribution		
The organisation regards performance gaps as opportunities for learning		
Organisational members help each other to learn		
The organisation has a tolerance of mistakes within the organisation: mistakes are regarded as an opportunity for learning		
Members regard the organisation as one of no-blame		
The organisation has a tolerance of experimentation: members feel they can try out new things and new ways of doing things		
Successes are openly shared within the organisation		
Failures are openly shared within the organisation		
There is a commitment to the truth within the organisation		
Managers and leaders within the organisation are accessible to members		
There are regular cross-functional meetings		
There are regular internal newsletters		
There are regular external newsletters		
Social interaction is regarded as communication/learning		
There are open days for the organisations community (general public)		
The organisation's vision has been co-created		
The vision has a scheduled review in order to make sure it remains fresh		
Open and honest feedback is given to all within the organisation		
Members feel there is good communication within the organisation		
The organisation's purpose is clear and un-ambiguous		

The vision is interpreted by each department so that it remains relevant		
Organisational members have a voice in strategy and policy development		
The learning organisation as a desired state has multiple advocates among the leadership team		
Leadership disseminates knowledge of the learning organisation to organisational members		
The leaders' major role is to create and shape a learning culture, climate and environment		
The priority for learning is reflected in the resources allocated		
The leaders in the organisation act as coaches and mentors		
The leaders provide strategic and business information to members		
There are policies in place that articulate the organisation's value of learning		
The organisation's leadership ensures there is sufficient redundancy within the organisation to allow time for learning		
The organisation's leadership strives to identify and alleviate barriers to learning		
Clear career paths are in place for organisational members		
The organisation facilitates its membership to develop personal visions		
The organisation assists its members in understanding how they can use their creative tension to motivate learning		
The organisation's leadership models learning		
Are decisions pushed as far down the hierarchy as possible		
The organisation encourages autonomous decision making		
The organisation strives to minimise formalised rules		
The organisation's leadership encourages members to take initiative (independent problem solving)		
The organisation's leadership have processes in place where natural leaders can be identified and utilised		
Organisational members feel they can question decisions made by leadership		
The organisation has structures and the processes within the organisation aimed at maximising the capacity and flexibility for change		

The organisation sets goals that are focused on learning rather than performance		
The organisation prefers goals to be cooperative rather than competitive		
The organisation tracks members' development		
Organisational measurements provide indicators for organisational progress		
Teams within organisation collaborate as much as possible		
Members within the team have learned to balance enquiry & advocacy		
Teams come together to form communities of practise that discuss current practise and evaluate emerging practise		
In the process of dialogue, senior people within a team surrender the privilege of having their views prevail due to that seniority		
In the process of dialogue, junior people within a team surrender the comfort of non-disclosure due to their junior position		
In the process of dialogue, team members openly expose closely held assumptions and hold them up for scrutiny		
Teams manage their own conflict		
Teams manage their own roles within the team		
Teams manage the resources they need		
Teams have the autonomy to manage their own goals		
Teams self-review		
The organisation has research and development capabilities		
The organisation is involved in collaborative learning through maintained links and connections with other organisations		
The organisation has a free flow of ideas and know-how		
The organisation has processes in place for looking at practices and capabilities of other organisations		
The organisation has well defined information distribution flows		
There are forums in place that examines business opportunities of acquired knowledge		
There are forums in place that uses acquired knowledge to develop new practices		
The organisation listens to views and recommendations of its members		

The organisation looks at technologies that can facilitate recording tacit knowledge		
The organisation has processes in place for turning tacit knowledge into explicit knowledge		
The organisation has systems in place for passing on tacit knowledge		
The organisation uses simulators for learning		
The shared vision for the organisation takes all stakeholders into account		
Organisational members consider other stakeholders in their decision making		
The organisation regards itself as a community rather than a collection of resources		
The long term survival of the organisation is more important than short term bottom lines		
The organisation looks at the impact of proposed solutions outside of the business unit for which the solution has been proposed		
The organisation performs root cause analysis in order to resolve issues		
The organisation analyses strategies for multiple outcomes of events that have not yet occurred		
Members enjoy working for the organisation		

## Appendix 7b – Management interview mini-checklist

Attribute	Evidence exists	Comments
Recruitment is preceded by an investigation of how the position could be filled internally		
Recruitment is preceded by an analysis of knowledge needs of the organisation		
Recruitment is preceded by analysis of the type of person needed to either fit in, or encourage a desired change in the organisation's culture		
Potential candidates assessed on their ability to learn		
Potential candidates are assessed on their willingness to change and adapt		
Candidate assessment methods are grounded in researched best practices		
The organisation has a system of protean contracts that evolve as employees develop		
Learning pathways (plans) are in place for each organisational member		
The organisation has processes in place to minimise distress: attends to issues of care and concern		
The organisation has a culture of trust		
The organisation has a culture of respect		
The organisation promotes a lifestyle balance		
The organisation has implemented cross training and job rotation		
The organisation offers a selection of benefits that can be selected by the member as part of their remuneration package		
The organisation recognises learning		
The organisation rewards learning		
The organisation recognises expertise		
The organisation rewards expertise		
The organisation has a system of skills based pay as opposed to position based pay		
The organisation is committed to continuous improvement		

The organisation has a process for securing commitment to organisational goals		
Management displays a minimum of Command & Control		
There is a culture of openness and transparency when making decision		
The organisation regards performance gaps as opportunities for learning		
The organisation has a tolerance of mistakes within the organisation: mistakes are regarded as an opportunity for learning		
Members regard the organisation as one of no-blame		
The organisation has a tolerance of experimentation: members feel they can try out new things and new ways of doing things		
Successes are openly shared within the organisation		
Failures are openly shared within the organisation		
Managers and leaders within the organisation are accessible to members		
There are regular cross-functional meetings		
There are regular internal newsletters		
There are regular external newsletters		
Social interaction is regarded as communication/learning		
There are open days for the organisations community (general public)		
The organisation's vision has been co-created		
The vision has a scheduled review in order to make sure it remains fresh		
The vision is interpreted by each department so that it remains relevant		
Organisational members have a voice in strategy and policy development		
The learning organisation as a desired state has multiple advocates among the leadership team		
Leadership disseminates knowledge of the learning organisation to organisational members		
The leaders' major role is to create and shape a learning culture, climate and environment		
The priority for learning is reflected in the resources allocated		

The leaders in the organisation act as coaches and mentors		
There are policies in place that articulate the organisation's value of learning		
The organisation's leadership ensures there is sufficient redundancy within the organisation to allow time for learning		
The organisation's leadership strives to identify and alleviate barriers to learning		
Clear career paths are in place for organisational members		
The organisation facilitates its membership to develop personal visions		
The organisation assists its members in understanding how they can use their creative tension to motivate learning		
The organisation's leadership models learning		
Are decisions pushed as far down the hierarchy as possible		
The organisation encourages autonomous decision making		
The organisation strives to minimise formalised rules		
The organisation's leadership encourages members to take initiative (independent problem solving)		
The organisation's leadership have processes in place where natural leaders can be identified and utilised		
The organisation has structures and the processes within the organisation aimed at maximising the capacity and flexibility for change		
The organisation sets goals that are focused on learning rather than performance		
The organisation prefers goals to be cooperative rather than competitive		
The organisation tracks members' development		
Organisational measurements provide indicators for organisational progress		
Teams within organisation collaborate as much as possible		
Teams manage their own conflict		
Teams manage their own roles within the team		
Teams manage the resources they need		
Teams have the autonomy to manage their own goals		
Teams self-review		

The organisation has research and development capabilities		
The organisation is involved in collaborative learning through maintained links and connections with other organisations		
The organisation has a free flow of ideas and know-how		
The organisation has processes in place for looking at practices and capabilities of other organisations		
There are forums in place that examines business opportunities of acquired knowledge		
There are forums in place that uses acquired knowledge to develop new practices		
The organisation looks at technologies that can facilitate recording tacit knowledge		
The organisation has processes in place for turning tacit knowledge into explicit knowledge		
The organisation has systems in place for passing on tacit knowledge		
The organisation uses simulators for learning		
The organisation regards itself as a community rather than a collection of resources		
The long term survival of the organisation is more important than short term bottom lines		
The organisation looks at the impact of proposed solutions outside of the business unit for which the solution has been proposed		
The organisation performs root cause analysis in order to resolve issues		
<p>The organisation analyses strategies for multiple outcomes of events that have not yet occurred</p> <p>Systems need to be in place that eliminate individual narcissistic leader behaviours may be translated into related organizational or group behaviours</p> <p>The organisation has a process of mapping employee skills</p> <p>The organisation has a process of recording aspirations of its employees</p>		

## Appendix 7c – Employee interview mini-checklist

Attribute	Evidence exists	Comments
Learning pathways (plans) are in place for each organisational member		
The organisation has processes in place to minimise stress		
The organisation has processes in place to minimise distress: attends to issues of care and concern		
The organisation has a culture of trust		
The organisation has a culture of respect		
The organisation promotes a lifestyle balance		
The organisation has implemented cross training and job rotation		
The organisation offers a selection of benefits that the member can choose as part of their remuneration package		
The organisation rewards learning		
The organisation rewards expertise		
The organisation is committed to continuous improvement		
Organisational members have a sense of pride in their work		
Members enjoy working for their organisation		
Management displays a minimum of Command & Control		
There is a culture of openness and transparency when making decision		
Members feel they are able to voice opinions without fear of retribution		
The organisation has a tolerance of mistakes within the organisation: mistakes are regarded as an opportunity for learning		
Members regard the organisation as one of no-blame		
The organisation has a tolerance of experimentation: members feel they can try out new things and new ways of doing things		
Successes are openly shared within the organisation		
Failures are openly shared within the organisation		
Managers and leaders within the organisation are accessible to members		
There are regular cross-functional meetings		

There are regular internal newsletters		
Social interaction is regarded as communication/learning		
The organisation's vision has been co-created		
Members feel there is good communication within the organisation		
Organisational members have a voice in strategy and policy development		
The priority for learning is reflected in the resources allocated		
The leaders in the organisation act as coaches and mentors		
Clear career paths are in place for organisational members		
The organisation facilitates its membership to develop personal visions		
The organisation encourages autonomous decision making		
The organisation's leadership encourages members to take initiative (independent problem solving)		
The organisation sets goals that are focused on learning rather than performance		
The organisation tracks members' development		
Teams within organisation collaborate as much as possible		
Teams come together to form communities of practise that discuss current practise and evaluate emerging practise		
Teams manage their own conflict		
Teams manage their own roles within the team		
Teams manage the resources they need		
Teams self-review		
The organisation is involved in collaborative learning through maintained links and connections with other organisations		
The organisation has a free flow of ideas and know-how		
The organisation has processes in place for looking at practices and capabilities of other organisations		
The organisation has well defined information distribution flows		
There are forums in place that examines business opportunities of acquired knowledge		

There are forums in place that uses acquired knowledge to develop new practices		
The organisation looks at technologies that can facilitate recording tacit knowledge		
The organisation has processes in place for turning tacit knowledge into explicit knowledge		
The organisation has systems in place for passing on tacit knowledge		
The organisation uses simulators for learning		

## Appendix 7d – Document analysis mini-checklist

Attribute	Evidence exists	Comments
Recruitment is preceded by an investigation of how the position could be filled internally		
Recruitment is preceded by an analysis of knowledge needs of the organisation		
Recruitment is preceded by analysis of the type of person needed to either fit in, or encourage a desired change in the organisation's culture		
Potential candidates assessed on their ability to learn		
Potential candidates are assessed on their willingness to change and adapt		
Candidate assessment methods are grounded in researched best practices		
The organisation has a system of protean contracts that evolve as employees develop		
Learning pathways (plans) are in place for each organisational member		
The organisation has processes in place to minimise stress		
The organisation has processes in place to minimise distress: attends to issues of care and concern		
The organisation promotes a lifestyle balance		
The organisation has implemented cross training and job rotation		
The organisation a selection of benefits for employees to choose as part of their remuneration		
The organisation recognises learning		
The organisation rewards learning		
The organisation recognises expertise		
The organisation rewards expertise		
The organisation has a system of skills based pay as opposed to position based pay		
The organisation is committed to continuous improvement		
The organisation has a process for securing commitment to organisational goals		
The organisation regards performance gaps as opportunities for learning		

Organisational members help each other to learn		
There are regular internal newsletters		
There are regular external newsletters		
The organisation's vision has been co-created		
The vision has a scheduled review in order to make sure it remains fresh		
The organisation's purpose is clear and un-ambiguous		
The vision is interpreted by each department so that it remains relevant		
The priority for learning is reflected in the resources allocated		
There are policies in place that articulate the organisation's value of learning		
Clear career paths are in place for organisational members		
The organisation facilitates its membership to develop personal visions		
The organisation tracks members' development		
The shared vision for the organisation takes all stakeholders into account Policies that clearly articulate: (1) commitment to learning, which involves the symbolic behaviour of managers which influences member learning; (2) tolerance for failure, which involves policies that do not punish (but even reward) errors; and (3) commitment to the workforce, which is policy guiding behaviour that will lead to increased member commitment to the organization		

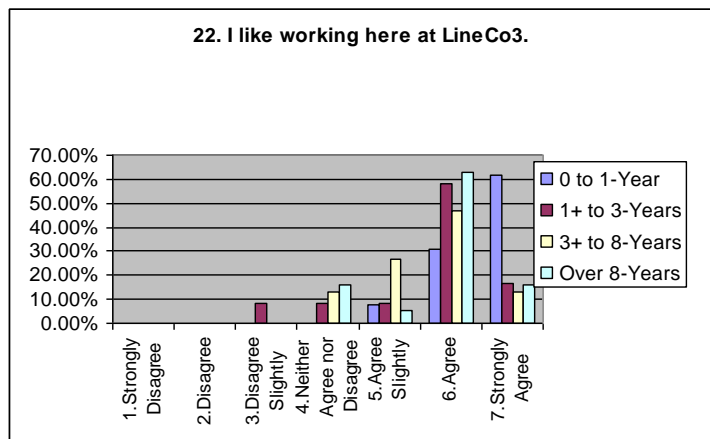
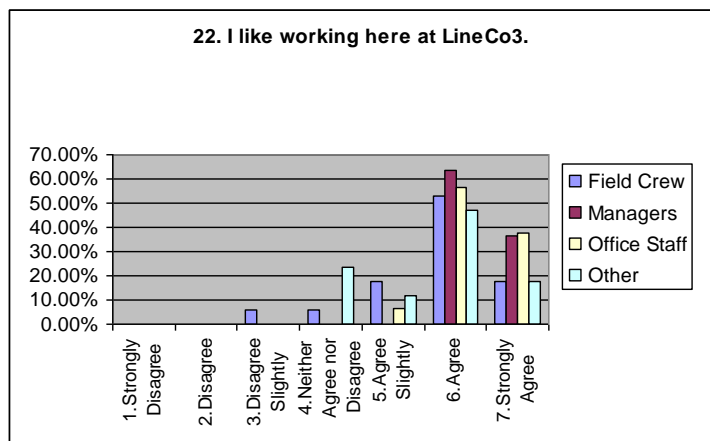
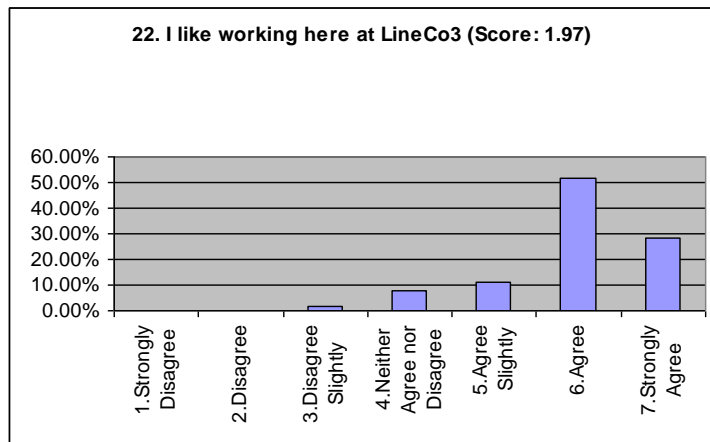
## **Appendix 7e – Meeting observation mini-checklist**

<b>Attribute</b>	<b>Evidence exists</b>	<b>Comments</b>
Are decisions pushed as far down the hierarchy as possible		
The organisation encourages autonomous decision making		
Organisational members feel they can question decisions made by leadership		
Members within the team have learned to balance enquiry & advocacy		
In the process of dialogue, senior people within a team surrender the privilege of having their views prevail due to that seniority		
In the process of dialogue, junior people within a team surrender the comfort of non-disclosure due to their junior position		
In the process of dialogue, team members openly expose closely held assumptions and hold them up for scrutiny		
The organisation has a free flow of ideas and know-how		
The organisation has well defined information distribution flows		
The organisation performs root cause analysis in order to resolve issues		
The organisation analyses strategies for multiple outcomes of events that have not yet occurred		

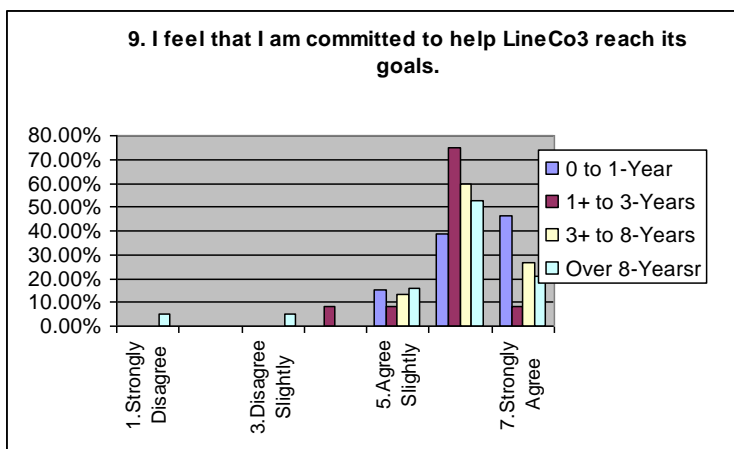
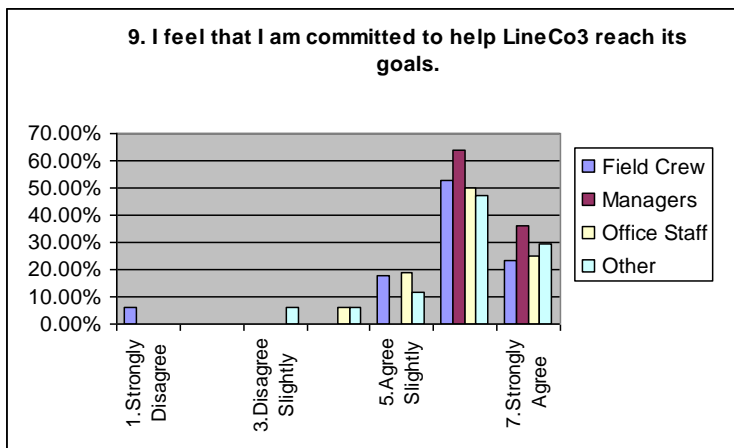
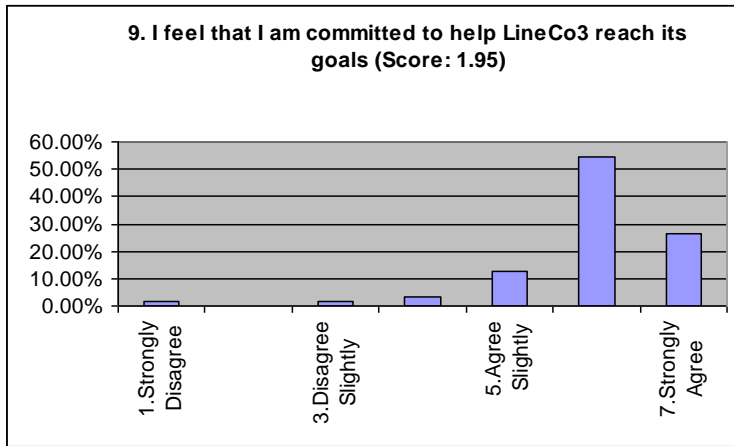
**Appendix 7f – Fieldwork observation mini-checklist**

Attribute	Evidence exists	Comments
Social interaction is regarded as communication/learning		
Are decisions pushed as far down the hierarchy as possible		
The organisation encourages autonomous decision making		
Teams manage their own roles within the team		
Teams manage the resources they need		
Teams have the autonomy to manage their own goals		
The organisation has a free flow of ideas and know-how		
The organisation has well defined information distribution flows		

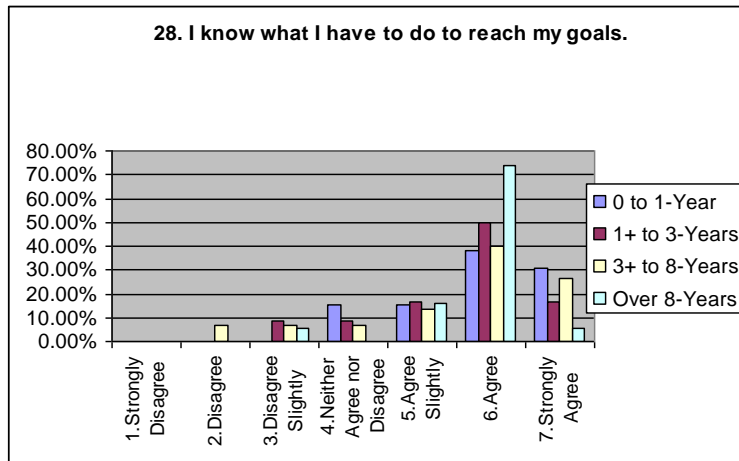
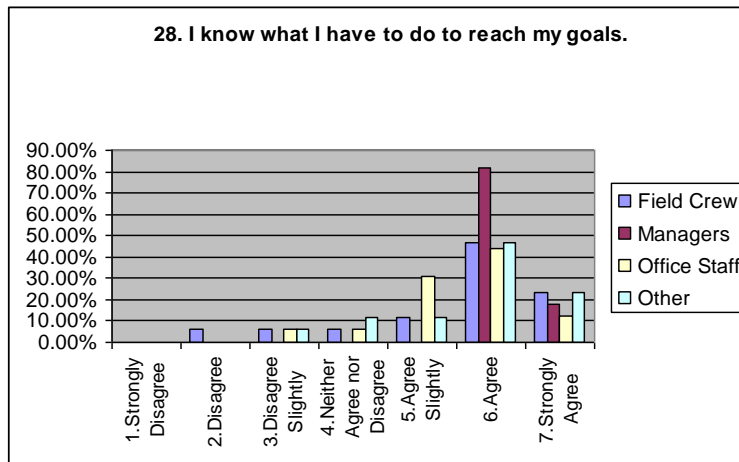
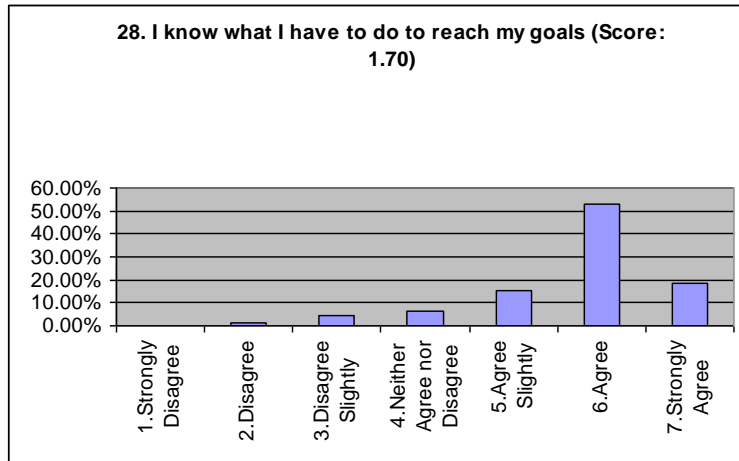
## Appendix 8 – Graphical representation of survey responses (LineCo3)



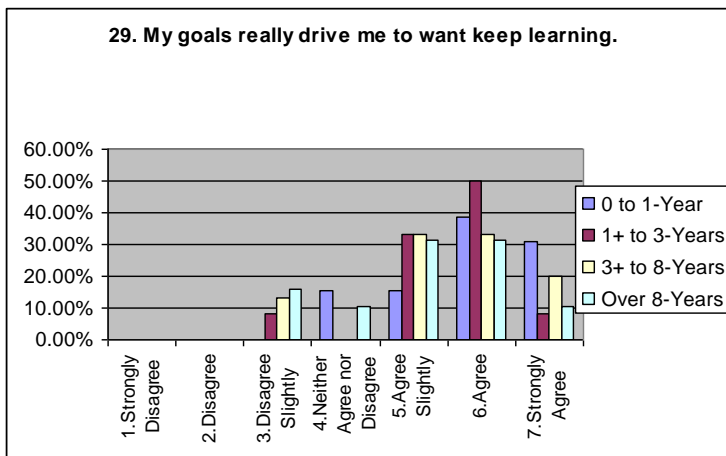
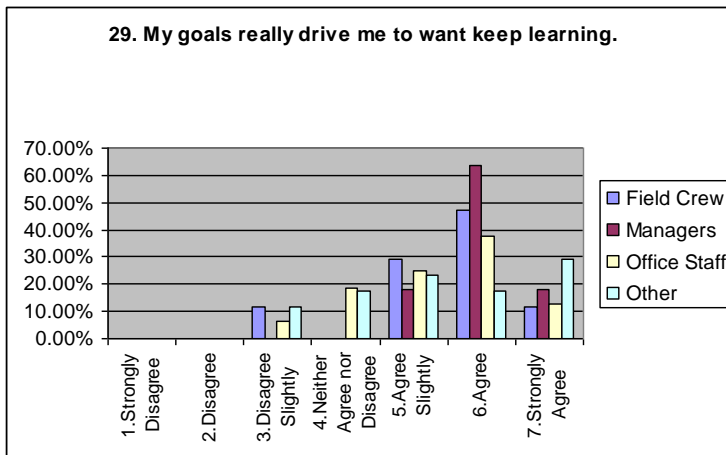
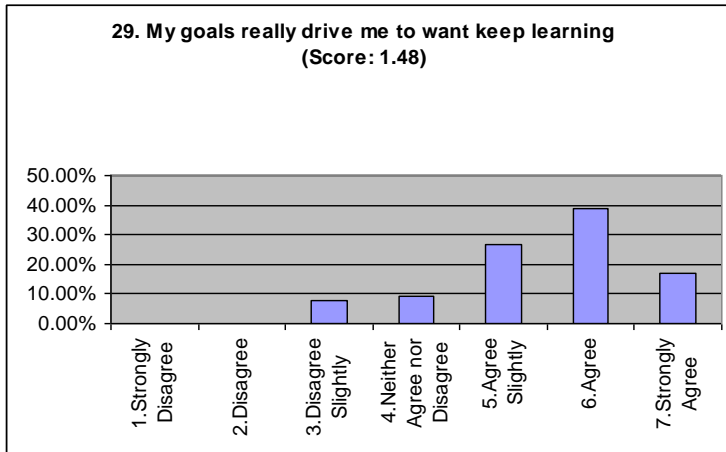
Again there are no significant differences between business units but the most positive are those that have been with the organisation for a year or less.



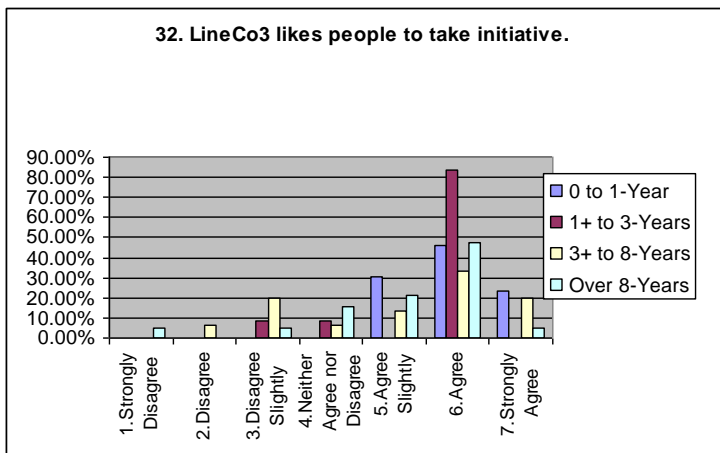
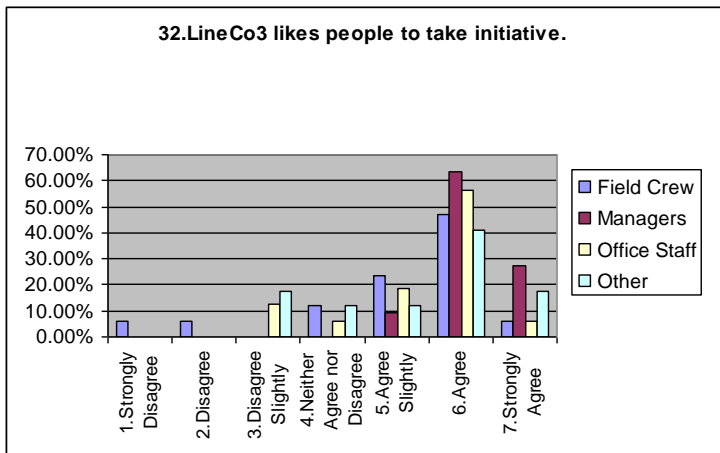
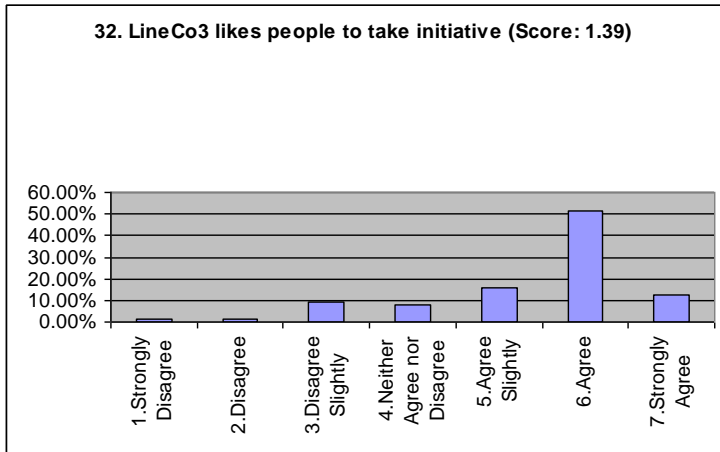
Again there are no significant differences between business units but the most positive are those that have been with the organisation for a year or less.



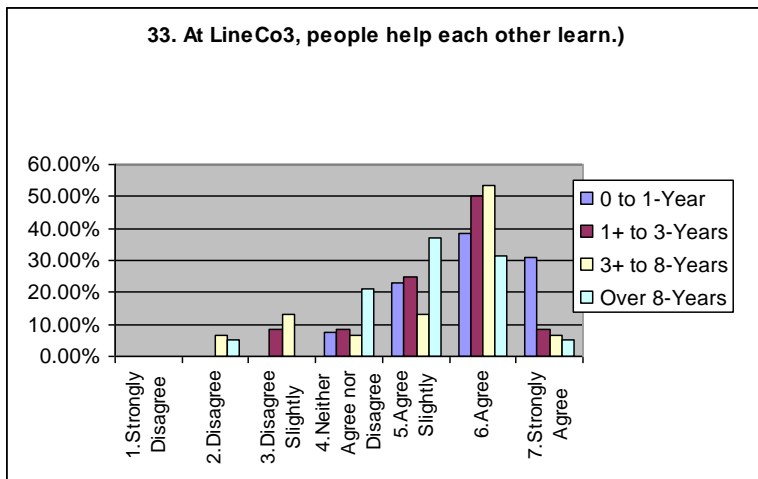
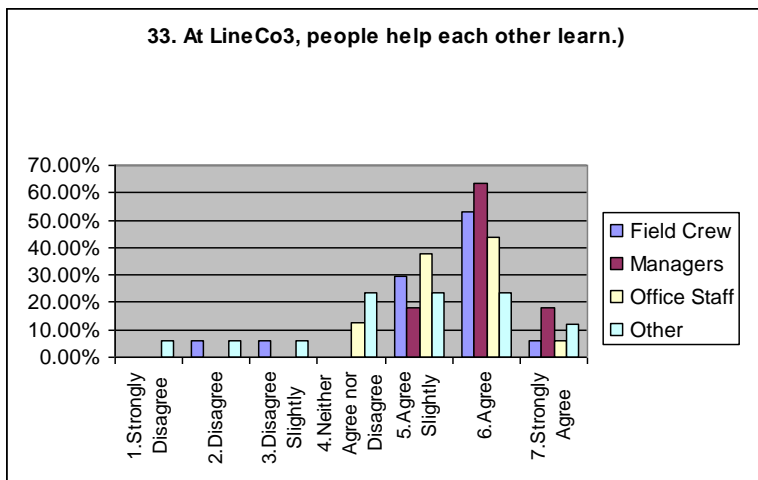
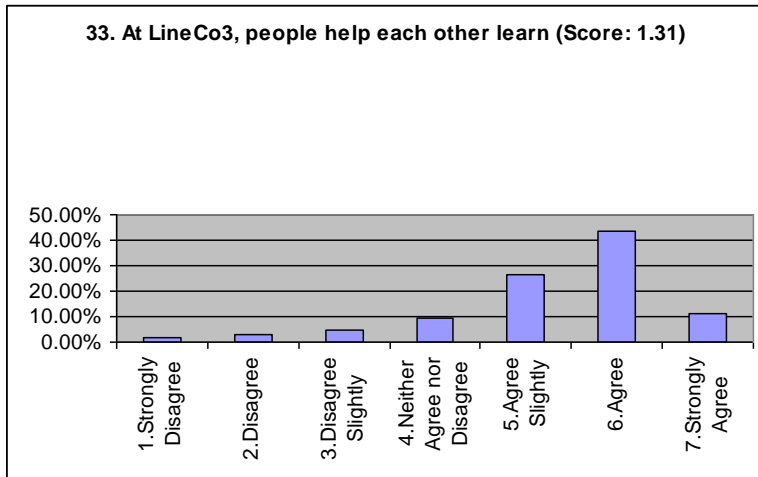
Here there is no significant difference between those who have been with the organisation for different lengths of time but the least positive seem to be those working in the field crew.



Here there are no significant differences between business units or those who have been with the organisation for varying lengths of time.



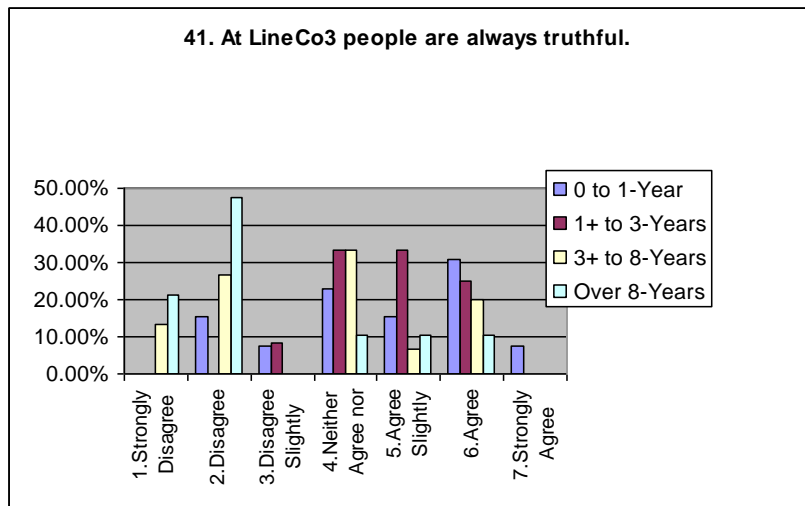
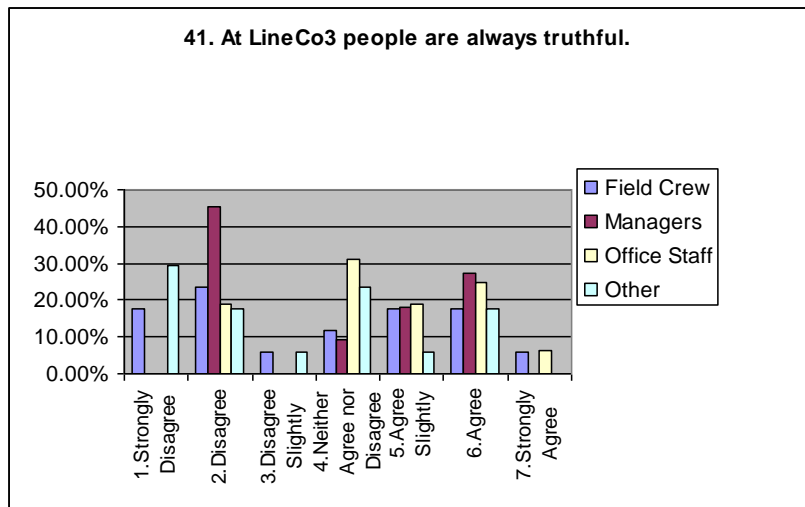
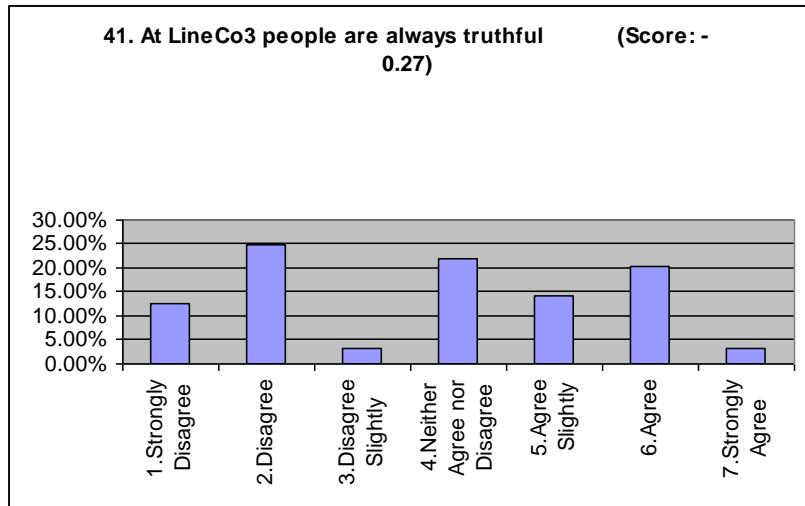
Here, those who are the least optimistic are the field crew and those that have been with the organisation the longest.



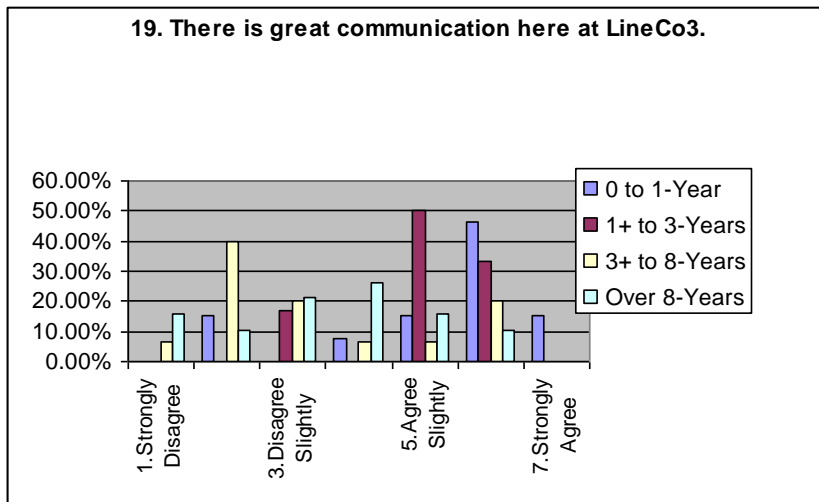
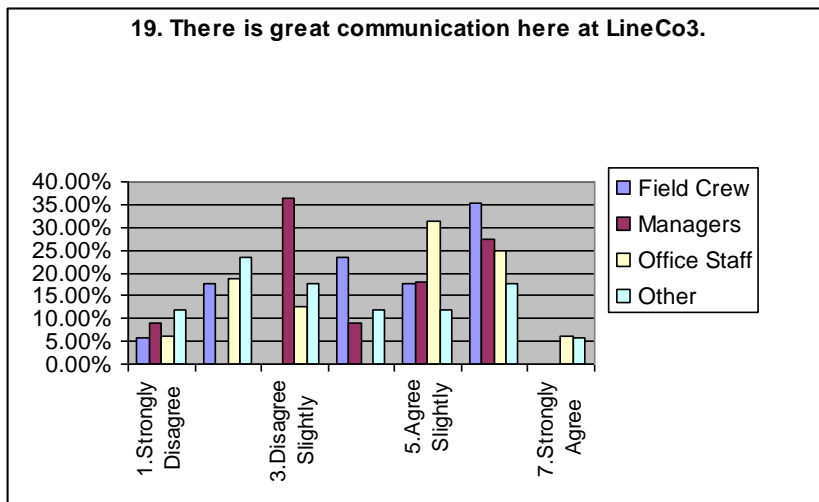
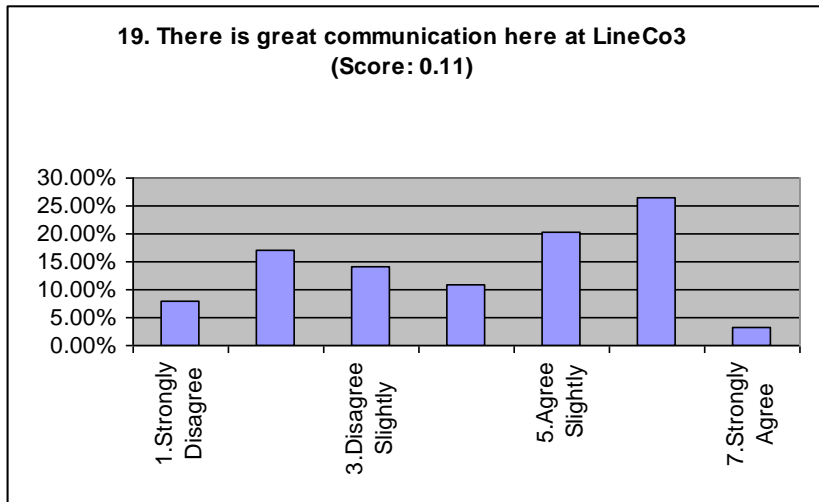
Here, the least optimistic are those that work in the ‘Other’ section of the organisation but there is not significant differences between those that have worked with the organisation for differing lengths of time.

**Negative attributes:**

The graphs below show areas from the survey where there was a clear negative consensus of opinion.

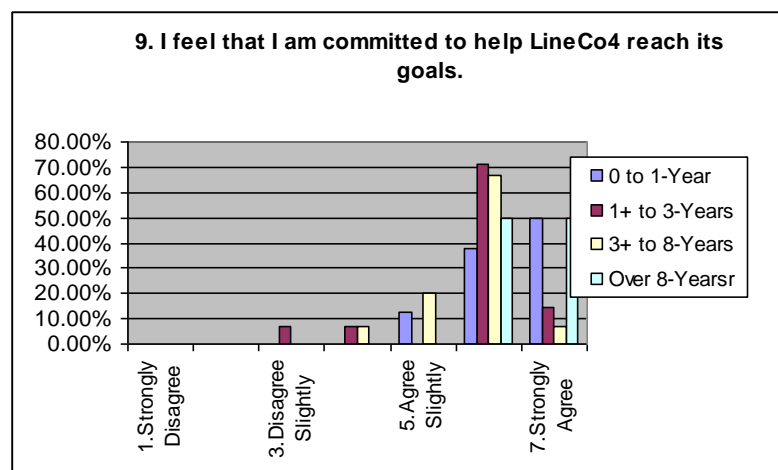
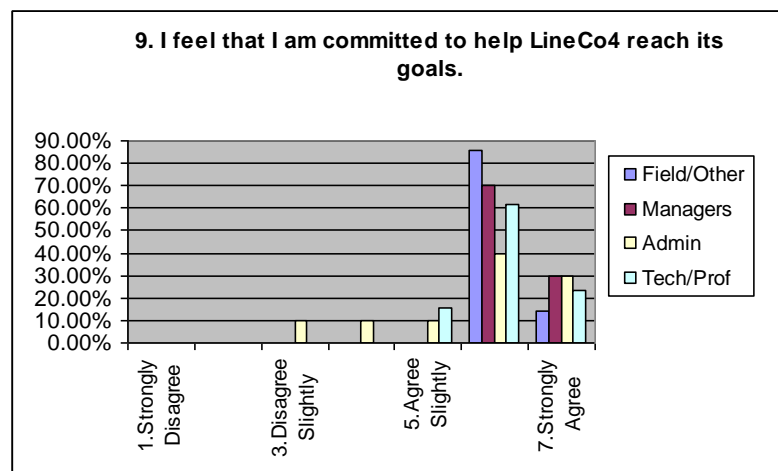
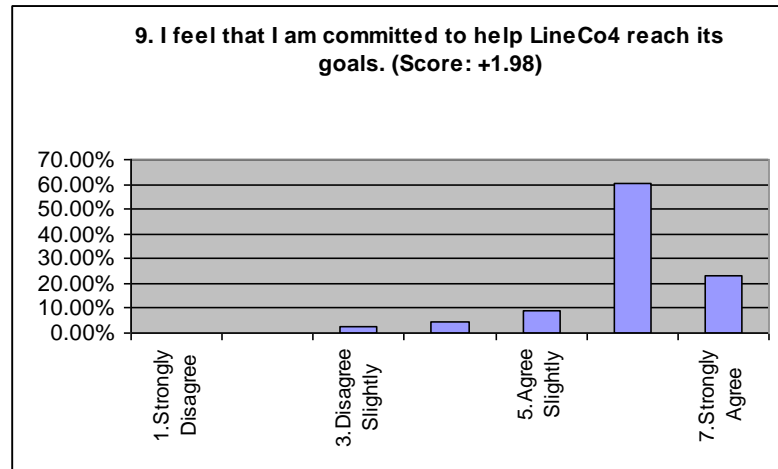


What is interesting to note here is the wide range of the perceptions of managers. Again, those that are least optimistic are those that have been with the organisation the longest.

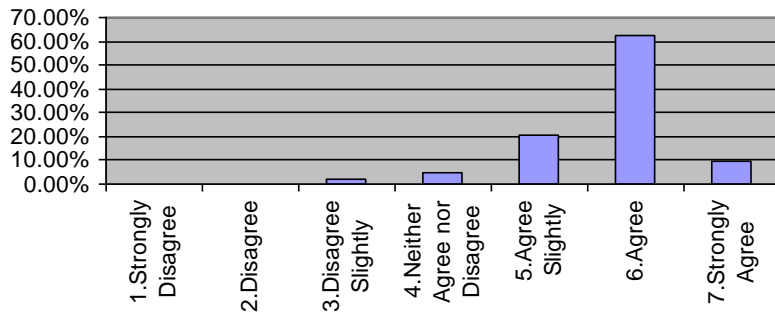


Again, it is interesting to note the wide range of opinion amongst managers. Those that are most positive are those that have been with the organisation the least amount of time.

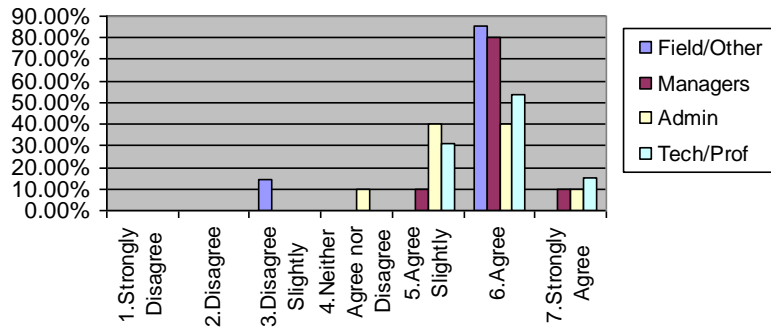
# Appendix 9 – Graphical representation of survey responses (LineCo4)



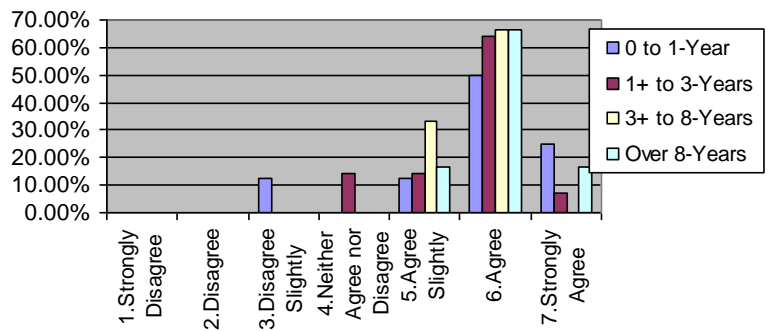
**22. I like working here at LineCo4. (Score: +1.72)**

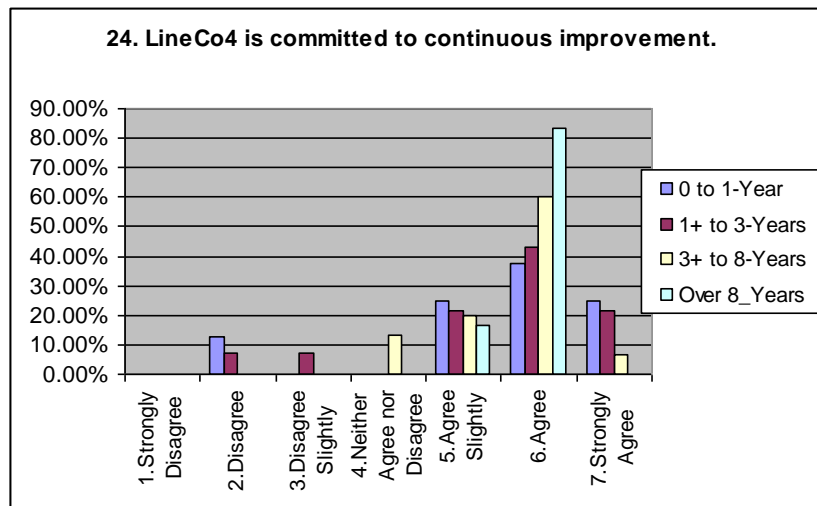
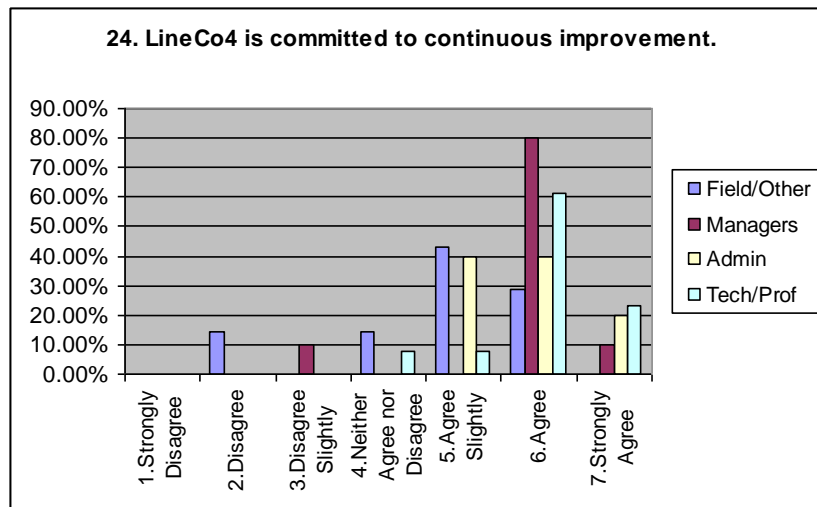
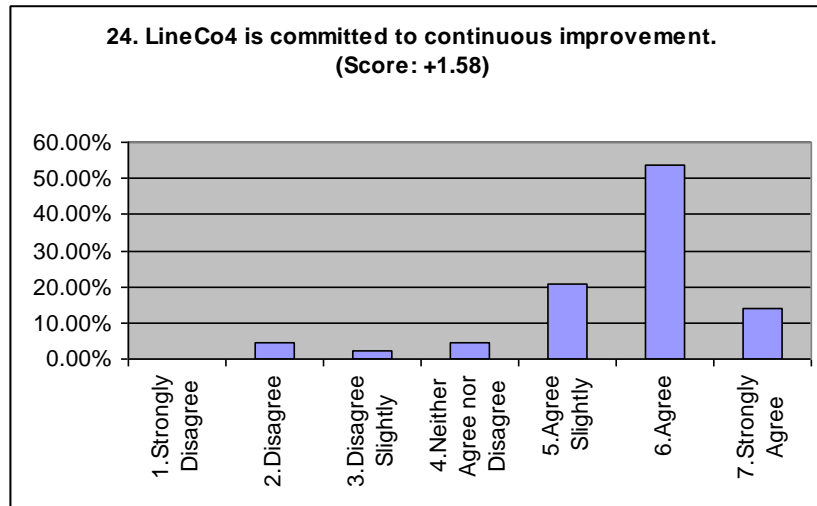


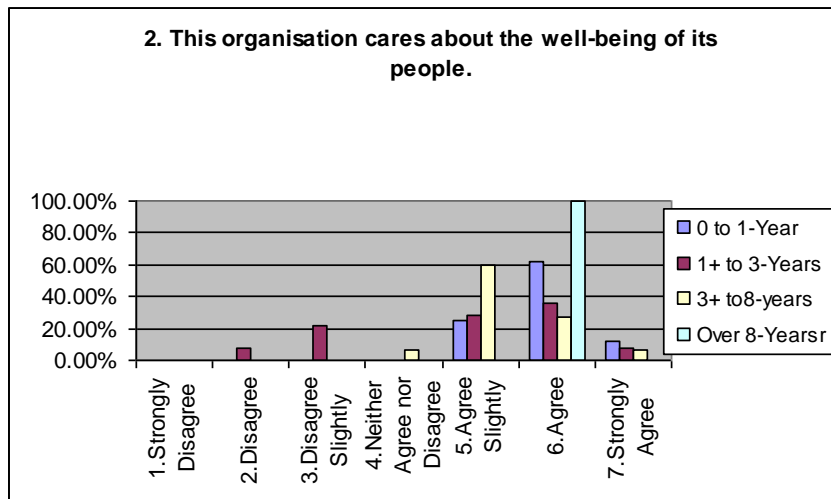
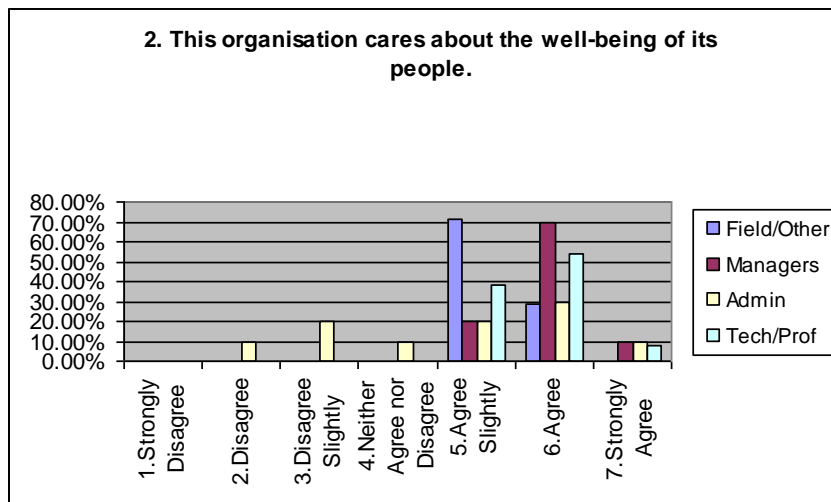
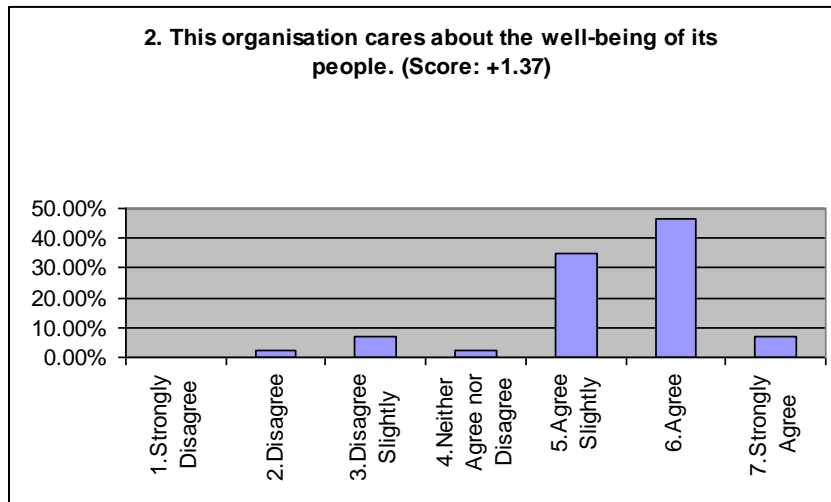
**22. I like working here at LineCo4.**



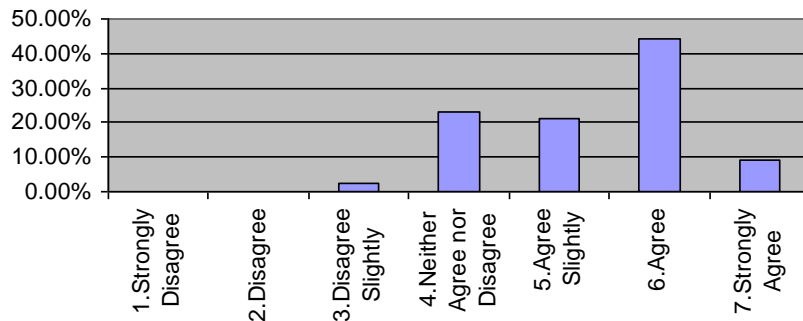
**22. I like working here at LineCo4.**



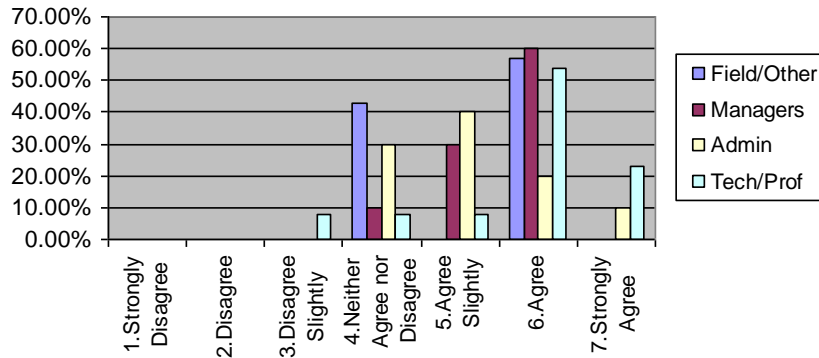




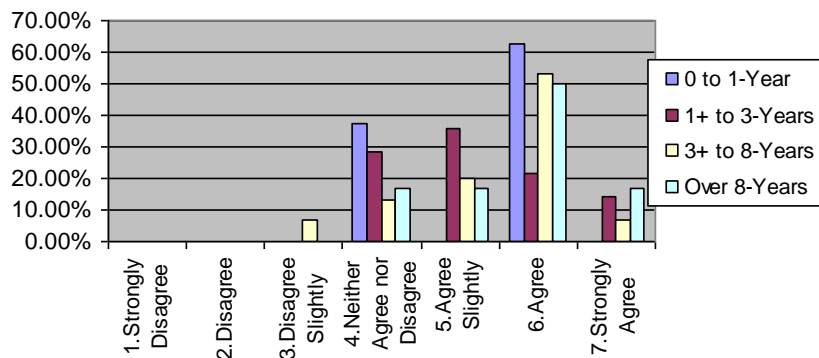
**30. LineCo4 encourages me to think about our customers' views when making decisions. (Score: +1.35)**



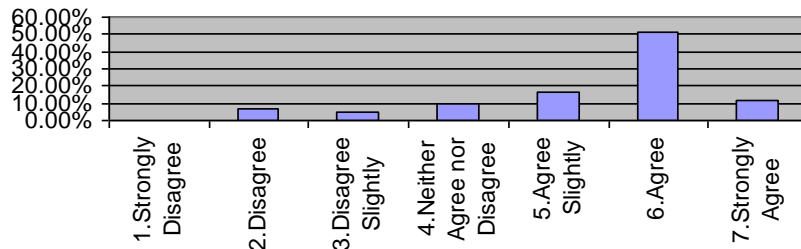
**30. LineCo4 encourages me to think about our customers' views when making decisions.**



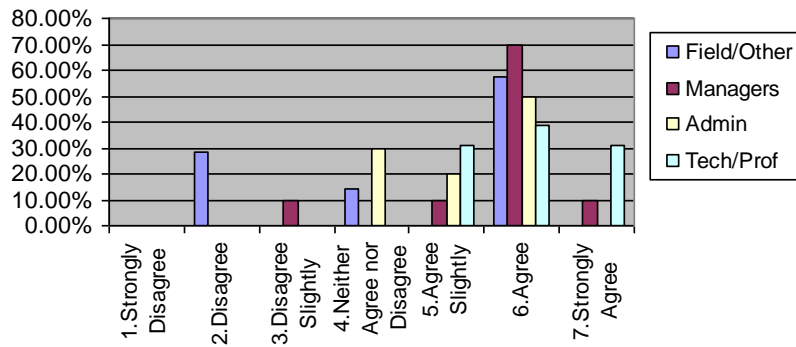
**30. LineCo4 encourages me to think about our customers' views when making decisions.**



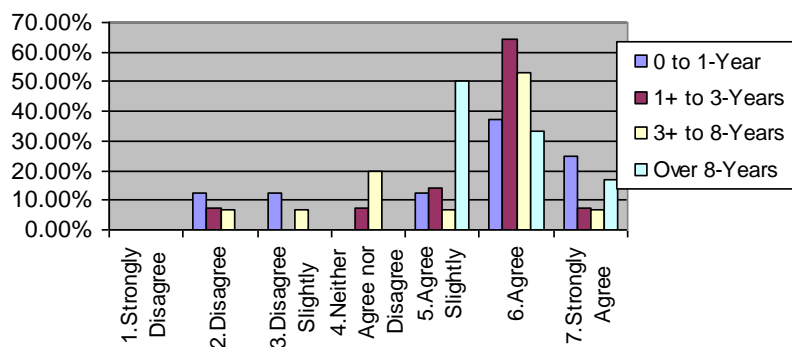
**29. My goals really drive me to want to keep learning.**  
(Score: +1.35)



**29. My goals really drive me to want to keep learning.**

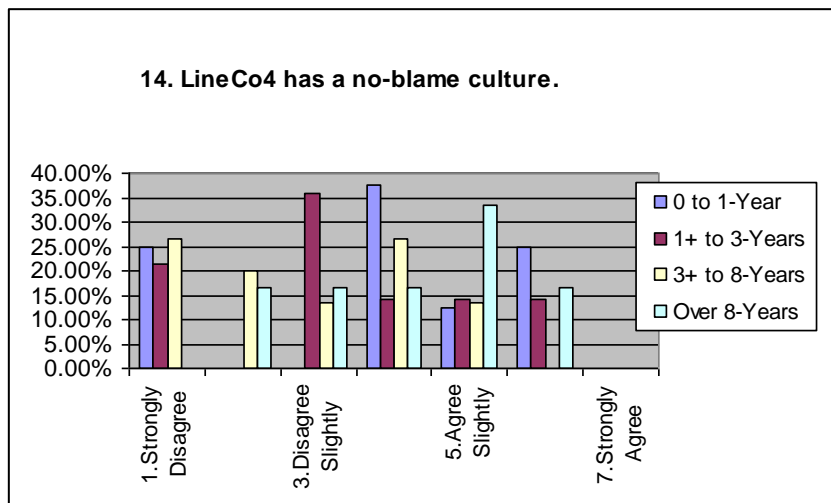
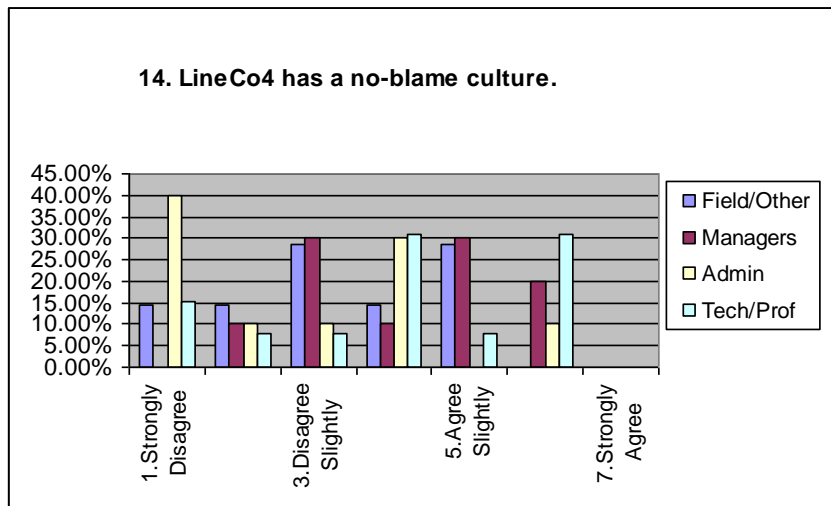
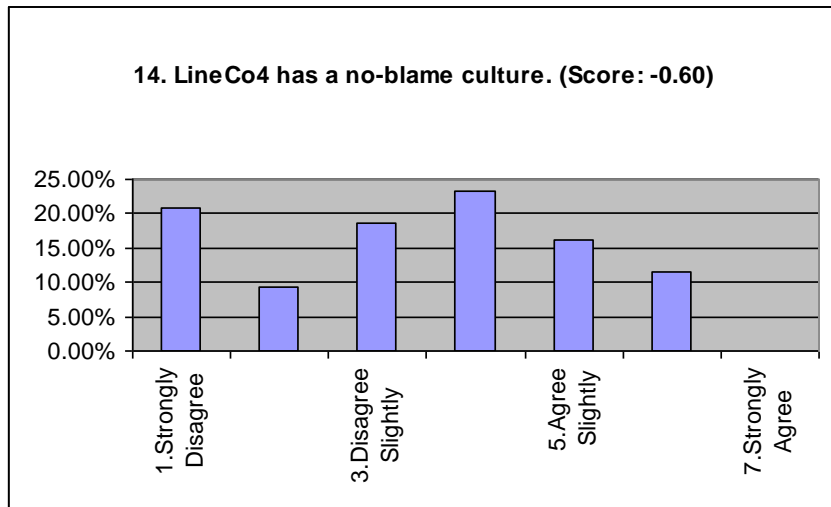


**29. My goals really drive me to want to keep learning.**

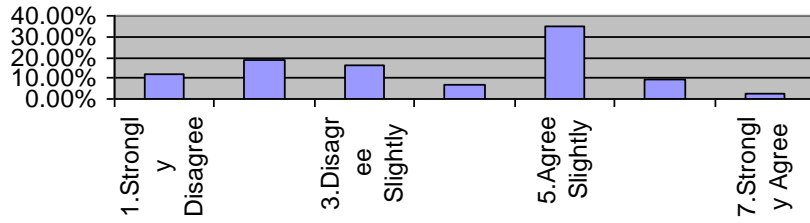


**Negative attributes:**

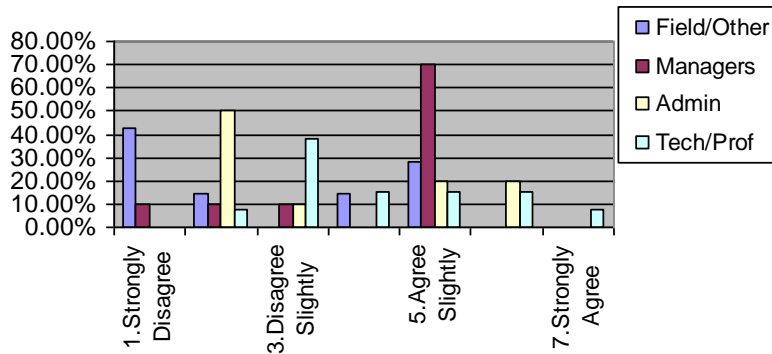
The graphs below show areas from the survey where there was a clear negative consensus of opinion.



**19. There is great communication here at LineCo4.**  
 (Score: -0.28)



**19. There is great communication here at LineCo4.**



**19. There is great communication here at LineCo4.**

