

The Relationship between a Strategic Approach to Quality and Employee Happiness

PhD Thesis

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Contents

List of Tables	8
List of Figures	12
Abstract	14
Chapter One - Introduction	16
1.1 - Research Area and Background.....	16
1.2 - Rationale for Choice of Area of Study	17
1.3 - Theoretical framework/methodology	19
1.4 - Research Questions	19
1.5 - Structure of the Thesis	20
1.6 - Contributions to knowledge.....	24
1.6.1 – Primary Gap – Academic Literature on the Link between A Strategic Approach to Quality and Employee Happiness	24
1.6.2 – Secondary Gap – Academic Literature on Strategic Quality in a Canadian Context.....	24
1.6.3 – Usefulness for Practitioners and Policy Makers	24
Chapter Two - Literature Review – A Strategic Approach to Quality Management.....	26
2.1 - Definition of a Strategic Approach to Quality Management	26
2.1.1 - Elements of a Strategic Quality Approach	30
2.1.1.1 - Quality Theorists - Early Literature on a Strategic Approach to Quality Management	31
2.1.1.2 - International Quality Awards.....	38
2.1.1.2.1 - Background of International Quality Awards.....	39
2.1.1.2.2 - Comparison of the Award Criteria.....	44
2.1.1.3 - Literature Comparing a Strategic approach to quality with performance.....	51
2.1.1.4 - Summarized elements of a strategic approach to quality management	55
2.2 - Methodological issues within the strategic approach to quality management literature	63
2.2.1 - Review of Positivist Papers	66
2.2.2 - Review of Interpretivist Papers	68
2.2.3 - Review of Post-Modernist Papers	71
2.3 - Gaps and Overlaps with the existing Literature.....	73
2.3.1 - Overlap with the Current literature.....	73
2.3.1.1 - Overlap 1 - Common approach of impact of strategic quality on performance	73
2.3.1.2 - Overlap 2 - Using Award Winners	73

2.3.2 - Gaps in the Existing Research	74
2.3.2.1 - Morale, Engagement, and Satisfaction	74
2.3.2.2 - The Canadian context	76
Chapter Three - Employee Happiness	80
3.1 - Employee Happiness	80
3.1.1 – Identifying measures of happiness	81
3.2 - Definitions of Satisfaction, Engagement, and Morale	83
3.2.1 - Job Satisfaction	83
3.2.2 - Engagement	87
3.2.3 - Morale	90
3.3 - Strategic Approach to Quality Management and Employee Measures	94
3.4 - Theoretical framework	97
3.5 Research Question Detail	98
Chapter Four - Methodology	101
4.1 - Methodological position	102
4.2.1 - Ontological and Epistemological Assumptions	102
4.2.2 - The Nature of Explanation	103
4.2.3 - Types of theory and methods of construction and language	104
4.2.4 - Role of the researcher and objectivity	104
4.2.5 - Concept of Truth	105
4.2.6 - Generalising Results	105
4.2.7 - Paradigm Choice and methods	106
4.2.8 - Opinion of critiques – Openness to explore other methods	107
4.3 - Research Methods	109
4.3.1 - Initial Pilot Engagement Study	109
4.3.2 - Limitations of Pilot Study	110
4.3.3 – Quantitative and Qualitative Methods	111
4.3.4 - Validity	114
4.3.5 - Reliability	116
4.3.6 - Target Audience	117
4.4 - Survey Structure	118
4.6 - Research design	121

4.6.1 - Survey Access and Audience.....	121
4.6.1.1 - Access.....	121
4.6.1.2 - Audience.....	122
4.6.2 - Population and Samples.....	124
4.6.2.1 - Population.....	124
4.6.2.2 - Sample.....	125
4.6.3 - Errors, Response Rates, and Analysis.....	126
4.6.3.1 - Survey length.....	127
4.6.3.2 - Pre-notice.....	128
4.6.3.3 - Sponsorship by Excellence Canada and UWE.....	128
4.6.3.4 - Multiple emails / Steady pressure / Appeals.....	128
4.6.3.5 - Results.....	129
4.6.3.6 - Leverage design/Subject interest.....	129
4.6.3.7 - Formatting.....	130
4.6.3.8 - Web Formatting.....	130
4.6.3.9 - Pre-tested survey.....	130
4.6.4 - Question Design Considerations.....	130
4.6.5 - Response Design Considerations.....	132
4.6.6 - A Strategic Approach to Quality Management Questions.....	133
4.6.6.1 - Introduction Paragraph.....	133
4.6.7 – Measures of Employee Happiness Questions.....	133
4.6.8 - Personal Attributes Questions.....	134
4.6.9.1 - Survey Draft creation.....	137
4.6.9.2 - Wave 1 Pilot.....	137
4.6.9.3 - Wave 2.....	139
4.6.9.4 - Wave 3.....	139
4.6.9.5 - Leadership Focus Group.....	140
4.6.9.7 - Data Analysis.....	141
Chapter Five - Data Analysis.....	143
5.1 – Descriptive Analysis of the Data.....	143
5.1.1 - Response rates by company.....	144
5.1.2 - Frequency Analysis.....	146

5.1.2.1 - Company Name	146
5.1.2.2 - Position	147
5.1.2.3 - Role within each organisation.....	148
5.1.2.4 - Award Winning Status.....	149
5.1.2.5 - Employment Status.....	150
5.1.2.6 - Sector	150
5.1.2.7 - Tenure.....	151
5.2.1 - Attitude Scale construction.....	153
5.2.1.1 - Quality Attitude Variable	154
5.2.1.2 - Employee Attitude Variable	155
5.2.1.3 - Satisfaction Attitude Variable.....	157
5.2.1.4 - Engagement Attitude Variable.....	159
5.2.1.5 - Morale Attitude Variable.....	161
5.2.1.6 – Three Category Measures	163
5.3 – Reliability Analysis for Research Variables	169
5.3.1 - Quality Measure (37 items)	169
5.3.2 - Employee Measure (24 items)	170
5.3.3 - Satisfaction Measure (11 items)	171
5.3.4 - Engagement Measure (6 items)	171
5.3.5 - Morale Measure (7 items).....	172
5.4 – Statistical Methods and Tests.....	173
5.4.1 - Frequency Analysis and Descriptive Statistics.....	174
5.4.2 - Reliability Analysis	174
5.4.3 - Pearson Correlation	175
5.4.4 - Cross tabulation	175
5.4.5 - Scatter Diagrams.....	175
5.4.6 - Chi-squared tests.....	176
5.4.7 - T- Test/ Mann Whitney U Test.....	176
5.4.8 - ANOVA analysis of variance	177
5.4.9 - Bonferroni Test.....	177
5.5 - Focus Group Analysis.....	177
Chapter Six - Data Findings.....	182

6.1 - Construct Relationship Analysis.....	182
6.1.2 - Quality and Satisfaction Relationship Analysis.....	186
6.1.3 - Quality and Engagement Relationship Analysis	188
6.1.4 - Quality and Morale Relationship Analysis.....	191
6.2.1 - Impact of Quality.....	196
6.2.2 - Defining Happiness at work	200
6.2.3 - Direction of the causation.....	202
6.3 - Differences between Award Winners and Non-Winners attitude to quality	205
6.3.1 - Sub Null Hypothesis 1A: All attitudes towards quality are the same for award winning organisations by sector.....	207
6.3.2 - Sub Null Hypothesis 1B: All attitudes towards quality are the same for award winning organisations by tenure	211
6.3.3 - Sub Null Hypothesis 1C: All attitudes towards quality are the same for award winning organisations by position	216
6.3.4 - Sub Null Hypothesis 1D: All attitudes towards quality are the same for award winning organisations by company.....	220
6.3.5 – Sub Null Hypothesis 1E: All attitudes towards quality are the same for award winning organisations by employment status	225
6.4 - Differences between Award Winners and Non-Winners attitude to measures of happiness....	230
6.4.1 – Sub Null Hypothesis 2A: Employee happiness results for award winning organisations are the same by sector.....	230
6.4.2 – Sub Null Hypothesis 2B: Employee happiness results for award winning organisations are the same by tenure	235
6.4.3 – Sub Null Hypothesis 2C: Employee happiness results for award winning organisations are the same by position.....	240
6.4.4 – Sub Null Hypothesis 2D: Employee happiness results for award winning organisations are the same by company.....	245
6.4.5 - Sub Null Hypothesis 2E: Employee happiness results for award winning organisations are the same by employment status	250
Chapter Seven – Discussion.....	256
7.1 - Implications of the Findings.....	256
7.1.1 – Defining a Strategic Approach to Quality	256
7.1.1.1 – Implications of the Definition of a Strategic Approach to Quality.....	257
7.1.2 – Defining Employee Happiness	258

7.1.2.1 – Implications of the Definition of Employee Happiness.....	259
7.1.3 – Relationship between a Strategic Approach to Quality and Employee Happiness.....	260
7.1.3.1 – Implications of this Relationship	261
7.1.4 – Impact of a Strategic Approach to Quality on Employee Happiness	262
7.1.4.1 – Implications of the Impact of a Strategic Approach to Quality on Employee Happiness 265	
7.1.4.2 – Revisiting the Theoretical Framework in light of the Findings.....	266
7.1.5 – Is Employee happiness higher at organisations with strategic quality	267
7.1.5.1 – Implications of the High levels of Employee Happiness.....	268
Chapter Eight - Conclusion.....	271
8.1 - Limitations of the research/reflection	272
8.2 - Contributions to Knowledge.....	273
8.2.1 – Primary Contribution – Academic Literature on the Link between A Strategic Approach to Quality and Employee Happiness	274
8.2.2 – Secondary Contribution – Academic Literature on Strategic Quality in a Canadian Context	274
8.2.3 – Usefulness for Practitioners and Policy Makers	275
8.3 - Opportunities for further research.....	276
8.3.1 - Countries.....	276
8.3.2 - Measures	276
8.3.3 - Position	277
8.3.4 - Causation	277
8.4 - Final Comments.....	278
Appendix.....	280
Appendix 1 - Full Survey.....	281
Appendix 2 - Literature related to Survey Tool.....	290
Appendix 3 - Summary of Literature Linking Quality with Performance	295
Appendix 4 - Senior leadership reflection questions	298
Appendix 5 - Survey with references.....	299
Appendix 6 - Methodological Summary.....	308
Appendix 7 - Additional Descriptive Analysis	313
References.....	323

List of Tables

Table 2.1 - Deming's 14 Points.....	33
Table 2.2 - Juran's Trilogy.....	34
Table 2.3 - Crosby's 14 Steps	36
Table 2.4 - Summary of Several Quality Theorists Concepts	37
Table 2.5 - Global Quality Awards	40
Table 2.6 - Criteria Comparison.....	46
Table 2.7 - Principle Comparison.....	49
Table 2.8 - Comparison of Critical Factors of TQM.....	57
Table 2.9 - Elements of Strategic Quality	58
Table 2.10 - Strategic Approach to Quality Management Construct Based on Literature	59
Table 3.1 - Job Satisfaction Facet Models.....	86
Table 3.2 - Job Satisfaction Global Model	87
Table 3.3 - Employee Engagement Models.....	88
Table 3.4 - Multidimensional Models of Employee Morale	93
Table 4.1 - Positivist Underpinnings General Summary	106
Table 4.2 - Summary of Methodology	108
Table 4.3 - Leadership Focus Group Participants	120
Table 4.4 - Population/Frame Target by Organisation	124
Table 5.1 - Response Rate by Participating Organisation	144
Table 5.2 - Response Rates for Full Population Frames	145
Table 5.3 - Response Rates for Smaller Departmental Population Frames.....	145
Table 5.4 - Frequency Distribution of Target Organisations.....	146
Table 5.5 - Frequency Distribution of Position	147
Table 5.6 - Distribution of Role Within Organisation.....	148

Table 5.7 - Employment Status	150
Table 5.8 - Tenure Distribution	152
Table 5.9 - Summary Results by Attitude Construct.....	153
Table 5.10 - Tests of Normality of Quality Construct Variable.....	154
Table 5.11 - Tests of Normality of Employee Construct Variable.....	156
Table 5.12 - Tests of Normality of Satisfaction Construct Variable	158
Table 5.13 - Tests of Normality of Engagement Construct Variable	160
Table 5.14 - Tests of Normality of Morale Construct Variable	162
Table 5.15 - Descriptive Statistics for Quality Construct.....	163
Table 5.16 - Recode Example	164
Table 5.17 - Three Category Quality Measure Normality Test.....	165
Table 5.18 - Summary of Three Category Transformations.....	166
Table 5.19 - Tests of Normality on Three Category Variables	166
Table 5.20 - Quality Construct Reliability Statistics	170
Table 5.21 – Employee Happiness Reliability Statistics.....	170
Table 5.22 – Satisfaction Measure Reliability Statistics	171
Table 5.23 – Engagement Measure Reliability Statistics	172
Table 5.24 – Morale Measure Reliability Statistics	172
Table 5.25 – Qualitative Review Process.....	179
Table 6.1 - Construct Relationship Analysis Based on 591 Survey Responses	184
Table 6.2 – Cross Tabulation of Entire Quality Construct with Entire Employee Construct.....	186
Table 6.3 – Three Category Quality Compared with Three Category Satisfaction.....	188
Table 6.4 - Three Category Quality Compared with Three Category Engagement	190
Table 6.5 – Three Category Quality Compared with Three Category Morale	192
Table 6.6 – Positive Impact of Strategic Quality on the Organisation.....	197

Table 6.7 – Benefits to the Employee from Organisation’s Strategic Approach to Quality	198
Table 6.8 - Negative Impacts of Quality on Employees.....	199
Table 6.9 - Summary of Statistics and Analysis, Quality Sector.....	208
Table 6.10 – Global Results Including Non-Winners – Quality Attitude – Sector	210
Table 6.11 – New Merged Tenure Categories (n>30).....	211
Table 6.12 - Summary of Statistics and Analysis, Quality Tenure	212
Table 6.13 – Global Results Including Non-Winners – Quality Attitude – Tenure	215
Table 6.14 - Summary of Statistics and Analysis, Quality Position.....	217
Table 6.15 – Global Results Including Non-Winners – Quality Attitude – Position	219
Table 6.16 - Summary of Statistics and Analysis, Quality Company	221
Table 6.17 – Global Results Including Non-Winners – Quality Attitude – Company.....	224
Table 6.18 - Summary of Statistics and Analysis, Quality Employment Status	226
Table 6.19 – Global Results Including Non-Winners – Quality Attitude – Employment Status	228
Table 6.20 – Sub Null Hypothesis Analysis Summary	229
Table 6.21 - Summary of Quality Hypothesis Conclusion for All Companies Not Just Award Winners.	229
Table 6.22 - Summary of Statistics and Analysis, Employee Happiness - Sector	231
Table 6.23 – Global Results Including Non-Winners – Happiness Attitude – Sector	234
Table 6.24 - Summary of Statistics and Analysis, Happiness - Tenure.....	236
Table 6.25 – Global Results Including Non-Winners – Happiness Attitude – Tenure	239
Table 6.26 - Summary of Statistics and Analysis, Happiness - Position.....	241
Table 6.27 – Global Results Including Non-Winners – Happiness Attitude – Position.....	244
Table 6.28 - Summary of Statistics and Analysis, Happiness - Company	246
Table 6.29 – Global Results Including Non-Winners – Happiness Attitude – Company	249
Table 6.30 - Summary of Statistics and Analysis, Happiness Employment Status.....	251
Table 6.31 – Global Results Including Non-Winners – Happiness Attitude – Employment Status	253

Table 6.32 - Summary of Award Winner Hypothesis Conclusion 254

Table 6.33 - Summary of Employee Happiness Hypothesis Conclusion for All Companies 254

List of Figures

Figure 2.1 - Methodology Breakdown of Papers Examined in this Research.....	64
Figure 2.2 - Methodology Breakdown of Papers Published between 1990-1999 Examined in this Research	65
Figure 2.3 - Methodology Breakdown of Papers Published since 2000 Examined in this Research	65
Figure 2.4 - Direct Comparison of Quality Improvement to Nature - Freiesleben (2009).. Error! Bookmark not defined.	
Figure 2.6 – Number of Articles with Key Words with TQM in the Title of the Article.....	75
Figure 2.7 - Academic Literature Word Search – Articles with TQM in the Title and the Specific Country in the Body of the Text.	77
Figure 2.8 – Number of Papers Mentioning Excellence Awards	78
Figure 3.1 - Employee Measure of Happiness (adapted from Fisher, 2010).....	83
Figure 3.2 - Theoretical Framework.....	97
Figure 5.1 – Award Winning Status.....	149
Figure 5.2 – Sector Distribution	151
Figure 5.3 – Histogram of the Quality Construct Variable	155
Figure 5.4 – Histogram of the Employee Construct Variable	157
Figure 5.5 – Histogram of the Satisfaction Construct Variable	159
Figure 5.6 – Histogram of the Engagement Construct Variable	161
Figure 5.7 – Histogram of the Morale Construct Variable.....	162
Figure 5.8 – Histogram for Three Category Quality Measure	165
Figure 5.9 – Histogram for Three Category Satisfaction Measure.....	167
Figure 5.10 – Histogram for Three Category Engagement Measure	167
Figure 5.11 – Histogram for Three Category Morale Measure.....	168
Figure 5.12 – Histogram for Three Category Employee Construct Measure.....	168
Figure 6.1 – Entire Quality and Employee Constructs.....	185
Figure 6.2 – Entire Quality Construct and Single Satisfaction Element	187

Figure 6.3 – Quality Construct and Engagement Element	189
Figure 6.4 – Quality Construct and Morale Element.....	191
Figure 6.5 – Frequency of Codes	194
Figure 6.6 – Codes Grouped Together Into Themes	195
Figure 6.7 – Prevalence of Code Group as a Percentage.....	196
Figure 6.9 – Flow Chart of Survey Analysis –Three or More Categories.....	206
Figure 6.10 – Flow Chart of Survey Analysis – Two Categories.....	207
Figure 7.1 – Revised Theoretical Framework – Depicting Two Way Relationship	266

Abstract

This research explores the relationship between a strategic approach to quality management in Canadian organisations and employee happiness. In particular, it investigates how a strategic approach to quality management relates to and impacts on employee satisfaction, engagement, and morale.

Understanding the relationships between a strategic approach to quality management and employee happiness helps companies, policy-makers, and academia. Companies can use the conclusions to decide on the value of a quality management system as it relates to employees. The findings provide answers to employees, management, and labour unions that need to understand the impact a strategic approach to quality will have on them. Policy-makers can use the findings to set the agenda for closing Canada's productivity gap. Knowledge of this research can support policy-maker decisions to simplify the process for implementing a strategic approach to quality, realizing the benefits for participating organisations and employees at those organisations. This research helps academia fill two gaps in the literature: The primary gap is to understand the impact that the implementation of a strategic quality approach has on employee happiness (namely satisfaction, engagement, and morale). The secondary gap is the focus on Canadian organisations. There are relatively few studies that investigate a strategic approach to quality that focus on Canadian companies. Much of the research related to strategic quality employs data from American, Asian, Australian, and European organisations whereas this research uses data from exclusively Canadian organisations. This is the only academic research (to the knowledge of the researcher) that uses original Canada Awards for Excellence recipient results to draw conclusions. In this research, organisations with a strategic approach to quality

(Canada Awards for Excellence recipients) are compared with similar size organisations with no defined approach to quality (non-winners).

A 66-question survey was used with 591 respondents representing 58.68% response rate from 12 Canadian organisations. The participating organisations were a mix of small and medium size organisations ranging in size from 5 employees to 400 employees in both the service and manufacturing sectors. The survey respondents included 315 from Canada Award for Excellence winners and 276 from non-winners. Of the 12 organisations studied, five are Canada Award for Excellence winners and seven of them are non-winners.

The research provides evidence that organisations taking a strategic approach to quality have a positive impact on the employees of that organisation. The research has found significant connections between an organisation's level of strategic quality and the effect on employees in terms of morale, engagement, and satisfaction.

The survey alongside focus group analysis shows that there is a clear relationship between strategic quality and employee happiness. The findings indicate that the impact of implementing quality is positive and results in benefits for both the organisation as a whole and the individual employee. Significant differences are noted between Canada Award for Excellence winners and non-winners.

Chapter One - Introduction

1.1 - Research Area and Background

The research outlines the relationship between a strategic approach to quality and employee happiness. Surveys and focus groups were conducted with organisations dedicated to a strategic approach to quality management and organisations lacking dedication to a strategic approach to quality management. A comparison between strategic quality award winners and non-winners was done to delineate between companies that are dedicated to strategic quality management and those that are not. The results were also analysed to understand the relationship between and impact of a strategic approach to quality on employee happiness.

The context in which this research is carried out concerns Canadian organisations. The success of Canadian industry in competing in the global economy has continuously declined since the 1970s (Conference Board of Canada, 2011). Productivity, competition for global investment, and a lack of progress compared to other countries has led to this position. Growth in Canadian labour productivity, defined as GDP per hour worked, has steadily decreased and now trails the U.S. and the majority of other G7 countries (Mendleson, 2010). The Canadian business sector output per hour growth and labour productivity growth has trailed that of the United States. Figures for labour productivity, a measure of real GDP per hour, suggests Canada's economic performance has lagged behind that of the United States (Sharpe, 2004). Between the first quarter of 1997 and the first quarter of 2011, labour productivity in Canada declined 17 per cent relative to that of the United States (Statistics Canada, 2011). The rate of productivity growth in the United States was significantly higher than that in Canada during the second half of the 1990s (Crawford, 2002).

To address performance issues including productivity, some organisations have adopted a strategic approach to quality management that fosters continuous improvement. A strategic approach to quality is a mindset of continuous improvement, moving away from detection of problems to one of prevention of future problems (Crosby, 1980; Juran, 1980; Deming, 1982; Deming, 1986). In Canada, organisations that are successful in implementing a strategic approach to quality are often recognized with the Canada Awards for Excellence. The Canada Awards for Excellence are presented annually to private and public sector organisations of all sizes that have successfully implemented a strategic approach to quality (Excellence Canada, 2012). In this research Canada Awards for Excellence recipients are compared with non-winning organisations.

1.2 - Rationale for Choice of Area of Study

The rationale for researching this subject area is due in part to the researcher's professional background and follows on from a pilot study carried out by the researcher (detailed in section 5.3.1). The choice is also based on the lack of academic research in linking a strategic approach to quality with employee happiness (gaps detailed in section 2.3). Further rationale for the choice is due to the lack of consistent definitions of a strategic approach to quality and employee happiness in the literature.

The principles of a strategic approach to quality include: involved leadership, a primary focus on the customers, an environment of cooperation and teamwork, a preventative approach to process management, a factual approach to decision making, an environment of continuous learning and people involvement, and a culture that supports continuous improvement and innovative thinking (Crosby, 1980; Juran, 1980; Deming, 1982; Deming, 1986; Saraph et al., 1989; Dean and Bowen,

1994; Flynn et al., 1994; Waldman, 1994; Ahire et al., 1996; Zeitz et al., 1997; Eskildsen and Dahlgaard, 2000; Excellence Canada, 2000; SAI Global, 2004; NIST, 2009; EFQM, 2010). A strategic approach to quality management is when quality approaches move beyond incremental operational improvements to those that influence the strategy process for the organisation (Leonard and McAdam, 2004). The literature states that strategic quality management theory is mainly derived from three sources including academic theorists, evaluation against formal international awards criteria (such as Canada Awards for Excellence, Baldrige, EFQM, Australian Business Excellence awards), and studies comparing successful implementation of strategic quality with measurements of firm performance (Tari, 2011).

This study employs employee satisfaction, employee engagement and employee morale measures to represent overall employee happiness. These measures have been used to fill a gap in the literature linking a strategic approach to quality management with three measures that have not been used in the prior studies concerning quality. The impact on employees and employee happiness studied in this research includes employee satisfaction, engagement, and morale. Employee satisfaction, employee engagement, and employee morale are three frequently used constructs related to happiness at work (Fisher, 2010). Using both quantitative and qualitative methods the research shows that employee satisfaction, engagement, and morale are higher when an organisation implements a strategic approach to quality management.

There is evidence to show that a strategic approach to quality management can deliver higher customer satisfaction and productivity (Wollner, 1992), although there is less agreement on whether a strategic approach to quality results in an improvement of employees' working conditions, leading to higher job satisfaction. Studies have found that, in some cases, workers

feel that efforts to achieve higher quality have led to a variety of changes: more demanding jobs, more responsibility, and less job autonomy (Lam, 1996). Other studies suggest employees fear and resist activities associated with a strategic approach to quality management (Stewart et al., 2010).

1.3 - Theoretical framework/methodology

The theoretical framework that is tested within this thesis is presented in Section 3.4, following a review of the literature on both a strategic approach to quality and measures of employee happiness. This framework shows the links derived from the literature, that were later explored by analyzing surveys and focus group results obtained from a diverse group of businesses in Canada. The literature review outlines the rationale for the categories of employee measures that are used to link with a strategic approach to quality management for this research. A diagram outlining the framework is provided in Chapter three (see Figure 3.2).

The research takes a positivist methodological position anchored with ontological and epistemological assumptions that the world is ordered and that events are discrete and observable (detailed in Chapter Four). The researcher takes a position that causal explanations are possible and can be explained by studying patterns of the social structures and generalising these patterns. This research takes a deductive approach to theory generation whereby the researcher takes a role of an objective detached observer. The research takes the position that truth is possible to observe using surveys and focus groups and that the findings can be generalised and used beyond the organisations targeted for the research.

1.4 - Research Questions

The main research question of this thesis is:

- What is the relationship between a strategic approach to quality and employee happiness?

In order to answer this question, the following sub-questions were explored:

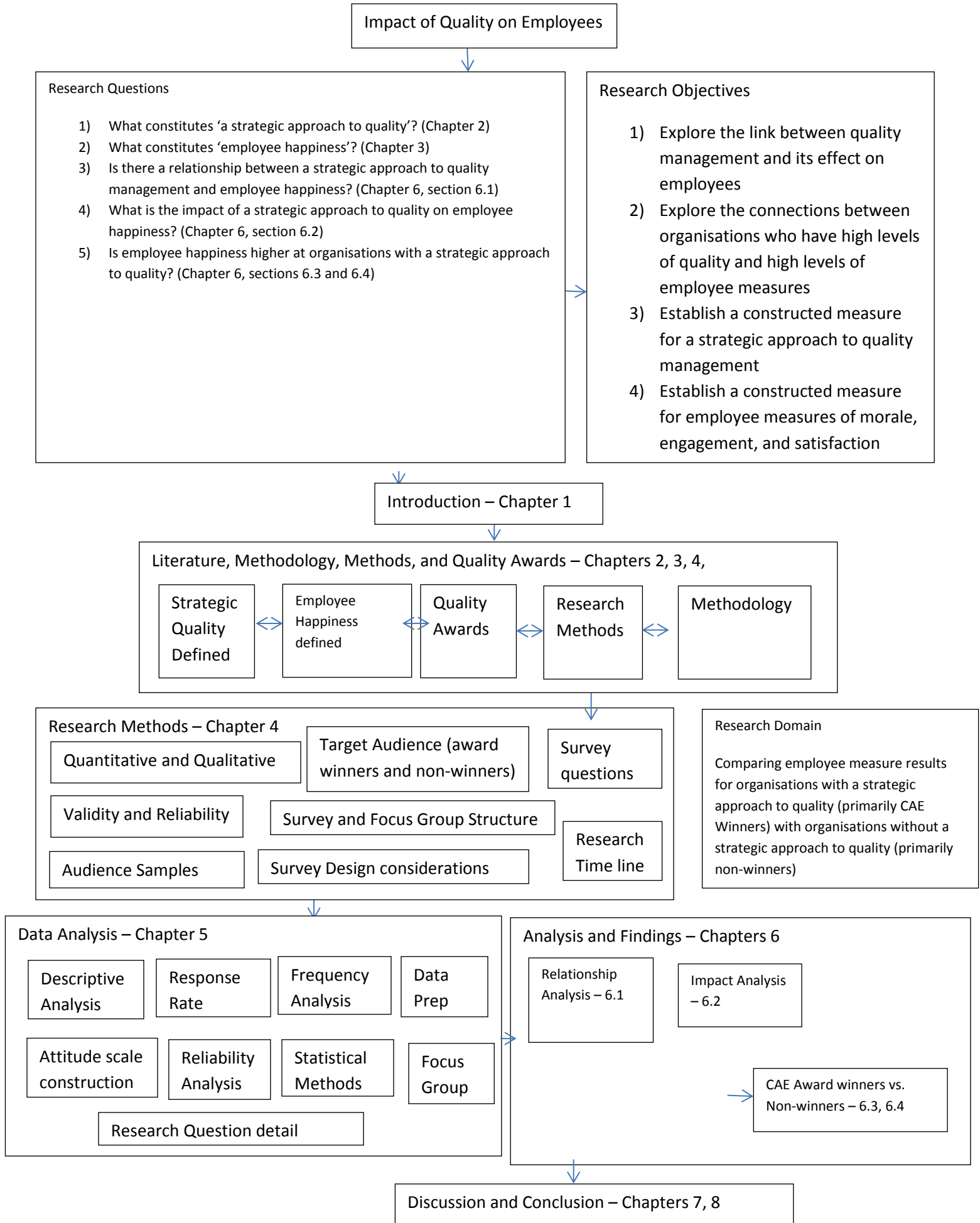
1. What constitutes ‘a strategic approach to quality’?
2. What constitutes ‘employee happiness’?
3. Is there a relationship between a strategic approach to quality management and employee happiness?
4. What is the specific impact of a strategic approach to quality on employee happiness?
5. Is employee happiness higher at organisations with a strategic approach to quality?

These questions focus on closing gaps in the existing literature related to the lack of research linking a strategic quality approach to employee happiness. It also provides insight into the Canadian context with data explored from Canadian organisations. Question five is explored using 2 hypotheses and this is detailed in chapter three, the hypotheses are derived from the literature, and are described in detail in section 3.5. The hypotheses explore the relationship and if the adoption of a strategic approach to quality, impacts negatively or positively on employees.

1.5 - Structure of the Thesis

The overview of the research is displayed in Figure 1.1. The following is a brief summary of each of the chapters of the thesis.

Figure 1.1 – Overview of the Research



1.5.1 - Chapter Two – Literature Review – A Strategic Approach to Quality Management

Chapter two provides an extensive review of the existing literature concerning a strategic approach to quality management. The chapter defines a strategic approach to quality as stated in the literature, outlines contributions of academic theorists, and then focuses on various relevant studies comparing quality with organisational performance. The chapter also reviews, evaluates, and critiques the existing methodological approaches to quality management research.

1.5.2 - Chapter Three – Literature Review – Employee happiness

Chapter three defines, presents and justifies the use of satisfaction, morale, and engagement as employee measures of happiness. The construct is introduced as a broader definition of employee happiness including satisfaction, engagement, and morale. The chapter also presents the theoretical framework that is tested within this thesis. The chapter ends with a complete listing of research questions with all of the related hypotheses.

1.5.3 – Chapter Four– Methodology

Chapter four outlines the positivist paradigm that informs this research. The chapter goes on to outline how the research data focus mainly on quantitative data supported by qualitative data. The structure of both the survey and the focus group sessions is detailed. Considerations of survey design and response rate errors are also outlined. The chapter ends with a summary of the various stages of the research from survey design to conclusions.

1.5.4 - Chapter Five – Data Analysis

Chapter five shows the specific details of the data analysis including response rates, frequency, and descriptive analysis. Data preparation and attitude scale construction are outlined. The

chapter also provides descriptive and reliability analysis of the survey results. A detailed overview of the various statistical tests including frequency analysis, descriptive statistics, reliability analysis, Pearson correlation, cross tabulation, scatter diagrams, chi squared, t-test/Mann Whitney U test, and ANOVA analysis of variance are outlined and justified.

1.5.5 - Chapter Six – Data Findings

Chapter six presents the specific results of the surveys and focus groups; all of the research questions are answered in this chapter. Using relationship, impact, and statistical analysis this chapter explores if employees working at organisations with a strategic focus on quality (award winning organisations) have significantly higher morale, satisfaction, and engagement.

1.5.6 - Chapter Seven – Discussion

The discussion provides a commentary of the main findings of the research. The implications of the findings are explained in the context of the literature. The theoretical framework is also repositioned in light of the specific results. Included in the implications is a discussion of the practical application of the results. The chapter answers each of the five research questions and concisely summarizes the principal implications of the findings.

1.5.7 - Chapter Eight – Conclusions

Drawing on the findings and the discussion, chapter eight reflects on contribution to knowledge, the research limitations, and suggests opportunities for further research. The contribution to knowledge is explored in some detail in the next section.

1.6 - Contributions to knowledge

The aim of the thesis is to understand the relationships between a strategic approach to quality and employee happiness. Target audiences for the diffusion of the research findings include academia, practitioners, and policy makers.

1.6.1 – Primary Gap – Academic Literature on the Link between A Strategic Approach to Quality and Employee Happiness

A key contribution of this research to academia is that it addresses gaps in the literature. The principal gap in the existing research is to understand the relationship between the implementation of a strategic approach to quality and employee happiness (in the areas of satisfaction, engagement, and morale). This research expands on prior literature linking strategic quality with organisational results (Ritter, 1991; O’ Brien and Voss, 1992; Hendricks and Singhal, 1996; Kivimaki et al., 1997; Curkovic et al., 2000; Wilson and Collier, 2000).

1.6.2 – Secondary Gap – Academic Literature on Strategic Quality in a Canadian Context

A secondary contribution to the literature that this research makes is the focus on Canadian organisations. There is little research about a strategic approach to quality that is focused on Canadian companies. Most of the research related to strategic quality has been carried out using data from American, Asian, Australian, and European organisations. This research uses data from exclusively Canadian organisations.

1.6.3 – Usefulness for Practitioners and Policy Makers

A third contribution to knowledge of this research is that companies and practitioners can use the conclusions to decide on the value of a strategic approach to quality as it relates to employees.

The findings provide answers to employees, management, and labour unions that need to understand the impact a strategic approach to quality will have on them.

This chapter introduced the research area and provided rationale for the choice of the area of study. All of the chapters of this thesis were introduced in the context of the thesis structure. The primary and secondary contributions to knowledge were shared highlighting how academia, practitioners, and policy makers might make use of the conclusions. The next chapter will review the literature related to a strategic approach to quality.

Chapter Two - Literature Review – A Strategic Approach to Quality Management

This chapter provides an extensive review of the existing literature relating to strategic quality management. The literature states that quality management theory is mainly derived from three sources including academic theorists, including Deming, Juran and Crosby, evaluation against formal awards criteria (such as the Canada Awards for Excellence, Baldrige and EFQM), and studies comparing successful implementation of quality with measurements of firm performance (Tari, 2011). The chapter defines a strategic approach to quality as stated in the literature; it outlines contributions of academic theorists and focuses on various relevant studies comparing a strategic approach to quality with organisational performance.

The chapter also presents the methodological approaches taken by the literature relating to a strategic approach to quality, in order to justify the chosen paradigm for this research. The chapter ends by identifying existing gaps in that academic literature. Two such gaps in the academic literature are identified. The first gap is the lack of available literature around employee happiness, specifically around employee engagement, morale, and satisfaction. The second gap is the relative lack of available literature focused on the Canadian context and Canadian organisations.

2.1 - Definition of a Strategic Approach to Quality Management

This section defines a strategic approach to quality management answering the first of the outlined research questions of the thesis. Namely: What constitutes ‘a strategic approach to quality’?

A strategic approach to quality management is when quality approaches move beyond incremental, operational improvements to those that influence the strategy process for the organisation (Leonard and McAdam, 2004). Garvin (1988) states that the subject of quality has evolved from a narrow technical discipline whose mandate was to detect manufacturing problems towards a strategic approach of competitive significance. A strategic approach to quality management is when quality is defined from the customer's point of view, built into the organisational strategic planning process, and obtained through an organisation-wide commitment (Garvin, 1988 p. 217).

Garvin (1988) also highlights the strategic approach to quality as the fourth era of quality after inspection, statistical process control, and quality assurance. Organisations that are adopting quality management approaches that merely include elements of quality assurance and quality control are missing the competitive potential of a strategic approach to quality, which includes quality explicitly in the strategic planning process (Kanji et al. 1992).

In the literature it is difficult to find consensus on the definition of quality. Various academic theorists prefer slightly different versions. The definition is variable because the concept of quality is looked at from various perspectives. Garvin (1984) classifies the definition of quality according to five different categories.

- 1) Transcendent definition: quality is synonymous with “innate excellence”
- 2) Product based definition: quality consists of precise and measurable variables
- 3) User-based definition: those goods that best satisfy the users' preference are the highest quality
- 4) Manufacturing-based definition: quality is conformance to requirement

5) Value-based definition: defines quality in terms of costs and prices (Garvin, 1984)

The terms used by authors also differ. Some refer to quality as an operational issue, some refer to quality as a strategic issue. Here, the term ‘a strategic approach to quality’ is used to describe a particular body of the literature that deals with quality as a subject that is strategically important to the organisation. The stance that this research takes is closest to the transcendent definition that Garvin (1984) refers whereby quality relates to ‘Innate Excellence’. Most of the companies surveyed were service organisations in the private and public sector (see details in chapter five) with no products so the product-based, user-based, manufacturing-based, and value-based definitions were not as relevant. There was only one manufacturing organisation (award winner 1) in the survey data and conformance to requirements was not a relevant measure in the quality construct of the research.

A term that the literature often links to what is written about ‘strategic approaches to quality management’ is Total Quality Management or TQM (Moreno-Luzon and Peris, 1998). TQM provides the characteristics to respond to key economic trends and impacts and hence to form an appropriate strategy (Tan et al., 2000). It is looked at as a strategic approach when an organisation includes TQM explicitly in the strategic planning process (Kanji et al. 1992). TQM is also considered a strategic approach to quality when it moves beyond an element that is coordinated at the operational level to include all aspects and disciplines of an organisation (Harber et al., 1993). In other words, ‘a strategic approach to quality management’ delivers continuous improvement of an organisation’s key measures of competitiveness and overall performance (Wollner, 1992).

Current conceptions of TQM include strategic planning, the human relations' perspectives of Juran (1980) and Crosby (1980), and the participatory management and statistical measurement approaches of Deming (Hyde, 1992). A strategic approach to quality management is an integrated approach to achieving and sustaining high quality output, focusing on the maintenance and continuous improvement of all the functions within an organisation in order to meet or exceed the requirements of the customer (Flynn et al., 1994) and other stakeholders. There is evidence in both the literature on strategic management, and on TQM, that an increasing integration of the ideas and ideals of quality and strategy is occurring (Vinzant and Vinzant, 1999).

The term TQM became popular in the 1990s and was based on the work of W. Edwards Deming (Deming, 1982; Deming, 1986; Evans and Lindsay, 2008). TQM is defined as the application of quality management principles to all aspects of the organisation. TQM is a management philosophy and set of practices that establish an organisation-wide focus on quality which stresses the principles of customer satisfaction, employee involvement and continuous improvement in quality (Curkovic et al. 2000). TQM is often used to describe a strategic approach to quality management. Mehra et al. (2001) describe TQM as a quality-based management strategy (strategic orientation) that promotes enterprise-wide quality through a strong focus on customer orientation.

Quality management theory is derived from three main sources: (Tari, 2011, p. 624)

- 1) Contributions from leading academic theorists (Deming, 1986; Juran, 1980; Crosby 1980).

- 2) Evaluation against formal quality awards assessment criteria like the Canada Awards for Excellence, the European Quality Award, the Malcolm Baldrige National Quality Award and the Deming Prize (Excellence Canada, 2000; SAI Global, 2004; NIST, 2009; EFQM, 2010)
- 3) Studies comparing successful implementation of quality with measurements of firm performance (Saraph et al., 1989; Flynn et al., 1994).

These three sources are the basis for the quality construct outlined in this thesis. The next section outlines the elements of a strategic quality approach.

2.1.1 - Elements of a Strategic Quality Approach

The elements of a strategic approach to quality management were reviewed from three different perspectives. The first was from the perspective of various quality theorists. These theorists are among those who are commonly referred to as “Quality Guru’s” (Kruger, 2001; Evans and Lindsay, 2008). The second was in the form of international awards’ criteria. The third was from studies comparing the implementation of quality with firm success.

A strategic approach to quality is a mindset of continuous improvement, moving away from detection of problems to one of prevention of future problems (Crosby, 1980; Juran, 1980; Deming, 1982; Deming, 1986). The principles that achieve this include involved leadership, a primary focus on the customers, an environment of cooperation and teamwork, a preventative approach to process management, a factual approach to decision making, an environment of continuous learning and people involvement, and a culture that supports continuous improvement and breakthrough thinking (Saraph et al., 1989; Mizuno, 1990; Bessant, 1991; Schein, 1992; Barker, 1993; Flynn et al., 1994; Handy, 1995; Ahire et al., 1996; Black and Porter,

1996; Zeitz et al., 1997; Samson and Terziovski, 1999; Eskildsen and Dahlgaard, 2000; Excellence Canada, 2000; Pannirselvam and Ferguson, 2001; SAI Global, 2004; NIST, 2009; EFQM, 2010).

2.1.1.1 - Quality Theorists - Early Literature on a Strategic Approach to Quality Management

The early development of the total quality movement was substantially influenced by a few quality pioneers (Kruger, 2001 p. 146). Three of the most often cited authors on quality management are W. Edwards Deming, Joseph M. Juran, and Philip B. Crosby (Evans and Lindsay, 2001; Kruger, 2001; Evans and Lindsay, 2008; Zairi, 2013). The philosophies of Deming, Juran and Crosby provide fundamental principles on which total quality is based (Motwani, 2002). These quality theorists are often referred to as “Quality Guru’s” in both academic and popular publications (Bendell, et al., 1995; Kruger, 2001; Evans and Lindsay, 2008; Zairi, 2013). In this thesis, the contributions of Deming, Juran, and Crosby were the primary focus in terms of quality theories. The work of other quality theorists including Armand V. Feigenbaum, Kaoru Ishikawa, Bill Conway, Genichi Taguchi, Shigeo Shingo, and W.G. Ouchi are generally considered as more derivative of the work of Deming, Juran, and Crosby (Bendell, et al., 1995; Maguad, 2006; Zairi, 2013). This section will review the elements of these three main theorists and other authors’ quality management philosophies and link it back to the questions in the survey used for this research.

Several authors have stated Deming’s importance/influence on the subject of a strategic approach to quality management. Evans and Lindsay (2008 p. 92) state that "No individual has had more influence on quality management than Dr. W. Edwards Deming". While Sosik and Dionne (1997 p. 447) support this further by identifying Deming as “perhaps the world's premier total quality

management guru". Further statement of Deming's importance is given by Hahn (2002 p. 290) who points out that "Deming is probably the best-known statistician, in the eyes of the general public, whoever lived."

Deming's work is among the research that informs the data collection methods of this research. Deming argued that managers must shift away from short-term goals and focus on long-term strategy. Deming's approach emphasised building quality into the organisation strategically, rather than leaving it to be the parts of the organisation associated with production alone (Deming, 1982; Deming, 1986; Evans and Lindsay, 2008). Deming also believed in continuous learning and training of job skills for self-improvement (Deming, 1982; Deming, 1986).

Deming's perspective on quality management can be summarized in his 14 points (Table 2.1). These 14 points are intended to be understood and reinforced by senior management constantly (Deming, 1982; Deming, 1986). Deming emphasises a constancy of purpose where employees understand the overall aim or mission of the organisation (Deming, 1982; Deming, 1986; Mann, 1985). Deming states that an organisation needs to adopt a new philosophy for strategic quality as apposed small changes such as a few guidelines, ideas and rules which can be tacked on to the end of whatever is done now (Deming, 1982; Deming, 1986; Neave, 1987). He also emphasizes a focus on strategic prevention of problems as opposed to a dependence on inspection activities and lowest price suppliers (Deming, 1982; Deming, 1986; Scherkenbach, 1986). Deming emphasizes an approach to continuous improvement that seeks out problems rather than turning a blind eye (Deming, 1982; Deming, 1986; Neave, 1987). Modern methods of job training and leadership that help people do a better job are very important to strategic quality according to Deming (Deming, 1982; Deming, 1986; Mann, 1985). Another one of Deming's 14 points that

is important for a strategic approach to quality is an environment that supports cooperation and teamwork as opposed to an environment of fear (Deming, 1982; Deming, 1986; Scherkenbach, 1986). In order to have a true strategic approach to quality, different parts of the organisation must work in teams without any barriers to tackle big problems together (Deming, 1982; Deming, 1986; Neave, 1987). Deming also states that big targets and slogans are not useful in an organisation that is attempting to improve quality strategically (Deming, 1982; Deming, 1986; Mann, 1985). If unreasonable requests are made of employees, outputs are less than those that would have been reached had those requests not been made (Deming, 1982; Deming, 1986; Neave, 1987). Deming stresses the importance of removing barriers to pride in the work that people do (Deming, 1982; Deming, 1986; Scherkenbach, 1986). The last of Deming's 14 points concerns the commitment of top management (Deming, 1982; Deming, 1986). In order to be successful, an organisation must clearly define top management's permanent commitment to continuous improvement (Deming, 1982; Deming, 1986; Neave, 1987).

Table 2.1 - Deming's 14 Points

Deming's 14 Points (Deming, 1986)
1) Create constancy of purpose
2) Adopt the new philosophy
3) Cease dependence on inspection
4) Base decisions on quality as well as price
5) Improve constantly and forever
6) Institute training
7) Institute leadership
8) Drive out fear
9) Break down barriers between departments
10) Eliminate slogans.
11) Eliminate management by objectives.
12) Remove barriers to pride of workmanship.
13) Institute education and self-improvement.
14) Top management commitment

Deming felt that improvements should be a continuous concern for management and employees. According to Deming, in order to implement continuous improvement, managers need to create a work climate of productive co-operation rather than the assignment of blame. Deming (1986) also established that 95 per cent of variance in the organisational performance is due to system factors rather than individual factors. The relationship between Deming’s 14 points and the survey tool in this research is explored in Appendix 2.

Juran is credited with introducing the human element into quality (Juran, 1980; Juran, 1986; Bailey, 2007). Juran (1980) emphasised management's responsibility for improvements in quality, which this research is calling a strategic approach to quality management. Juran pushed for the education and training of managers (Juran, 1980; Juran, 1986). He also felt that resistance to change was more of a cultural issue and the root cause of quality problems (Juran, 1986).

Juran’s Trilogy is an approach that encompasses many of his views of strategic quality and is presented in Table 2.2. The relationship between Juran’s Trilogy and the survey tool in this research is explored in Appendix 2.

Table 2.2 - Juran's Trilogy

Juran’s Trilogy (Juran, 1986)
<ul style="list-style-type: none"> 1) Quality Planning <ul style="list-style-type: none"> a. Setting Goals b. Customer and need identification c. Product and process design 2) Quality Control <ul style="list-style-type: none"> a. Measure performance b. Compare performance to target c. Close gaps 3) Quality improvement <ul style="list-style-type: none"> a. Achieve higher targets b. Provide training c. Continuous improvement

Juran's work is consistent with the view that a strategic approach to quality management delivers continuous improvement of an organisation's key measures of competitiveness and overall performance (Juran, 1980; Juran, 1986). In terms of quality control, Juran outlined 3 costs of quality that management need to focus on. These were prevention costs, failure costs, and appraisal costs (Juran, 1980). Juran also states that the goal of quality management is to achieve optimum conformance with an emphasis on prevention costs which are less than failure costs (Juran, 1980; Juran, 1986).

Another writer on quality, Crosby, is known for his concepts of “Zero defects” and “Do it right the first time (Kruger, 2001 p. 151).” Similar to Deming and Juran, Crosby offers his own fourteen-step programme for quality improvement (Crosby, 1980). Continuous improvement is one of the key aspects of the definition of a strategic approach to quality management, namely an approach that delivers continuous improvement of an organisation’s key measures of competitiveness and overall performance (Crosby, 1980). The focus is on cultural change rather than reliance on statistical tools alone (Crosby, 1980). The steps focus attention on prevention rather than detection. The steps also clarify the roles of top management as leaders, quality experts as facilitators, and stress the training of workers to manage quality from the front lines (Crosby, 1980).

Table 2.3 - Crosby's 14 Steps

Crosby's 14 steps (Crosby, 1980)
1) Management commitment
2) Quality Improvement team
3) Quality measurements
4) Cost of quality
5) Quality awareness
6) Corrective action
7) Zero defect planning
8) Supervisor training
9) Zero defects day
10) Goal setting
11) Error cause removal
12) Recognition
13) Quality councils
14) Do it over again

The steps also stress the use of continuous quality improvement teams and quality measurement. Crosby's writings also stress the importance of both planning and goal setting (Crosby, 1980). Crosby stresses the importance of improving processes based on prevention activities (Crosby, 1980). The relationship between Crosby's 14 steps and the survey tool in this research is explored in Appendix 2.

Table 2.4 - Summary of Several Quality Theorists Concepts

Deming (Adapted from Deming, 1982; Deming, 1986)	Juran (Adapted from Juran, 1980)	Crosby (Adapted from Crosby, 1980)
<ul style="list-style-type: none"> • Leadership/Leadership Commitment • Process Management • Leadership Through involvement • Continuous Learning, training and people involvement • Prevention Based process management • Cooperation and Teamwork • Continuous improvement 	<ul style="list-style-type: none"> • Leadership/Leadership Commitment • Planning • Process Management • Measurement and Analysis • Leadership Through involvement • Factual Approach to decision making • Continuous Learning, training and people involvement • Prevention Based process management • Cooperation and Teamwork • Continuous improvement 	<ul style="list-style-type: none"> • Leadership/Leadership Commitment • Planning • Process Management • Measurement and Analysis • Leadership Through involvement • Factual Approach to decision making • Continuous Learning, training and people involvement • Prevention Based process management • Continuous improvement
<p>These author's approaches have been instrumental in the design of sections of the survey which is detailed in Chapter 4 section 4.6.6</p>		

The management philosophies by Deming, Juran and Crosby have contributed to the present Total Quality Management approach (Kruger, 2001; Evans and Lindsay, 2008). They all agree that the leadership teams have a responsibility to direct quality initiatives rather than leaving it to a quality department manager. Deming emphasised management's responsibility for quality, Juran highlighted the importance of planning and Crosby raised the issue of attitudes of workers and managers towards quality (Deming, 1982; Deming, 1986; Juran, 1980; Crosby, 1980). Together their work has placed quality on the agenda of top management as a strategic rather than a tactical issue. Hyde (1992) suggests that current conceptions of TQM include strategic

planning, the human relations perspectives of Juran and Crosby, and the participatory management and statistical measurement approaches of Deming. Table 2.4 provides a summary of the similarities and differences between the quality theorist's concepts. Appendix 2 shows a summary of which questions in the survey are related to the quality theorist's concepts. The next section provides a background of various international quality awards. This background will help frame the use of awards criteria along with academic literature to define a strategic approach to quality.

2.1.1.2 - International Quality Awards

One of the most pervasive and universal methods to categorize elements of strategic quality has been awards' criteria such as the Malcolm Baldrige National Quality Award, the European Foundation for Quality Management Award and the Canada Award for Excellence (Samson and Terziovski, 1999). When an organisation links excellence model self-assessment with the strategic planning processes it aids in effective implementation (Davies, 2008).

The use of Quality Award winners and the national awards criteria as the basis for determining the extent to which a strategic approach to quality management has been successfully implemented, is also a common approach in the academic literature (Ritter, 1991; Cruise O'Brien and Voss, 1992; Hendricks and Singhal, 1996; Kivimaki et al., 1997; Wilson and Collier, 2000; Curkovic et al., 2000).

Ritter (1991) showed the link between TQM strategies and employee relations in US organisations. The basic approach was to examine the performance of selected U.S. companies that had won the Malcolm Baldrige National Quality Award to see if results had improved since implementing TQM practices. O'Brien and Voss (1992) used the Baldrige Awards criteria to

assess 42 British organisations. Hendricks and Singhal (1996) investigated the impact of American companies winning quality awards on the market value of firms. Kivimaki et al. (1997) examines a surgical clinic that won an international prize for successful TQM implementation and two non-TQM surgical clinics. The study examined the potential changes in well-being over time concluding that TQM has a positive impact on employee well-being. Wilson and Collier (2000) used the Malcolm Baldrige framework to prove the relationship that exists between leadership, human resource management, strategic planning and information and analysis. Curkovic et al. (2000) evaluate the extent to which the Malcolm Baldrige National Quality Awards criteria capture the major dimensions of TQM. They conclude that the Malcolm Baldrige National Quality Awards criteria have a strong and significant relationship with the overall subject of TQM.

This thesis takes a similar approach to these studies in terms of comparing award winners and non-winners investigating the impact of winning quality awards on the measures of employee morale, satisfaction, and engagement. Many of the previous studies using award winners are from the 1990s and early 2000s and this research will draw more recent conclusion with a focus on Canadian organisations. In the next section, there is a full comparison of the similarities between the various international awards criteria and shows how the Canadian Awards for Excellence criteria are based on similar constructs as the American, European, and Australian awards.

2.1.1.2.1 - Background of International Quality Awards

This section provides background of various international quality awards. Past studies have used the criteria that these awards are based on as a model for a strategic approach to quality (Dean

and Bowen, 1994; Capon et al., 1995; Black and Porter, 1996). Four of the awards are profiled in this section to show a comparison of the principles that they are based on and the details of awards criteria. This section presents these international awards and then identifies the similarities and differences between them which will be employed during the development of the strategic quality management construct.

Different countries around the world define a strategic approach to quality in different ways. Many of them have created an excellence award to recognize organisations that have implemented a strategic approach to quality management and the first five awards in the history of excellence awards are listed in Table 2.5. The definition of a strategic approach to quality management being an approach that delivers continuous improvement of an organisation’s key measures of competitiveness and overall performance is a common element of these awards Talwar (2011).

Table 2.5 - Global Quality Awards

Deming Prize – Japan	1951(JUSE, 2012)
Canada Awards for Excellence – Canada	1984 (Excellence Canada, 2012)
Malcolm Baldrige Award – United States of America	1987 (NIST, 2009)
Australian Quality Award – Australia	1988 (SAI Global, 2004)
European Excellence Award – Countries in Europe	1991 (EFQM, 2010)

Talwar (2011) identified 100 excellence models being used in 82 countries. This section outlines the basic constructs of the criteria that the American, Canadian, European and Australian quality

awards are based on. This research uses the Canadian, American, Australian and European national models for Quality Management. Refer to Table 2.6 and 2.7 for a breakdown of the criteria for each.

Malcolm Baldrige Award

One of the most commonly used models in the world is the Malcolm Baldrige Award Framework from the United States (NIST, 2009). Many researchers have adopted the Baldrige Award framework as the basic model of a strategic approach to quality (Dean and Bowen, 1994; Black and Porter, 1996; Capon et al., 1995). Black and Porter (1996) for example used the Malcolm Baldrige awards criteria to develop and validate their quality management survey questions.

The Malcolm Baldrige Award was created in 1987 to help US companies that needed to focus on quality in order to compete in an ever-expanding, demanding global market (NIST, 2009). The goal of the Malcolm Baldrige National Award was to enhance the competitiveness of U.S. businesses. The United States Congress created the Award Program to identify and recognize role-model businesses, to establish criteria for evaluating improvement efforts, and to disseminate and share best practices. The award is given out each year by the President of the United States (NIST, 2009). Several studies have been published to establish the validity of the Malcolm Baldrige Awards Criteria (Pannirselvam et al., 1998; Samson and Terziovski, 1999; Curkovic et al., 2000; Pannirselvam and Ferguson, 2001; Rahman, 2001; Jayamaha et al., 2009).

Canada Awards for Excellence

Canada has an equivalent model to the Malcolm Baldrige award in the United States and it is called the Canada Awards for Excellence. The Canada Awards for Excellence is an annual awards program to recognize business excellence in quality, customer service, and healthy workplace. Since 1984, the Awards have been presented to private and public sector organisations of all sizes that are world class. This prestigious award is tangible evidence of an organisation's level of excellence (Excellence Canada, 2012).

This award is based on the Excellence Canada Framework for Organisational Excellence, which is used by numerous organisations as a management model for continuous improvement and the achievement of significant operational results (Excellence Canada, 2010). Excellence Canada administers the Canada Awards for Excellence program under the Vice-Regal Patronage of the Governor General of Canada. "Thus an organisation receiving a gold Canada Award of Excellence is akin to a Canadian citizen receiving the Order of Canada" (Dalglish et al., 2013 p. 433).

The criteria for the Canada Awards for Excellence are comprised of seven categories, sometimes referred to as Drivers (Excellence Canada, 2010):

- Leadership
- Planning
- People focus
- Process management
- Supplier partner focus
- Organisational performance

These categories are characterized by principles, practices and approaches which emphasize.

- Leadership through involvement
- Primary focus on the customers
- Cooperation and teamwork (including partnerships)
- Prevention based process management
- Factual approach to decision making
- Continuous learning and people involvement
- Continuous improvement and breakthrough thinking
- Fulfilling obligations to all stakeholders and society (Excellence Canada, 2010):

Thousands of organisations in Canada use the Framework for Excellence criteria to improve the quality of their organisations (Excellence Canada, 2010). The awards criteria are used for two major purposes. The first way is as assessment criteria for awards recognition. The second way is as a strategic approach to quality for organisational improvement (Excellence Canada, 2010).

Australian Business Excellence Awards

The Australian Business Excellence Awards are given annually to recognise organisations for demonstrated organisational excellence. The Awards have the most rigorous evaluation process in Australia (SAI Global, 2004).

The Australian Awards were founded in 1988. The Awards' mission is to promote, nurture, recognise and celebrate organisational excellence in all its forms. Organisational excellence is judged against the Australian Business Excellence Framework, an integrated leadership and management system recognised globally. (SAI Global, 2004)

Jayamaha et al. (2009) showed that the Australian Business Excellence framework passed the thresholds for minimum requirements on measurement validity and convergent validity.

European Foundation for Quality Management Excellence Award

The European Foundation for Quality Management Excellence Awards were established in 1992, the prize recognises companies with excellent and sustainable results. The award criteria provide a holistic overview of how effectively the organisation develops and deploys their strategy, in line with the needs and expectations of their stakeholders. (EFQM, 2010)

The objective of the European Foundation for Quality Management Excellence Award is to recognise Europe's best performing organisations, whether private, public or non-profit. To win the European Foundation for Quality Management Excellence Award, an applicant must be able to demonstrate that their performance not only exceeds that of their peers, but also that they will maintain this advantage into the future. A prize winner is an organisation that demonstrates role model behaviour (EFQM, 2010).

2.1.1.2.2 - Comparison of the Award Criteria

82 countries around the world have a similar criteria and award program (Excellence Canada, 2012). Looking at the Canadian, the American, the Australian and the European models there are similarities in the basic constructs. Each country uses both criteria/drivers and principles/core concepts to describe a strategic approach to quality management.

The basic construct of the Canadian Criteria is very similar to these other validated models (refer to Table 2.6). Looking at the categories/drivers, all four models have a form of Leadership, Planning, Customer focus, People focus, and Organisational Performance. The Canadian, American, and European models have a driver of process management. The Canadian and European models have a specific driver of Supplier/Partner focus. The American and Australian

models have a category of Knowledge Management. The Australian model includes a driver on innovation, quality and improvement. Table 2.9 gives a breakdown of the similarities and differences of the various awards.

Table 2.6 - Criteria Comparison

Relationship between models	Canada Award for Excellence (Excellence Canada, 2000)	Malcolm Baldrige Criteria for Performance Excellence, (NIST, 2009)	Australian Business Excellence Framework (SAI Global, 2004)	European Foundation for Quality Management (EFQM, 2010)
All 4 models include Leadership	Leadership	Leadership	Leadership	Leadership
All 4 Models include Planning	Planning	Strategic Planning	Strategy and Planning	Policy and Strategy
All 4 Models include Customer Focus	Customer Focus	Customer Focus	Customer and Market Focus	Customer Results
All 4 Models include a focus on Employees	Employee Focus	Workforce Focus	People	People
The Canadian and European Models include Supplier/ Partner Focus	Supplier/Partner Focus	X	X	Partnerships and Resources
The Canadian, American and European models include process management focus	Process Management	Process Management	X	Processes
All 4 models include elements of organisational performance	Organisational Performance	Results	Success and Sustainability	Key Performance Results /Society Results /People Results
The American and Australian models include Measurement and knowledge management	X	Measurement, Analysis, and knowledge Management	Data, Information and Knowledge	X

The Australian model includes a driver on Innovation, Quality and Improvement	X	X	Innovation, Quality and Improvement	X
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The principles/core concepts of the Canadian model are also similar to other validated models. All four models include an element of leadership involvement. All four models include a focus on the customer, a factual approach to decision-making, people involvement and continuous learning as well as a responsibility to society. The American, Australian, and European models include a focus on results. The Canadian and American models value workforce, cooperation and teamwork. The Canadian and American models include future focus and prevention based management as opposed to correction. The European model includes partnership development. Table 2.7 gives a breakdown of the similarities and differences of the core principles of the various awards.

Dean and Bowen (1994) conclude that there are three core principles inherent throughout the various alternative quality frameworks. These are customer focus, continuous improvement, and teamwork. This section has provided a background of various International Quality awards. Several studies have used the criteria that these awards are based on as a model for a strategic approach to quality (Dean and Bowen, 1994; Black and Porter, 1996; Capon et al., 1995). The American, Canadian, Australian and European awards criteria were profiled to show a comparison of the principles and criteria questions. The criteria and principles of these four awards have many similarities and some differences. All four consider leadership, planning, people focus, customer focus and organisational performance as elements that are important to a strategic approach to quality. The Canadian and European Models include Supplier/ Partner

Focus. The Canadian, American and European models include process management focus. The American and Australian models include Measurement and knowledge management. The Australian model includes a driver on Innovation, Quality and Improvement. These international awards along with quality theorists (section 2.1.1.1) and the wider academic literature on quality (2.1.1.3) were considered in the creation of the strategic quality management construct.

Table 2.7 - Principle Comparison

Analysis of relationship	Canada Award for Excellence (Excellence Canada, 2000)	Malcolm Baldrige Criteria for Performance Excellence, (NIST, 2009)	Australian Business Excellence Framework (SAI Global, 2004)	European Foundation for Quality Management (EFQM, 2010)
All 4 models include an element of leadership involvement	Leadership through involvement	Visionary Leadership	Lead by example, provide clear direction, build organisational alignment and focus on sustainable achievement of goals.	Leadership and Constancy of Purpose
All 4 models include a focus on the customer	Primary focus on the customers	Customer Driven Excellence	Understand what markets and customers value, now and into the future, and use this to drive organisational design, strategy, products and services.	Customer Focus
Canadian and American models value workforce, cooperation and teamwork	Cooperation and teamwork (including partnerships)	Valuing Workforce Members and Partners	X	X
Canadian and American models include future focus and prevention based management as opposed to correction	Prevention based process management	Focus on the Future	X	X
All models include a factual approach to decision making	Factual approach to decision making	Management by Fact	Improve performance through the use of data, information and knowledge to understand	Management by Processes and Facts

			variability and to improve strategic and operational decision-making.	
All models include people involvement and continuous learning	Continuous learning and people involvement	Organisational and Personal Learning/Agility	Develop and value people's capability and release their skills, resourcefulness and creativity to change and improve the organisation.	People Development and Involvement
All models include continuous improvement and innovation focus.	Continuous improvement and breakthrough thinking	Systems Perspective / Managing for Innovation	Continuously improve the system/ Develop agility, adaptability and responsiveness based on a culture of continual improvement, innovation and learning.	Continuous Learning, Innovation and Improvement
All models include a responsibility to society	Fulfilling obligations to all stakeholders and society	Societal Responsibility	Behave in an ethically, socially and environmentally responsible manner.	Corporate Social Responsibility
The American, Australian, and European models include a focus on results	X	Focus on Results and Creating value	Focus on sustainable results, value and outcomes	Results Orientation
The European model includes partnership development.	X	X	X	Partnership Development

This section provided a comparison of the principles and awards criteria of four international quality awards. It presented these international awards, identified the similarities and differences between them which will be employed during the development of the strategic quality management construct.

2.1.1.3 - Literature Comparing a Strategic approach to quality with performance

This section explores the literature that shows the links between a strategic approach to quality management and many elements of performance including customer satisfaction, financial performance, product quality, stock performance, and employee measures. These studies help give a wider focus to the literature, these authors have followed up on the early theorists work detailed in section 2.1.1.1. The following summary highlights literature that shows links between a strategic approach to quality management and customer satisfaction, financial performance, and stock performance. These studies informed the research in terms of approach. The studies in this section all compared a strategic approach to quality management with various elements of organisational performance. The approaches overlap with methods chosen in this research detailed in Chapter four. The abundance of studies related to these topics and the lack of studies related to measures of engagement, satisfaction, and morale, highlighted a gap in the literature for research that links a strategic approach to quality with measures of happiness. The gaps are outlined in section 2.3.

Links between a Strategic Approach to Quality Management and Customer Satisfaction

The link between a strategic approach to quality management and customer satisfaction has been well researched. There are several studies that link a strategic approach to quality management with customer satisfaction. Anderson et al. (1995) showed that employee fulfillment has a direct

effect on customer satisfaction. Grandzol and Gershon (1997) indicated that customer focus has a significant effect on product/service quality. They also showed that employee fulfillment, cooperation, and customer focus, positively impact customer satisfaction. Choi and Eboch (1998) and Forza and Glippini (1998) showed that TQM practices have a strong positive effect on customer satisfaction. Rungtusanatham et al. (1998) linked continuous improvement with customer satisfaction. Das et al. (2000), among others, said that quality practices are positively correlated with customer satisfaction. In their study of 1,469 firms in the manufacturing sector they showed the significant positive correlation between customer satisfaction and a firm's performance as defined by market share increase, and Return on Assets (Das et al., 2000).

Ahire and O'Shaughnessy (1998) showed how firms with high top management commitment, have higher quality products. They also state that customer focus, supplier quality management, and empowerment emerge as significant predictors of product quality. Ho et al. (2001) showed how employee relations and training has an indirect effect on product quality through quality data and reporting, and supplier quality management.

Refer to Appendix 3 for a summary of the links between the benefits of a strategic approach to quality and customer satisfaction. These studies were considered when constructing the survey questions in this research in terms of the definition of a strategic approach to quality and the construct used to measure it.

Links between a Strategic Approach to Quality and Financial Performance

Some studies have linked a strategic approach to quality with an organisation's financial performance. Powell (1995) showed how executive commitment, an open organisation, and

employee empowerment, produce significant correlations to financial performance made up of sales, growth, profitability, and revenue growth. Hendricks and Singhal (1997) showed that implementing an effective TQM program improves performance of firms. They defined performance as a function of market returns, operating income, sales, sales/employees, sales/assets, cost/sales, capital expenditure/assets, number of employees, and assets. Adam et al. (1997) linked senior management involvement and recognition, with financial performance defined as net profit as a percentage of sales, return on assets, and sales growth. Chenhall (1997) showed that there is a relationship between TQM and performance as defined by growth in sales, return on sales, return on assets, and growth in overall profitability. Grandzol and Gershon (1997) showed a relationship between continuous improvement, and financial performance as defined by return on investment, market share, capital investment ratio, and product/service quality. Easton and Jarrell (1998) showed how the adoption of TQM is linked with increased financial performance as defined by net income/sales, net income/assets, operating income/sales, operating income/assets, net income and operating income per employee, sales per employee, total inventory to sales and cost of goods sold, and cumulative daily stock returns. Wilson and Collier (2000) showed how process management and information management, have significant and positive direct effects on financial performance as defined by market share, market share growth, Return On Investment and Return On Investment growth, Return On Sales and Return On Sales growth, and customer satisfaction. Douglas and Judge (2001) showed how the extent to which TQM practices are implemented is positively and significantly related to perceived financial performance as defined by growth in earnings, growth in revenue, changes in market share, return on assets, and long run level of profitability.

Some research shows the link between a strategic approach to quality and a company's stock market performance. Hendricks and Singhal (1996) showed how the stock market reacts positively to winning quality award announcements. This positive reaction is a function of a perceived decline in systemic risk, and positive feelings associated with the effectiveness of the firm's quality improvement programs. In 2001, Hendricks and Singhal showed how effective implementation of TQM principles and philosophies leads to improvement in long run stock performance.

Interestingly some studies have also had the opposite opinion. Several studies have indicated a failure of quality implementation approaches to increase the economic returns of firms. Ittner and Larcker (1996) found that certain process management techniques improve profitability while others have little effect on financial performance. They found that long-term partnerships with suppliers and customers are associated with higher performance. However the value of other techniques such as statistical process control, process capability studies, and cycle time analysis appeared to have less of an impact. Keiningham et al., (1994) caution organisations who are implementing quality programs and cites that as many as two-thirds of these programs have failed to achieve significant results. Kearney (1992) claimed that 80 per cent of initiatives failed to produce any tangible benefits. The researcher took this into consideration in the chosen data collection methods of survey and focus group. The results of this research contradict this conclusion in terms of improvements to employee morale, satisfaction and engagement.

Refer to Appendix 3 for a summary of the links between the benefits of a strategic approach to quality and aspects of financial performance. These studies were considered when constructing the survey questions in this research.

2.1.1.4 - Summarized elements of a strategic approach to quality management

This section summarizes the various factors that were considered from the literature in the creation of the quality construct. Various authors (Saraph et al. 1989; Flynn et al., 1994; Waldman, 1994; Powell, 1995; Ahire et al. 1996; Black and Porter, 1996; Zeitz et al., 1997; Samson and Terziovski, 1999) have identified critical factors of a strategic approach to quality including (1) leadership involvement; (2) Measurement, analysis, and knowledge management; (3) process management; (4) innovation and quality design; (5) employee training and empowerment; (6) supplier quality management; and (7) customer involvement and satisfaction that are summarized in Table 2.8.

Other authors (Kearney, 1992; Porter and Parker, 1993; Anderson et al. 1994; Dale and Cooper, 1994; Dean and Bowen, 1994; Wilkinson et al., 1994; Larson and Sinha, 1995; Mintzberg, 1998; Mukherjee and Lapre, 1998; Quazi et al. 1998; Dow et al., 1999; Scholtes, 1999; Yusof and Aspinwall, 1999; Ravichandran and Rai, 1999; Curkovic et al. 2000; Eskildsen and Dahlgaard, 2000; Wilson and Collier 2000; Davies et al. 2001; Pannirselvam and Ferguson, 2001; Westlund, 2001; Ahmad and Schroeder, 2002; Kanji, 2002; Soltani, 2005; Davies, 2008; Soltani and Wilkinson, 2010) have suggested common elements of a strategic approach to quality including (1) planning; (2) people focus; (3) leadership; (4) process management; (5) leadership involvement; (6) cooperation and teamwork; (7) supplier focus; (8) customer focus; (9) fulfilling obligations to all stakeholders and society; (10) continuous improvement; (11) people involvement; and (12) prevention based process management, that are summarized in Tables 2.6A, 2.6B, and 2.6C.

The common factors and elements from Table 2.8, 2.9, 2.9B and 2.9C were considered in the construction of the quality construct in Table 2.10 as shown in the third row of the data showing which questions were linked to the various articles. Appendix 2 shows the relationship between the common factors and elements and the survey tool.

Table 2.8 - Comparison of Critical Factors of TQM

Saraph et al. (1989)	Flynn et al. (1994)	Ahire et al.(1996)	Waldman (1994)	Powell (1995)	Black and Porter (1996)	Samson and Terziovski (1999)	Zeitz et al.(1997)
Top management leadership	Top management support	Top management commitment	Upper management commitment	Executive commitment and adopting philosophy	Strategic quality management and corporate quality culture	Leadership	Management support
Quality data and reporting	Quality information	Internal quality information usage	Striving continually to improve employee capabilities and work processes	Measurement and zero defects mentality	Quality improvement measurement system and communication of improvement information	People management	Use of data
Process management	Process management Product design	Design quality management Employee training	involvement	Process improvement and flexible manufacturing	Operational quality planning	Customer Focus	Supplier relationships
Product/service design Training	Workforce management Supplier involvement	Supplier quality management and supplier performance	a focus on quality	Training Closer to suppliers	External interface management Supplier partnerships	Strategic Planning	Employee improvements
Supplier quality management	Employee involvement Customer involvement	Employee Suggestions	attempts to involve external suppliers and customers	Employee empowerment	People and customer management	Information and analysis	Customers Supervision
Role of the quality department	Customer focus	Employee empowerment	use of scientific and problem solving techniques;	Closer to customer Benchmarking	Customer satisfaction orientation	Process Management	
Employee relations		SPC usage Benchmarking	leadership practices oriented towards values and vision			Performance	
			quality culture				

Table 2.9 - Elements of Strategic Quality

Dean and Bowen, 1994	Eskildsen and Dahlgaard, 2000	Davies, 2008	Pannirselvam and Ferguson, 2001	Soltani and Wilkinson, 2010	Wilson and Collier 2000	Soltani, 2005	Ravichandran and Rai, 1999
Leadership	Leadership	Planning - Strategic Planning	Leadership	Leadership	Planning	Leadership	Planning
Process Management	People Focus		People Focus	People Focus	Customer Focus	Prevention based process management	Supplier Focus
Leadership through involvement	Process Management	People Focus – Performance Management	Process Management	People Involvement	People Focus		
Cooperation and teamwork	Supplier Partner Focus	Process Management – Alignment with other systems	Cooperation and teamwork	Prevention based process management			
Customer Focus	Leadership through involvement						
Continuous Improvement	Cooperation and teamwork	Cooperation and teamwork					
		People involvement					

Table 2.9.B - Elements of Strategic Quality

Wilkinson et al., 1994	Dow et al., 1999	Anderson et al. 1994	Curkovic et al. 2000	Kearney, 1992	Mintzberg, 1998	Dale and Cooper, 1994	Scholtes, 1999
Leadership	Planning	People Focus	Process Management	Leadership	Leadership	Leadership	Leadership
Prevention based process management	Supplier Focus	Process Management	Supplier Focus				

Table 2.9.C - Elements of Strategic Quality

Yusof and Aspinwall, 1999	Quazi et al. 1998	Davies et al. 2001	Kanji, 2002	Porter and Parker, 1993	Larson and Sinha, 1995	Ahmad and Schroeder, 2002	Mukherjee and Lapre, 1998	(Westlund, 2001)
Leadership	Planning	Leadership	Leadership	Planning	Customer Focus	People Focus	People Focus	Fulfilling obligations to all stakeholders and society

The multidimensionality of the strategic quality approach construct must be considered when researching this subject (Kaynak, 2003). The 37 questions in the survey (described in detail in section 4.6.6) link with the following multidimensional construct of a strategic approach to

quality management. This construct is based on the relevant academic literature including the writings of leading quality theorists and the drivers and principles from the Canadian, American, Australian and European awards criteria. The specific links with the literature are detailed in Table 2.10.

Table 2.10 - Strategic Approach to Quality Management Construct Based on Literature

Drivers	Intent/Important element	Literature Reference
Leadership	<ul style="list-style-type: none"> - Aim of the organisation is understood - Leaders set the direction - Leadership commitment to continuous improvement 	(Crosby, 1980; Juran, 1980; Deming, 1982; Deming, 1986; Saraph et al., 1989; Kearney, 1992; Dale and Cooper, 1994; Dean and Bowen, 1994; Flynn et al., 1994; Waldman, 1994; Wilkinson et al., 1994; Powell, 1995; Ahire et al., 1996; Black and Porter, 1996; Zeitz et al., 1997; Mintzberg, 1998; Samson and Terziovski, 1999; Scholtes, 1999; Yusof and Aspinwall, 1999; Eskildsen and Dahlgaard, 2000; Excellence Canada, 2000; Davies et al. 2001; Pannirselvam and Ferguson, 2001; Kanji, 2002; SAI Global, 2004; Soltani, 2005; NIST, 2009; EFQM, 2010; Soltani and Wilkinson, 2010)
People Focus	<ul style="list-style-type: none"> - Measurement of employee satisfaction - Encourage employees to provide ideas for improvement - Recognize employees for good work that relates to the aim of the organisation 	(Saraph et al., 1989; Anderson et al. 1994; Flynn et al., 1994; Waldman, 1994; Ahire et al., 1996; Black and Porter, 1996; Zeitz et al., 1997; Mukherjee and Lapre, 1998; Samson and Terziovski, 1999; Eskildsen and Dahlgaard, 2000; Excellence Canada, 2000; Wilson and Collier 2000; Pannirselvam and Ferguson, 2001; Ahmad and Schroeder, 2002; SAI Global, 2004; Davies, 2008; NIST, 2009; EFQM, 2010; Soltani and Wilkinson, 2010)
Process Management	<ul style="list-style-type: none"> - Document key processes - Monitor key processes - Analyze important processes to determine 	(Crosby, 1980; Juran, 1980; Deming, 1982; Deming, 1986; Saraph et al., 1989; Feigenbaum, 1991; Anderson et al. 1994; Dean and Bowen, 1994; Flynn et al.,

	opportunities for improvement	1994; Waldman, 1994; Powell, 1995; Samson and Terziovski, 1999; Eskildsen and Dahlgaard, 2000; Excellence Canada, 2000; Curkovic et al. 2000; Pannirselvam and Ferguson, 2001; Davies, 2008; NIST, 2009; EFQM, 2010)
Planning	<ul style="list-style-type: none"> - Strategic planning process exists - Incorporation of client and employee input into planning 	(Crosby, 1980; Juran, 1986; Saraph et al., 1989; Porter and Parker, 1993; Powell, 1995; Black and Porter, 1996; Quazi et al. 1998; Dow et al., 1999; Samson and Terziovski, 1999; Ravichandran and Rai, 1999; Excellence Canada, 2000; Wilson and Collier 2000; SAI Global, 2004; Davies, 2008; NIST, 2009; EFQM, 2010)
Continuous learning and people involvement	<ul style="list-style-type: none"> - Everyone must be given the opportunity to develop their full potential and to make a positive contribution to the organisation's pursuit of excellence 	(Crosby, 1980; Juran, 1980; Deming, 1982; Deming, 1986; Saraph et al., 1989; Flynn et al., 1994; Waldman, 1994; Powell, 1995; Ahire et al., 1996; Black and Porter, 1996; Excellence Canada, 2000; SAI Global, 2004; Davies, 2008; NIST, 2009; EFQM, 2010; Soltani and Wilkinson, 2010)
Customer Focus	<ul style="list-style-type: none"> - Everyone strives to meet or exceed the customer's requirements - Measurement of client satisfaction - Use the client feedback for future improvement 	(Saraph et al., 1989; Dean and Bowen, 1994; Flynn et al., 1994; Waldman, 1994; Larson and Sinha, 1995; Powell, 1995; Black and Porter, 1996; Zeitz et al., 1997; Samson and Terziovski, 1999; Excellence Canada, 2000; Wilson and Collier 2000; SAI Global, 2004; NIST, 2009; EFQM, 2010)
Leadership through involvement	<ul style="list-style-type: none"> - Senior leaders are directly involved in direction, facilitation, reinforcement, communication and support for continuous improvement. 	(Crosby, 1980; Juran, 1980; Deming, 1982; Deming, 1986; Saraph et al., 1989; Dean and Bowen, 1994; Flynn et al., 1994; Waldman, 1994; Ahire et al., 1996; Zeitz et al., 1997; Excellence Canada, 2000; Eskildsen and Dahlgaard, 2000; SAI Global, 2004; NIST, 2009; EFQM, 2010)

Continuous improvement and breakthrough thinking	<ul style="list-style-type: none"> - No matter how much improvement has been accomplished, there are always practical and innovative ways of doing even better 	(Crosby, 1980; Deming, 1982; Deming, 1986; Juran, 1986; Dean and Bowen, 1994; Waldman, 1994; Powell, 1995; Ahire et al., 1996; Black and Porter, 1996; Zeitz et al., 1997; Excellence Canada, 2000; SAI Global, 2004; NIST, 2009; EFQM, 2010)
Supplier Partner Focus	<ul style="list-style-type: none"> - Include suppliers and partners in process improvement 	(Saraph et al., 1989; Flynn et al., 1994; Waldman, 1994; Powell, 1995; Ahire et al., 1996; Black and Porter, 1996; Zeitz et al., 1997; Dow et al., 1999; Ravichandran and Rai, 1999; Curkovic et al. 2000; Eskildsen and Dahlgaard, 2000; Excellence Canada, 2000; EFQM, 2010)
Factual approach to decision making	<ul style="list-style-type: none"> - Decision should be based upon measured data not simply on the basis of instinct, authority, or anecdotal data 	(Crosby, 1980; Juran, 1986; Saraph et al., 1989; Flynn et al., 1994; Waldman, 1994; Ahire et al., 1996; Black and Porter, 1996; Zeitz et al., 1997; Excellence Canada, 2000; SAI Global, 2004; NIST, 2009; EFQM, 2010)
Measurement, Analysis, and knowledge Management	<ul style="list-style-type: none"> - We measure and analyze our processes for improvement - We have a structured knowledge management system 	(Crosby, 1980; Juran, 1986; Saraph et al., 1989; Flynn et al., 1994; Powell, 1995; Ahire et al., 1996; Black and Porter, 1996; Zeitz et al., 1997; Samson and Terziovski, 1999; SAI Global, 2004; NIST, 2009)
Primary focus on the customers	<ul style="list-style-type: none"> - The primary aim of everyone in the organisation must be to fully understand, meet and strive to exceed the needs of the customer 	(Dean and Bowen, 1994; Flynn et al., 1994; Waldman, 1994; Powell, 1995; Black and Porter, 1996; Zeitz et al., 1997; Samson and Terziovski, 1999; Excellence Canada, 2000; Wilson and Collier 2000; SAI Global, 2004; NIST, 2009; EFQM, 2010)
Cooperation and teamwork (including partnerships)	<ul style="list-style-type: none"> - Teamwork is nurtured and recognized within and between organisations 	(Deming, 1982; Deming, 1986; Dean and Bowen, 1994; Waldman, 1994; Excellence Canada, 2000; Eskildsen and Dahlgaard, 2000; Pannirselvam and Ferguson, 2001; Davies, 2008; NIST, 2009)

Prevention based process management	- A mindset of prevention as against correction is applied to eliminate the root causes of problems.	(Crosby, 1980; Juran, 1980; Deming, 1982; Deming, 1986; Waldman, 1994; Excellence Canada, 2000; NIST, 2009; Soltani and Wilkinson, 2010)
Innovation, Quality and Improvement	- Employees are encouraged to innovate and find new and better ways of doing their work	(Waldman, 1994; Ahire et al., 1996; Black and Porter, 1996; Zeitz et al., 1997; Excellence Canada, 2000; SAI Global, 2004)
Focus on Results and Creating value	- The organisation must have a focus and awareness of how it creates value and results	(Saraph et al., 1989; Flynn et al., 1994; Ahire et al., 1996; SAI Global, 2004; NIST, 2009; EFQM, 2010)
Organisational Performance	- Levels and trends are improving in customer, employee, process, supplier/partner, and financial performance measures.	(Samson and Terziovski, 1999; Excellence Canada, 2000; SAI Global, 2004; NIST, 2009; EFQM, 2010)
Fulfilling obligations to all stakeholders and society	- An organisation is seen as part of society and should have a responsibility towards it.	(Excellence Canada, 2000; Westlund, 2001; SAI Global, 2004; NIST, 2009; EFQM, 2010)

This section defined a strategic approach to quality as stated in the academic literature; it outlined contributions of academic theorists and focused on various relevant studies comparing a strategic approach to quality with organisational performance. Based on this literature review a construct for a strategic approach to quality was introduced. This construct (Table 2.10) is the basis for the survey tool that is used in this thesis. The construct is expanded into specific survey questions that are outlined in section 4.6.6. The next section provides an extended theoretical analysis of the literature to justify the research methods chosen in this thesis.

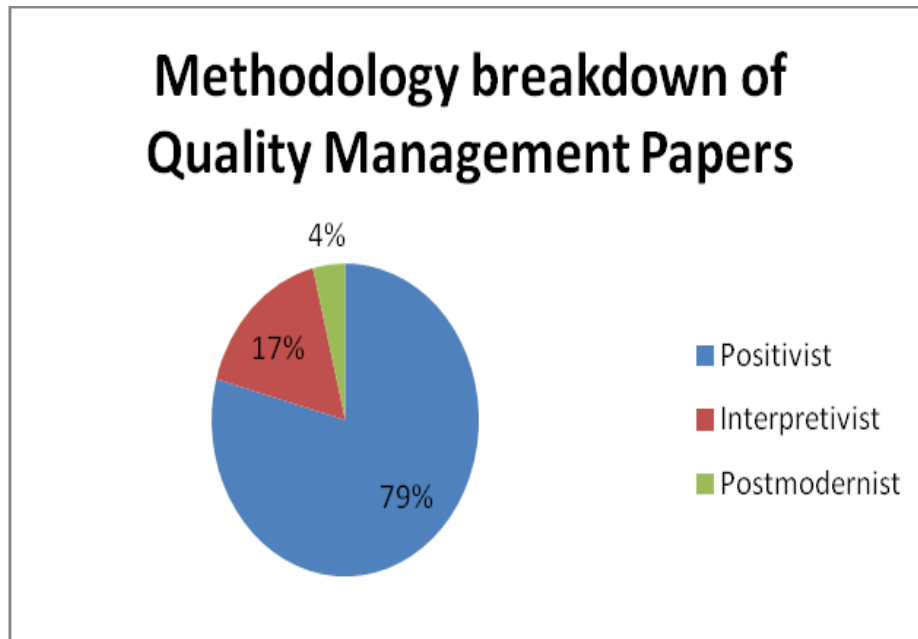
2.2 - Methodological issues within the strategic approach to quality management literature

This section will describe the methodological approaches of the literature related to a strategic quality approach. This extended theoretical analysis helped the researcher justify the methods chosen in this thesis. The subject of paradigms will be addressed in greater depth in chapter four. This section is limited to looking at the paradigmatic choices made by those that have written the existing literature in the field.

The methodological approaches to the subject of strategic quality are primarily taken from a positivist paradigm. Quality management is dominated by rational paradigms for the measurement and management of quality. The positivist paradigm is inherent in the literature addressing the accreditation of quality and total quality management (Combe and Botschen, 2004).

Out of all the papers examined within this thesis, 79 per cent came from a positivist perspective, 17 per cent were written from an interpretivist perspective, and 4 per cent were written from a post-modernist perspective. Appendix 6 and Figure 2.1 give a full methodological breakdown of the examined papers.

Figure 2.1 - Methodology Breakdown of Papers Examined in this Research



When the papers listed in Appendix 6 are grouped by decade, there have been more interpretivist papers since 2000. Between 1990 and 1999 the breakdown of papers examined within this research was 82 per cent positivist. Out of the papers examined in this research published since 2000, 30% of them took an interpretivist stance. A positivist approach was taken in 67 per cent of the papers examined in this research that were published since 2000 (see Figures 2.2 and 2.3 for a full breakdown). Although the trend may indicate a movement away from the positivist paradigm, it seems to remain the dominant approach for the quality management research that the researcher has encountered.

Figure 2.2 - Methodology Breakdown of Papers Published between 1990-1999 Examined in this Research

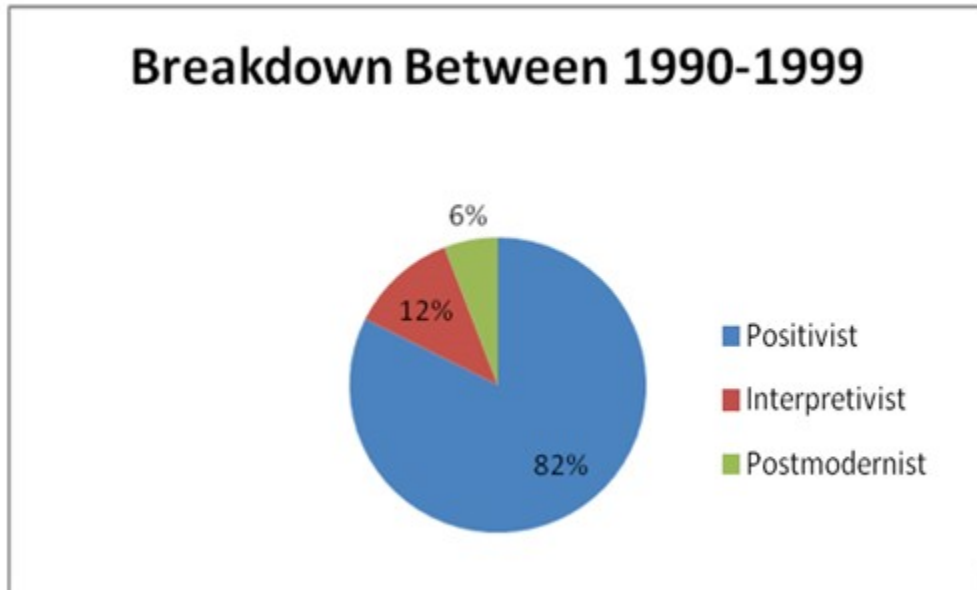
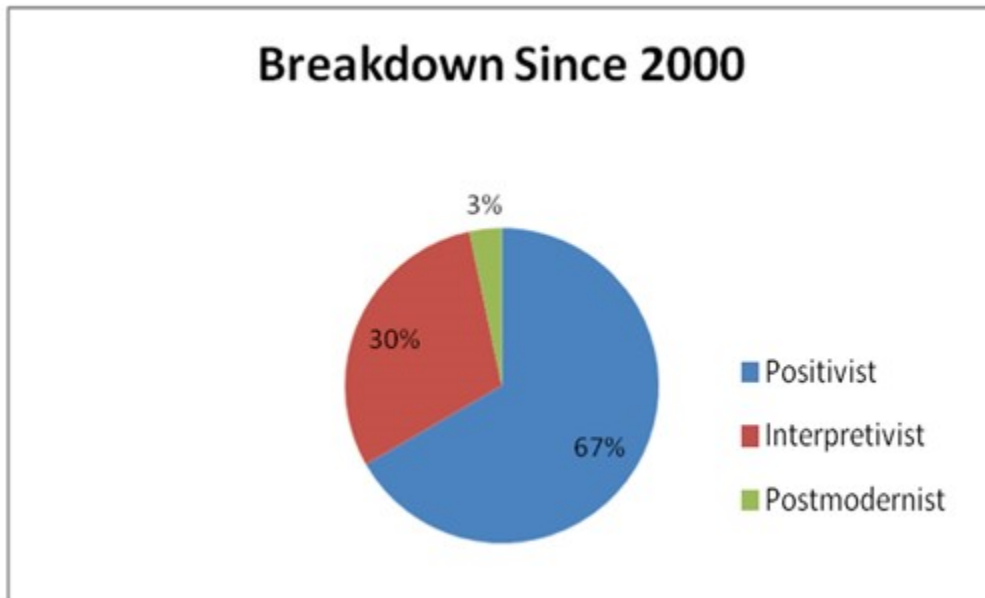


Figure 2.3 - Methodology Breakdown of Papers Published since 2000 Examined in this Research



2.2.1 - Review of Positivist Papers

As noted above, the majority of the papers (79 per cent) that were analyzed in this research took a positivist approach. The positivist/functionalist approach is derived from natural sciences (Burrell and Morgan 1979). They seek to discover laws that reflect the natural world. From a positivist point of view quality management research fits well into this research of the natural world. Freiesleben's (2009) comparison of the principles of quality improvement to the principles of biological evolution, providing an understanding of how the published authors in the field (79 per cent of the papers reviewed), see the subject. These positivist/functionalist researchers see the subject as something very close to nature. A scientific subject that can be measured precisely, simplified, and described (Burrell and Morgan 1979).

The same ontology and epistemology are present in many of the positivist papers. Samson and Terziovski (1999) empirically test the effectiveness of TQM implementation. It uses Cronbach Alpha tests in order to meet professional standards of reliability and validity. The research methods included a 246-question mail survey targeted to a stratified random sample of 4000 manufacturing sites. Survey responses were received from 1289 sites and the data was analysed using factor analyses, multiple regression, and other statistical calculations, with the analysis facilitated by the use of SPSS. Two hypotheses were tested and the results showed that the relationship between TQM practices and organisational performance is significant in a cross sectional sense, in that TQM practice intensity explains a significant proportion of variance in performance (Samson and Terziovski, 1999).

Positivists generally bring a view of realism to theoretical entities (Hacking, 1983). They believe that a single mind-independent reality is apprehendable (Guba and Lincoln, 2005). They also

state that although qualitative views, based on practical experience are of substantial value, empirical evidence is needed for 'scientifically based' frameworks.

Samson and Terziovski (1999) are typical of many quality management researchers. They interpret a multiple R-value of 0.463 to indicate a relatively strong relationship between TQM practices and organisational performance, accompanied by an F-statistic for the regression that is highly significant. The relationship is significant in a cross sectional sense, in that TQM practice intensity explains a significant proportion of variance in performance. They take the complex subject of TQM and reduce it to 7 key elements namely: 1) Leadership 2) People management 3) Customer Focus 4) Strategic Planning 5) Information and analysis 6) Process Management 7) Performance (Samson and Terziovski 1999). The authors test the theory that already exists namely “Are the elements of TQM reliable and valid for measuring and predicting organisational performance (Samson and Terziovski 1999 p. 394)?”

The dominance of the positivist approach to quality management within the research literature continues to the present day. The majority of the papers published in the last few years including Lam et al., (2012) carry out research using a positivist paradigm. They use survey data from 150 service firms to examine the association between TQM, market orientation, and service quality. Using three hypotheses the study provides empirical evidence that TQM has a positive and significant relationship with both market orientation and service quality.

Only one paper out of the 61-reviewed positivist papers specifically mentions the paradigm as positivist. Oakland and Tanner (2008 p. 737) say “A positivist approach was taken for the research, as there was a desire to seek support for relationships across a variety of organisations” The other 60 papers had almost no reference to paradigms at all. Most researchers used the

terms methodology and methods interchangeably. If they did mention methodology it was almost always to refer to the tools used (surveys, questionnaires, interviews etc.) to carry out the research rather than the more advanced/sophisticated philosophical and methodological issues.

Another consistent feature of the majority of the papers reviewed was the overall research process. The process of research in a positivist paradigm is generally deductive in nature (Blaikie, 1993). Using a deductive approach the researcher starts with theory, moves to a hypothesis, and ends with findings (Bryman and Cramer 1990). Findings are observed, recoded and analyzed then used to refute or verify the hypothesis.

2.2.2 - Review of Interpretivist Papers

Similar ontologies and epistemologies were present in many of the interpretivist papers. The interpretivist papers reviewed used in depth case studies (64 per cent), grounded theory (27 per cent), and mixed methods (9 per cent), as the primary methods.

One example by McAdam et al. (2008) came at their research from an interpretivist perspective using grounded theory. The authors use thick descriptions and multiple methods including participant observation, semi structured and unstructured interviews, ethnographic observations, facilitated focus groups, organisation meetings, facilitated management discussions, social constructionism workshops, focus groups, critical action research and review of company documents and archives. Also they show that analysis is done with words comparing, contrasting, and organising outcomes into themes (Miles and Huberman 1994).

The authors spread their research over 2 phases. Phase 1 of the study chose 19 cases then Phase 2 narrowed them down to 4 cases. These four cases were selected to be re-examined to focus more

deeply on the most pertinent questions and initial theoretical constructs. They follow Weick's view that settings should be chosen for their access to the phenomenon under study rather than for their representativeness (Weick, 1995).

At the start of their analysis McAdam et al. (2008) criticize most research on TQM that comes from a positivist point of view. The paper mentions typical TQM studies and the resulting data, and its use, is often premised on cause and effect rationality and fails to supply 'deep rich data' to address 'meanings', phenomena and 'complex' socio-political events, which is a feature of strategic TQM. Their approach is consistent with Easterby-Smith et al. (2012) as they have a basic belief that the world is constructed, subjective and the observer is part of the observed (Easterby-Smith et al. 2012).

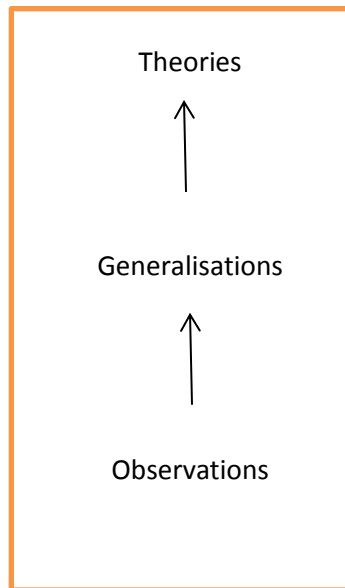
McAdam et al. (2008) admit that the observer is part of the observed. They state that much deductive research on TQM involves a strict separation between the researcher and the practitioner. This polarity is viewed as preserving "objectivity". However, the Grounded Theory methodology incorporates these factors as increasing the richness of the data and the understanding of the phenomena involved (McAdam et al., 2008). Their methods show that they are trying to understand the situation from a perspective of deep meaning. They too are consistent with Weick (1995) as they believe those participants' (and not the researchers) texts should be central to the research (Weick, 1995). Applying the grounded theory method the researcher does not formulate the hypotheses in advance since preconceived hypotheses result in a theory that is ungrounded from the data (Glaser and Strauss 1967). McAdam et al. (2008) state that theory building by Grounded Theory capitalises on the rich practitioner based knowledge base of TQM. Sources of data can include TQM team meetings, interviews with TQM managers

and TQM case studies (McAdam et al., 2008). Overall McAdam et al. (2008) believe that a concept derives its meaning from a context or horizon within which it stands. They are in line with Miles and Huberman's (1994) thinking of how research should be conducted through an intense contact with the life situation. The goodness criteria are based on authenticity, trust and persuasiveness (Guba and Lincoln, 2005).

A second more recent paper by Soltani and Wilkinson (2010) shows similar underpinnings. In this study the authors use a multi-case study approach of three organisations where they conduct detailed interviews with managers at both the senior and middle levels. They stress that the case study design is appropriate because it investigates a phenomenon within its real-life context. They are interested in research methods where significant events or variables cannot be manipulated experimentally. The diversity of the multiple case design and multiple perspectives adopted in terms of sector, the hierarchical levels of the participants and their responsibilities, as well as different approaches to managing TQM offers an in-depth view in their findings. The results of the interviews were used in the analysis of the research findings. Rather than provide a statistical breakdown of the results as you would see in a typical positivist paper, this paper provided verbatim statements that arose during the interviews. The authors derive meaning from these statements and conclude that senior management exerts a major influence in establishing the tone and atmosphere of the TQM organisation.

Also in contrast to the positivist papers, the interpretivist papers address the topic using an inductive approach. Blaikie's model (Figure 2.5) for inductive theory creation shows how the interpretivist papers created their theory.

Figure 2.4 – Inductive Methods – Adapted from Blaikie 1993



McAdam et al. (2008) developed the theory of the TQM lifecycle model and showed that a credible and rigorous inductive alternative exists to replace the common practice of solely relying on deductive data and research methodology in TQM. Similarly, Soltani and Wilkinson (2010) started with case study observations, leading to generalisations based on their interpretations of the interviews, the paper settled on the theory that senior managers exerts a major influence in establishing the tone and atmosphere of the TQM organisation.

2.2.3 - Review of Post-Modernist Papers

There were far fewer papers on Quality management research that derive from this paradigm (for example, 4 per cent of the papers reviewed by this research). Three post-modernist papers related to quality management were reviewed. The first used video analysis, the second used storytelling, and the third was a presentation of alternate histories.

Downs and Eastman (2001) specifically state that they are taking a postmodern approach. They suggest that knowledge is constructed and mediated by values and power relations. They

deconstruct TQM and organisational change by examining the specific circumstances surrounding the construction of quality in the context of the Malcolm Baldrige Award and the Quest for Excellence films. TQM is examined as a linguistic construction. The authors stress the hidden agendas of quality management to create uniformity everywhere (Downs and Eastman, 2001). Using film theory they uncover what the films mean and what the authors intended them to mean. They conclude after a frame-by-frame analysis that quality actually justifies the US economic and political system.

In a second paper coming from the same paradigm by Boje and Winsor (1993), the authors state that TQM masquerades under a costume of worker development, involvement, and empowerment, its hidden charter is revealed by the patterns of control which are deliberately woven into the fabric of human existence through its process of rational, concurrent engineering. The paper uses the method of alternative history storytelling to show how TQM seeks to perfect control systems that for the most part are directed towards workers' bodies, souls and spirits. Specifically, the move toward embodying desirable values within the labour process constitutes an attempt to dominate the way the worker thinks. The attempt of this paper is to scrutinize TQM for hidden agenda to create a culture such that the workers become unable or unwilling to discern the division between their own values and beliefs and the productivity and quality objectives of the corporation (Boje and Winsor, 1993).

This section described the methodological approaches of the literature related to a strategic quality approach. This extended theoretical analysis helped the researcher justify the positivist methods chosen in this thesis. The next section highlights where this research overlaps with existing literature on a strategic approach to quality and where it fills identified gaps.

2.3 - Gaps and Overlaps with the existing Literature

This section will present where there are overlaps between this thesis and existing literature, what existing studies overlook, and summarize the some of the biggest gaps in the literature.

2.3.1 - Overlap with the Current literature

There are two major overlaps between this thesis and the literature. The first overlap is the general approach of analysing the impact of strategic quality and performance. The second overlap is the usage of national award winners as one of the factors in determining the degree to which a strategic approach to quality has been implementing within the target organisation.

2.3.1.1 - Overlap 1 - Common approach of impact of strategic quality on performance

There are several similarities between this research and other studies in the literature. The research questions overlap with several studies in terms of the relationship between a strategic approach to quality and various elements of organisational performance. For example, several authors have studied the relationship between quality and customer measures (Grandzol and Gershon, 1997; Choi and Eboch, 1998; Forza and Glippini, 1998; Rungtusanatham et al., 1998; Das et al., 2000), others have compared the impact of strategic quality on financial performance (Powell, 1995; Hendricks and Singhal, 1997; Adam et al., 1997; Douglas and Judge, 2001). These and other studies (detailed in section 2.1.1.3) link strategic quality with many elements of organisational performance. This thesis presents new data to support some of the conclusions of these studies and overlaps in terms of approach.

2.3.1.2 - Overlap 2 - Using Award Winners

Many studies use award winners and the national awards criteria as the basis for determining the extent to which a strategic approach to quality has been successfully implemented (Ritter, 1991;

Cruise O' Brien and Voss, 1992; Hendricks and Singhal, 1996; Kivimaki et al., 1997; Wilson and Collier, 2000; Curkovic et al., 2000). These studies are summarized in section 2.1.1.3 and were used by the researcher as examples of how to measure a strategic approach to quality.

2.3.2 - Gaps in the Existing Research

This section shows what existing studies overlook, and summarizes the biggest gaps. There are two gaps in the existing research on the benefits of a strategic quality approach. The biggest gap in the existing research is what impact the implementation of a strategic quality approach has on the employees (satisfaction, engagement, and morale).

2.3.2.1 - Morale, Engagement, and Satisfaction

Relatively little has been written about the impact of quality on the employee measures of morale, engagement, and satisfaction. This reflects a broader based weakness in the quality literature in that there is an emphasis on technical aspects of Quality Management with rather less attention being given to human resources (Wilkinson, 1994). In addition, the existing research has a very diverse opinion of the benefit to employees. Some studies conclude a positive impact on employees (Kayis et al., 2003) and some studies conclude a negative impact on employees (Lam, 1996).

Many papers including those detailed in section 2.1.1.3 examine a strategic approach to quality and various aspects of performance. To understand the more popular elements of a strategic approach to quality in the literature the researcher did a search of the SCOPUS database for articles with "TQM" in the title and the words morale, engagement, satisfaction, customer, performance, financial, quality, and happiness in the body of the text.

Figure 2.5 – Number of Articles with Key Words with TQM in the Title of the Article

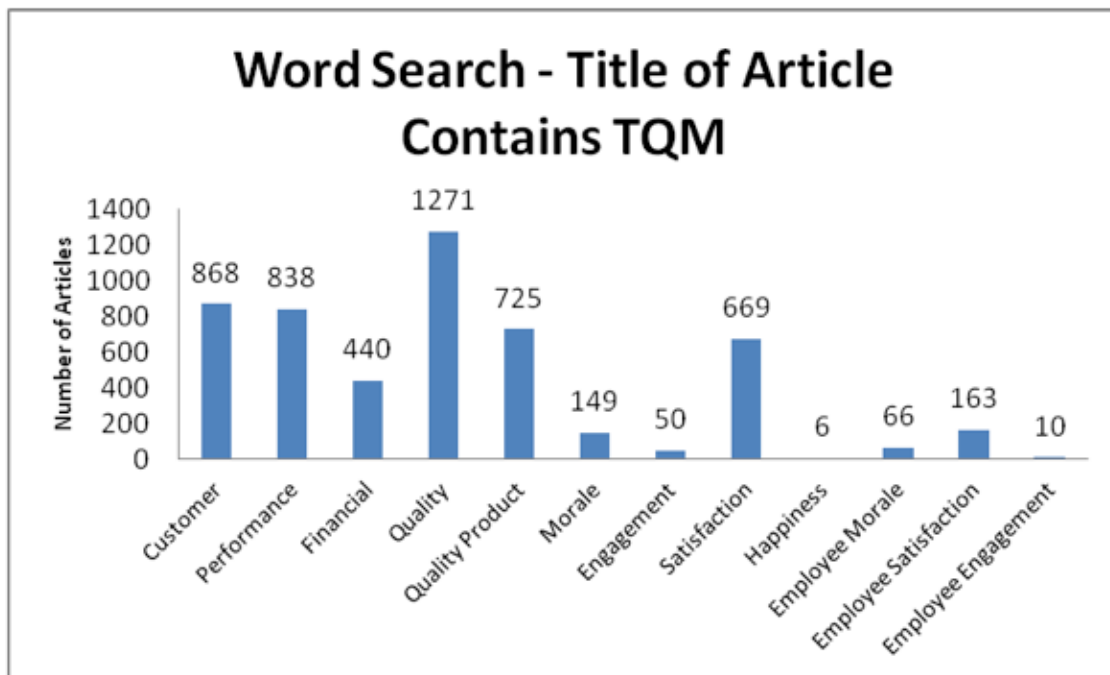


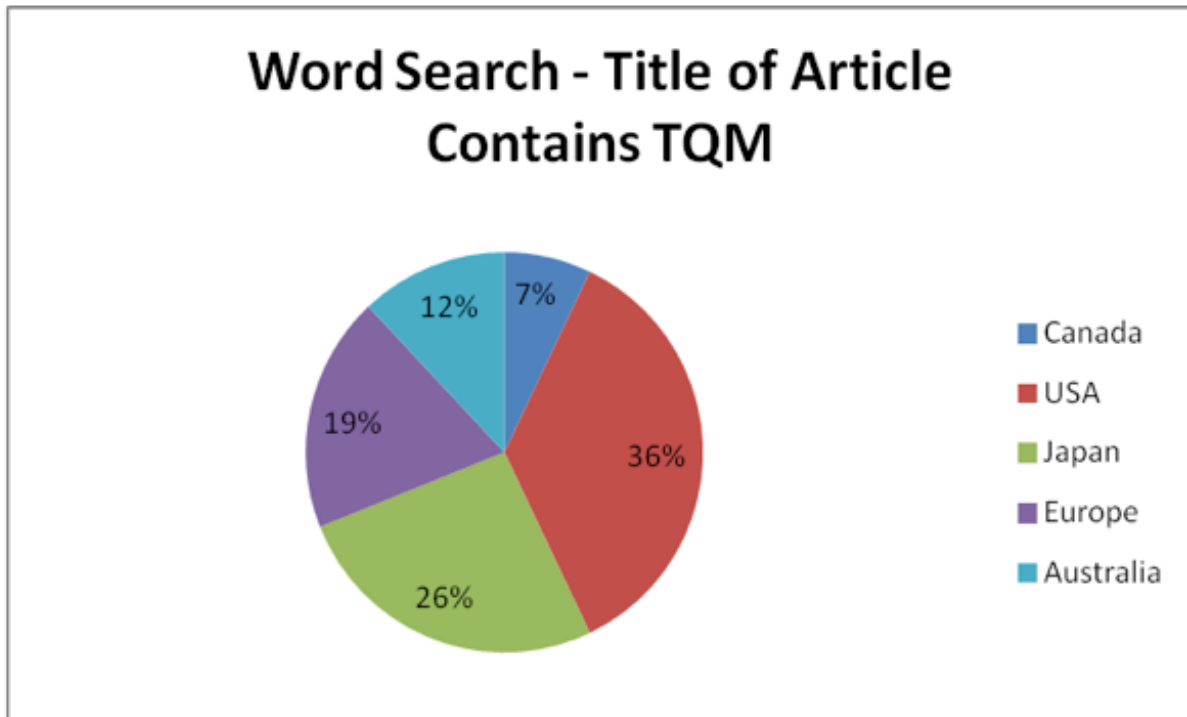
Figure 2.6 shows the most popular topic was “Quality” with 1271 articles, the next most popular was “Customer” with 868 articles, followed by “Performance” with 838 TQM articles using that term. The least frequent word combinations were “Happiness” with 6 articles, “Employee Engagement” with 10 articles, “Employee Morale” with 66 articles, and “Employee Satisfaction” with 163 articles. This search of the SCOPUS database shows that the gaps in the TQM research relate to the subjects of employee happiness with the fewest articles published related to employee morale, engagement, and satisfaction. There were only 13 articles in the SCOPUS database with TQM in the title that mentioned “employee engagement”, “employee satisfaction”, and “employee morale” in the same article. This thesis contributes to the strategic approach to quality literature in the subject area with the fewest number of studies from the above search. The second gap that this research addresses is that of the Canadian source of data.

2.3.2.2 - The Canadian context

The second gap is that there is very little research on the topic of strategic quality that is focused on Canadian companies. Most of the research has been done using data from American, Asian, Australian, and European organisations. More Canadian data on the link between a strategic approach to quality and employee happiness will help academia, Canadian organisations and Canadian policy makers. If Canadian organisations had more access to information about the value of a strategic approach to quality, there may be more Canadian organisations realizing the benefits associated with strategic quality. Canadian policy makers can use the findings to inform their decisions related to the agenda for closing Canada's productivity gap.

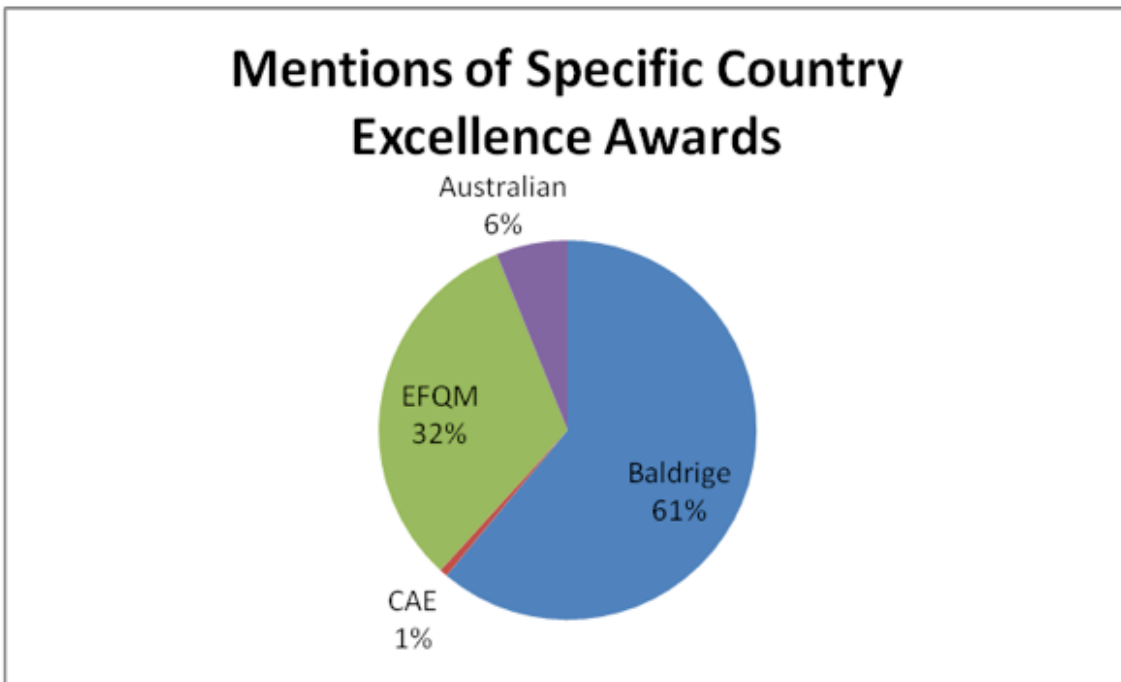
To understand the lack of Canadian data the researcher did a search for the word 'Canada' in the academic literature with TQM in the title. 66 or 7 per cent of the articles with TQM in the title have been published with the word 'Canada' in the body of the text. This is compared to 336 with 'USA', 243 with 'Japan', 179 with 'Europe' and 112 with 'Australia' (Figure 2.7). This search was conducted on August 5, 2013 using the UWE library search function of the SCOPUS database with the advanced search function. The exact same search approach was used for the other countries replacing 'Canada' with the words 'USA', 'Japan', 'Europe', and 'Australia'.

Figure 2.6 - Academic Literature Word Search – Articles with TQM in the Title and the Specific Country in the Body of the Text.



Another search comparison confirms the lack of Canadian data in the quality management literature. The researcher searched the existing literature (on August 5, 2013 using the UWE library search of SCOPUS database) for references to the most popular national quality awards. The number of studies mentioning the Canada Awards for Excellence was 49, compared with 4,461 studies mentioning the Malcolm Baldrige Award, 2,344 mentioning the European Foundation for Quality Management award and 447 mentioning the Australian Excellence Award. See Figure 2.8 for a percentage breakdown of this data. The Canadian mentions represent 1 per cent of the total number of papers that mention Excellence Awards.

Figure 2.7 – Number of Papers Mentioning Excellence Awards



This chapter provided an extensive review of the existing literature relating to strategic quality management. A strategic approach to quality management was defined as stated in the literature from three perspectives. The first outlines contributions of leading quality theorists, the second compares international awards criteria, and the third focuses on various academic studies comparing quality with organisational performance. A quality construct was outlined from these three perspectives. The chapter also presented the methodological approaches taken by the literature relating to a strategic approach to quality, in order to justify the chosen paradigm for this research. The chapter ended by identifying existing gaps in that academic literature.

The next chapter will outline the elements of employee satisfaction, engagement, and morale. The chapter will define and justify the use of satisfaction, morale, and engagement as the

employee happiness used in this research. A theoretical framework linking a strategic approach to quality with these three elements will be outlined.

Chapter Three - Employee Happiness

The last chapter provided a literature review to define a strategic approach to quality management. The elements were defined and a construct for a strategic approach to quality management was presented. This chapter defines and justifies the use of satisfaction, morale, and engagement as the employee measures of happiness used in this research. This chapter concludes with the theoretical framework that forms the basis for this study.

Employee happiness is measured at a personal cognitive level (satisfaction), the group level (morale) and the personal affect level (engagement). Relatively little has been written about the impact of a strategic approach to quality on the employee measures of morale, engagement, and satisfaction. This reflects a broader based weakness in the quality literature in that there is an emphasis on technical aspects of Quality Management with rather less attention being given to human resources (Wilkinson, 1994).

3.1 - Employee Happiness

Happiness in the workplace is related to a person's own experiences of work. "People are happy to the extent that they believe themselves to be happy (Rego and Cunha, 2008 p. 740)." Workplaces play a key role in people's happiness (Gavin and Mason, 2004), while general happiness in life is related to a person's happiness at work (Rego and Cunha, 2008).

According to Diener (2000) general happiness is a three-dimensional construct that includes life satisfaction, the presence of positive emotional experiences, and absence of negative emotional experiences. Happiness is not a term that has been extensively used in academic research on employee experiences in organisations (Fisher, 2010). However, a number of constructs in

organisational behaviour have some overlap with the broader concept of happiness at work (Fisher, 2010). Employee Satisfaction is the most frequently used measure of happiness at work in organisational research (Cranny et al. 1992). As the previous chapter demonstrated, ‘employee satisfaction’ was the most frequent term used in strategic quality research compared with the other measures of employee happiness (see Fig 2.7). Employee satisfaction, employee engagement, and employee morale are three frequently used constructs related to happiness at work (Fisher, 2010).

This study employs employee satisfaction, employee engagement and employee morale measures to represent the overall employee happiness. These measures have been used as, first, the rigour of the construct outlined in academic literature which looks at impact from three different perspectives. Second, this research fills a gap linking a strategic approach to quality management with three measures that have not been used in the prior studies. Third, the researcher intends to go beyond the research carried out in the pilot study, in order to address the limitations of linking a strategic approach to quality with employee engagement in isolation as opposed to alongside employee satisfaction and employee morale measures.

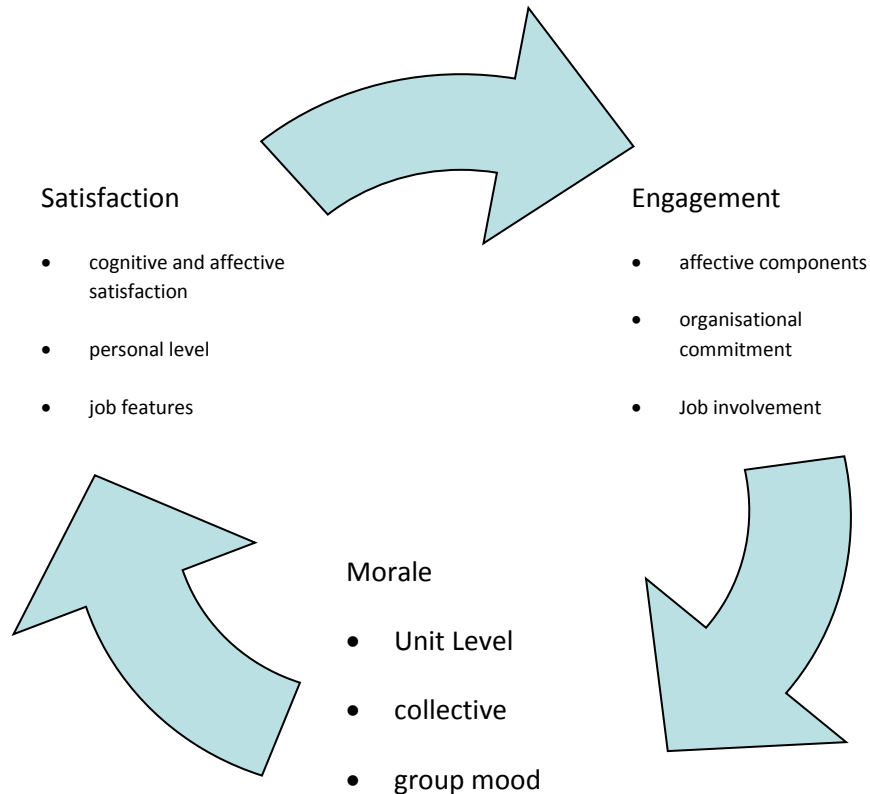
3.1.1 – Identifying measures of happiness

The majority of organisational behaviour research on happiness at work uses constructs related to job satisfaction (Fisher, 2010). These constructs are generally defined and measured using a specific predictor at the personal level only (Brief and Weiss, 2002). Taking a broader approach to defining the construct measure provides researchers with a better ability to understand complex elements (Ones and Viswesvaran, 1996). Broader traits will also have more explanatory power than narrower traits (Peterson, 1965). Schmidt (1971) similarly concludes that broad

predictors will predict broad criteria better than specific predictors. This research uses a broader definition of employee happiness including satisfaction, engagement, and morale.

Fisher (2010) suggests focusing happiness at work measures on the work itself, the job, and the organisation as a whole. The three broad measures that are useful in this framework are engagement, job satisfaction, and organisational commitment or feelings of attachment and belonging (Fisher, 2010). The approach used in this research is designed to go beyond a one dimensional view of happiness at work, using a broader construct that includes the personal cognitive level (employee satisfaction), the group level (employee morale), and the affect level including concepts of involvement and enjoyment of the work itself (employee engagement). Figure 3.1 shows the links between the elements of the construct of employee happiness (Fisher, 2010). Satisfaction at the personal level, focussing on job features (Eagly and Chaiken, 1993) is combined with engagement at the affective level with a focus on job involvement (Mowday et al. 1979; Meyer and Allen, 1991; Macey and Schneider, 2008) and morale at the group or collective level (Baehr and Renck, 1958; Cook et al. 1981; Schneider and Bowen, 1985; Johnson, 1996; Johnsrud, 1996; Ryan et al. 1996; Johnsrud et al., 2000; Griffith, 2001). The next three sections define the individual elements of the employee happiness construct.

Figure 3.1 - Employee Measure of Happiness (adapted from Fisher, 2010)



3.2 - Definitions of Satisfaction, Engagement, and Morale

This section provides an overview of the literature defining job satisfaction, employee engagement, and employee morale. These three measures are collectively used in this research as an overall measure of employee happiness.

3.2.1 - Job Satisfaction

Extensive research has been conducted on the subject of job satisfaction (Hoppock, 1935; Weiss et al., 1967; Smith et al., 1969; Hackman and Oldham, 1975; Locke, 1976; Ironson et al., 1989; Sackett and Larson, 1990; Eagly and Chaiken, 1993; Spector, 1997; Ellickson and Logsdon, 2001). Job satisfaction is an attitude that contains both cognitive and affective components

(Eagly and Chaiken, 1993). Job satisfaction refers to "the extent to which people like (satisfaction) or dislike (dissatisfaction) their jobs" (Spector, 1997, p. 2). Job satisfaction is associated with increased productivity and organisational commitment, lower absenteeism and turnover, and with increased organisational effectiveness (Ellickson and Logsdon, 2001). Hoppock (1935) defined job satisfaction as "any combination of psychological, physiological, and environmental circumstances that causes a person truthfully to say, 'I am satisfied with my job'" (Hoppock, 1935, p. 47). Employees may be satisfied with some aspects of their jobs, while being dissatisfied with others. It is assumed that employees are able to balance the specific satisfactions against the specific dissatisfactions and arrive at a composite satisfaction with the job as a whole (Hoppock, 1935).

Locke (1976) describes satisfaction as an affect: "a pleasurable or positive emotional state resulting from an appraisal of one's job or job experiences" (Locke, 1976, p. 1300). Satisfaction can be looked at on a global basis or by facets of satisfaction (Ironson et al., 1989). Smith et al. (1969) describe job satisfaction as the opinions a worker has about their job. They developed a 'Job Descriptive Index' (JDI) questionnaire that measures five facets including work, pay, opportunities for promotion, supervision, and co-worker. Another commonly used facet model developed by Hackman and Oldham (1975) includes the categories of skill variety, task identity, task significance, autonomy, and feedback. Another frequently cited model is the Minnesota Satisfaction Questionnaire (Weiss et al., 1967) that focuses on descriptions and evaluations of job features. This research will use an adapted version of these employee satisfaction approaches focusing on a personal cognitive level. These facet models are summarized in Table 3.1.

If the construct being measured is sufficiently narrow or is unambiguous to the respondent, a single-item measure is adequate (Sackett and Larson, 1990). Some researchers suggest a single-item measure of overall job satisfaction is preferable to a scale based on a sum of specific job facet satisfactions (Scarpello and Campbell, 1983). Ironson et al. (1989) developed a single item 'Job in General' scale to measure job satisfaction as a global measure that this research will use in the survey. They conclude that useful measures of job satisfaction can be constructed that vary on the continuum from specific to general (Ironson et al., 1989). Since this research diagnoses specific areas of high or low levels of satisfaction this study will use a combination of global and facet scales to measure the impact on employees (Ironson et al., 1989). Table 3.2 summarizes these global models of satisfaction.

Satisfaction is not a sufficient measure of employee happiness on its own. Brief and Weiss (2002) argue that the most frequently used measures of job satisfaction ignore affect and have a predominant focus on the cognitive components. Table 3.1 shows four job satisfaction facet models. These models focus on cognitive components at a personal level of overall job satisfaction. The common elements of these four models are related to job features and facets like pay, skill variety, level of supervision and variety in work (Weiss et al., 1967; Smith et al., 1969; Hackman and Oldham, 1975; Locke, 1976). Table 3.2 shows two commonly used global models of job satisfaction. Ironson et al. (1989) literally use one question. Hoppock (1935) uses a global approach with a focus on five overarching questions. This research will use an adapted version of these employee satisfaction approaches focusing on a personal cognitive level. The next section outlines the elements of engagement and describes how these elements enhance the overall measures of employee happiness used in this research by including affect components.

Table 3.1 - Job Satisfaction Facet Models

Job Descriptive Index (Smith et al., 1969)	Range of Affect Theory (Locke, 1976)	Minnesota Satisfaction Questionnaire (Weiss et al. 1967)	Job Diagnostic Survey (Hackman and Oldham, 1975)
Work: feelings about current work	Satisfaction is determined by a discrepancy between what one wants in a job and what one has in a job.	<ul style="list-style-type: none"> • Ability Utilization • Co-workers • Moral Values • Achievement 	Skill variety: The degree to which a job requires a variety of challenging skills and abilities
Pay: feelings about current pay	When a person values a particular facet of a job, satisfaction is impacted either positively or negatively.	<ul style="list-style-type: none"> • Creativity • Recognition • Activity • Independence 	Task identity: The degree to which a job requires completion of a whole and identifiable piece of work
Opportunities for promotion: Feelings about promotion opportunity		<ul style="list-style-type: none"> • Responsibility • Advancement • Security • Supervision— Human Relations 	Task significance: The degree to which the job has a perceivable impact on the lives of others, either within the organisation or the world at large
Supervision : feelings about the supervision you receive		<ul style="list-style-type: none"> • Authority • Social Service • Supervision-- Technical • Company Policies 	Autonomy: The degree to which the job gives the worker freedom and independence in scheduling work and determining how the work will be carried out.
Co-worker: feelings about the majority of people you work with		<ul style="list-style-type: none"> • Social Status • Variety • Compensation • Working Conditions 	Feedback: The degree to which the worker gets information about the effectiveness of his or her efforts, either directly from the work itself or from others.

Table 3.2 - Job Satisfaction Global Model

Commonly used Job Satisfaction global Models	Job in General (Ironson et al., 1989)	Job satisfaction blank number 5 (Hoppock, 1935)
	<ul style="list-style-type: none"> • Think of your job in general. All in all what is it like most of the time? 	<ul style="list-style-type: none"> • How do you like your job? • How much of the time do you feel satisfied? • How do you feel about changing jobs? • If you could choose any job, which would you choose? • How satisfied are you compared with other people?

3.2.2 - Engagement

Engagement is an important employee measure of happiness as it measures people’s feelings about their job (Fisher, 2010). This section outlines how engagement is defined and will contribute towards the structure and shape of the survey.

Many definitions exist in the literature on employee engagement. The common elements suggest that employee engagement is a desirable condition that has both attitudinal and behavioural components including organisational purpose, involvement, commitment, passion, enthusiasm, focused effort, and energy (Macey and Schneider, 2008). There are multiple levels of influences that shape people's personal engagements and disengagements at work (Kahn, 1990). Kahn (1990) suggests that engagement is the amount of authentic physical, cognitive, and emotional self that individuals devote to their work. It includes the feelings of attentiveness, connection, integration and focus that accompany moments of high engagement. Engagement has components of organisational commitment, job involvement, and the affective components of job satisfaction (Fisher, 2010).

Mowday et al. 1979 defines engagement as predominantly assessing the affective form of commitment and understanding the extent to which employees identify with and accept the organisation's goals, how they are willing to exert effort towards these goals and how strongly they desire to stay a part of the organisation. Meyer and Allen (1991) divide their construct into three components including affective commitment, continuance, and normative commitment. Another element of engagement is thriving at work, which combines feelings of vitality and energy with beliefs that one is learning, developing and making progress (Spreitzer et al., 2005). Table 3.3 shows three employee engagement models. These models focus on the affective components of employee engagement. The common elements of these three models are related to the feelings and emotional attachments that employees have about their work and job (Mowday et al. 1979; Meyer and Allen, 1991; Macey and Schneider, 2008).

Table 3.3 - Employee Engagement Models

Commitment (Meyer and Allen, 1991)	Measurement of organisational commitment (Mowday et al. 1979)	Framework of Engagement (Macey and Schneider, 2008)
Affective commitment-representing emotional attachment to the organisation	<p>I am willing to put in a great deal of effort beyond that normally expected in order to help this organisation be successful.</p> <p>I talk up this organisation to my friends as a great organisation to work for.</p> <p>I feel very little loyalty to this organisation.</p> <p>I would accept almost any type of job assignment in order to keep working for this organisation.</p> <p>I find that my values and the organisation's values are very</p>	Trait Engagement: Positive views of life and work

	similar.	
Continuance - feeling you need to stay because the loss you'd experience by leaving is greater than the benefit you gain from leaving	<p>I am proud to tell others that I am part of this organisation.</p> <p>I could just as well be working for a different organisation as long as the type of work was similar.</p> <p>This organisation really inspires the very best in me in the way of job performance.</p> <p>It would take very little change in my present circumstances to cause me to leave this organisation.</p> <p>I am extremely glad that I chose this organisation to work for over others I was considering at the time I joined.</p>	State Engagement: Feelings of energy, absorption
Normative commitment - involves feeling that one has an obligation to the organisation and its people	<p>There's not too much to be gained by sticking with this organisation indefinitely.</p> <p>Often, I find it difficult to agree with this organisation's policies on important matters relating to its employees.</p> <p>I really care about the fate of this organisation.</p> <p>For me this is the best of all possible organisations for which to work.</p> <p>Deciding to work for this organisation was a definite mistake on my part.</p>	Behavioural Engagement: Extra-role behaviour

The level of employee engagement has a direct relationship with how involved the employee is in their job (Mowday et al. 1979). Job involvement is a state of engagement with a job,

identifying with the work, and viewing the job as central to one's identity and self-esteem, this approximates to the opposite of the concept of alienation or meaninglessness (Brown 1996).

Lodahl and Kejner (1965) use a 20 question, five-factor model to measure job involvement.

For measures of happiness at work it is necessary to understand employees at a cognitive and affective personal level as well as at a unit/group level (Fisher, 2010). Engagement in this section, along with job satisfaction defined in section 3.2.1, both cover affective and cognitive attitudes towards personal work. The next section defines employee morale and parallels satisfaction and engagement, but with more of a focus on group level satisfaction and engagement.

3.2.3 - Morale

Person-level measures like job satisfaction and engagement are two of the most commonly used measures of happiness at work (Fisher, 2010). As discussed in section 3.1.1, this study aims to go beyond the usual measures to include the measure of morale in order to ensure a global group view of happiness is included in the research.

Morale is a quality of mind and spirit that combines courage, self-discipline, and endurance (Baynes, 1967). Low psychological morale implies that the individual sees themselves as one who is powerless or socially unimportant (Doherty, 1988). Many varied definitions of morale exist and they can be grouped using at least three distinct approaches namely the classical needs psychology, the hierarchy of needs, and emphasis upon the significance of interactions among members of a working group (Baehr and Renck, 1958). The definitions of morale are often related to unit/group level satisfaction or collective satisfaction (Fisher 2010).

Baehr and Renck (1958) break morale down into five factors that represent certain basic attitudes in the general industrial population that affect the morale of employees. These factors have similarities to factors affecting job satisfaction detailed in Table 3.1. Johnsrud (1996) includes satisfaction, enthusiasm, commitment, loyalty, willingness to work, and dedication to a common goal as an umbrella model for morale. Many of these factors are already mentioned in some of the models for engagement described in Table 3.3. Johnsrud et al. (2000) later introduced a three dimension model that includes institutional regard, mutual loyalty and quality of work. Other studies consider the following elements of employee morale: physical working conditions, work schedule, job security, advancement opportunities, strategic goal clarity, accessibility to organisational information, teamwork and cooperation, employee involvement, recognition and rewards, supervision, job skill improvement, autonomy, interest, perceptions of customer satisfaction, perceptions of service delivery quality, and overall job satisfaction (Cook et al. 1981; Schneider and Bowen, 1985; Johnson, 1996; Ryan et al. 1996; Griffith, 2001). Table 3.4 shows four employee morale models. These models focus on morale from a group or unit level perspective. The common elements of these models are related to employee feelings about the overall work environment and the institutional regard (Baehr and Renck, 1958; Cook et al. 1981; Schneider and Bowen, 1985; Johnson, 1996; Johnsrud, 1996; Ryan et al. 1996; Johnsrud et al., 2000; Griffith, 2001).

As seen in Table 3.4 there is an overlap in some of the concepts between morale, satisfaction, and engagement. For example, morale overlaps with engagement in terms of loyalty and wanting to stay. Morale overlaps with satisfaction in terms of attitudes towards colleagues and bosses. The differences then come in when the global results for the entire group are considered. Morale is considered as collective satisfaction or the unit-level construct of happiness at work (Fisher,

2010). Unit-level morale is defined as the average number of reports of the extent to which each person in the unit is individually engaged with his or her job (Harter et al. 2002).

Therefore the overall “employee happiness” construct includes questions about all three elements (satisfaction, engagement, and morale). The study will incorporate all three aspects, measuring employee happiness at a personal cognitive level (satisfaction), the group level (morale) and the personal affect level (engagement).

Table 3.4 - Multidimensional Models of Employee Morale

5 Factors of Employee morale (Baehr and Renck, 1958)	Morale Elements (Cook et al. 1981; Schneider and Bowen, 1985; Johnson, 1996; Ryan et al. 1996; Griffith, 2001)	Umbrella Morale (Johnsrud, 1996)	Three dimensions of Morale (Johnsrud et al., 2000)
Organisation and Management: the employee's relationship with management and the organisation which management	Physical working conditions, work schedule, job security,	Satisfaction with the work environment	Institutional regard: employees' sense that they are valued and being treated fairly
Immediate Supervision: attitude toward immediate supervision	Advancement opportunities, strategic goal clarity, accessibility to organisational information,	Enthusiasm	Mutual loyalty: employees' loyalty to the organisation as well as their belief that they and their opinions matter to the organisation
Material Rewards: material rewards the employee gets from his work both in terms of pay and in terms of employee benefits	Teamwork and cooperation, employee involvement,	Commitment	Quality of work: satisfying, stimulating, and purposeful work on employees
Fellow Employees: friendliness of fellow employees and their ability to work together without friction	Recognition and rewards, supervision,	Loyalty to the institution	
Job Satisfaction: intrinsic satisfactions associated with actually doing the job and with the belief that the job is worthwhile and affords opportunities for personal growth and development	Job skill improvement, autonomy, interest,	Willingness to work	
	Perceptions of customer satisfaction, perceptions of service delivery quality, and overall job satisfaction	Dedication to common goals.	

3.3 - Strategic Approach to Quality Management and Employee Measures

Relatively few studies exist that show the link between a strategic approach to quality and employee measures. This section summarises some of the relevant literature that compares quality with employee measures.

Dow et al. (1999) made the link between leadership, human resource management, customer focus, and operating performance as defined by several factors including morale and productivity. Using a large, random sample of manufacturing sites, Dow et al. (1999) show that “Employee commitment,” “shared vision”, and “customer focus” combine to yield a positive correlation with quality outcomes.

Wilkinson et al. (1994) found that a commitment to quality management resulted in an improvement in employee. However, there were still a large proportion felt that quality management had no effect on morale and 9 per cent felt that there was either a minor or major deterioration in morale as a result of the quality implementation.

Psychogios et al. (2009) found that the implementation of TQM had a positive impact on autonomy for middle managers. They said implementation of TQM improved middle manager autonomy, which they define as the freedom of an individual to perform tasks and control their work. Similarly, Ahire et al. (1996) found a positive relationship between practices related to people management including empowerment, commitment and training and other quality strategies including product design, process management or the utilization of internal and external information for quality. They concluded that people management is an important factor for the successful implementation of TQM.

Wilson and Collier (2000), used the Malcolm Baldrige framework as a reference point, proving a relationship exists between leadership, human resource management, strategic planning and information and analysis. Another study indicated that TQM strategies, if properly designed and implemented, can significantly improve company performance based on employee relations, operating procedures, customer satisfaction and financial performance (Ritter, 1991). The basic approach was to examine the performance of selected U.S. companies that had won the prestigious Malcolm Baldrige National Quality Award to see if results had improved since implementing TQM practices. Pannirselvam and Ferguson (2001) performed an empirical analysis on a sample of companies and observed a significant relationship between leadership and human resource management.

Some studies show a specific link between a strategic approach to quality management and employee measures. Kayis et al. (2003) conducted a study of the Korean and Australian banking industry and concluded that there is a strong positive relationship between TQM practices and employee satisfaction. These results challenge the results of the Lam (1995) study where he found a negative impact of TQM programmes on employee satisfaction (Kayis et al., 2003). Another study conducted in Malaysia by Karia et al. (2006) showed that TQM practices have a positive effect on employees' work-related attitudes that include job satisfaction.

Samson and Terziovski (1999) found that three elements of a strategic approach to quality including leadership, people management, and customer focus have a significant positive effect on performance, including employee morale and productivity. Others argue that the cost of quality is not worth the gain (Kearney, 1992; Keiningham et al., 1994; Ittner and Larcker, 1996). Strategic quality management can improve performance only if it is "driven by a well-conceived

market strategy formulated by top management and a trained, empowered workforce” (Handfield et al., 1998 p. 13).

One method associated with quality management is lean manufacturing or lean thinking (Womack and Jones, 1996). Research by Stewart et al., (2010) focusing on the British auto industry stated that under a lean process improvement strategy, the workplace was characterized by a pace of work so intense that most workers say they could not maintain it until retirement. They also documented systematic increases in workplace stress and dissatisfaction with these managerial initiatives (Stewart et al., 2010). Similarly, Wilkinson et al. (1994) noted that quality management appears to make managerial jobs more demanding, by requiring more in the way of people-management and technical skills, and by making greater demands on the manager’s time.

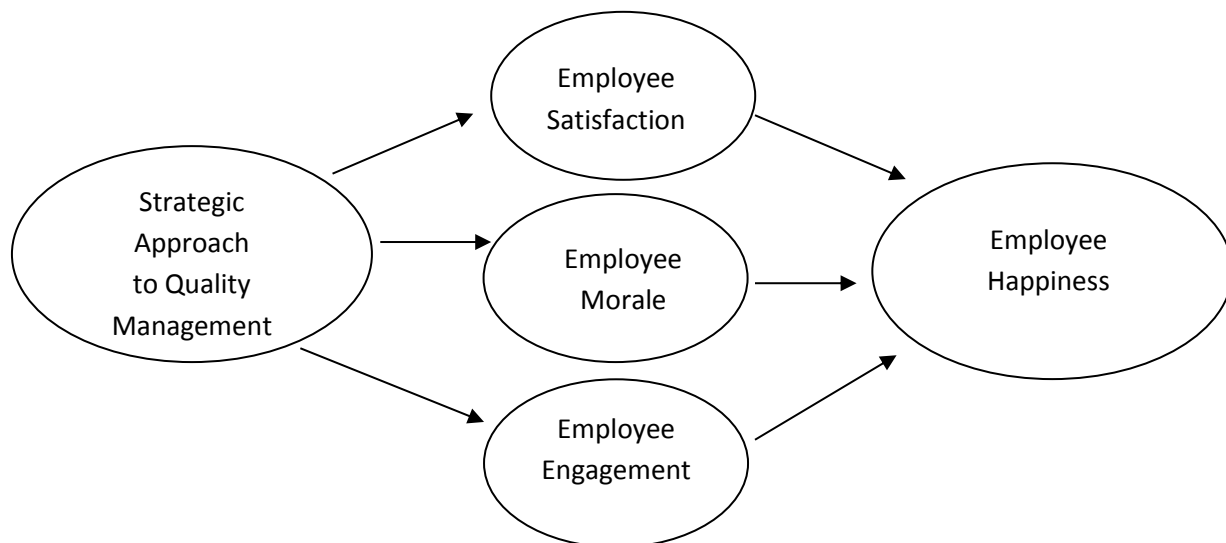
Another study investigating the impact of total quality management on front line supervisors and their work (Lam, 1996) concluded that TQM does not necessarily result in an improvement of employees’ working conditions, leading to job satisfaction. Lam (1996) showed that TQM practices were seen by some workers as increasing pressure on employees by getting them to take on more work and responsibility.

Building on the literature review, the next section presents a theoretical framework (see Figure 3.2) that depicts the link between a strategic approach to quality and employee happiness explored in this study.

3.4 - Theoretical framework

The theoretical framework that is tested within this thesis is presented in Figure 3.2. The literature review led to the shaping of the theoretical framework by defining exactly what is meant by a strategic approach to quality and employee happiness. The literature review also highlighted gaps in the research that can be addressed by this study.

Figure 3.2 - Theoretical Framework



The framework starts with a strategic approach to quality management and then by measuring employee satisfaction, employee morale and employee engagement links to overall employee happiness. The approach that an organisation takes to quality will have an impact on employee satisfaction (cognitive), employee engagement (affective), and employee morale (group level). The effect of these three elements will collectively shape the employees overall happiness.

Note that an adapted version of this theoretical framework appears in Figure 7.1 in light of the results presented in Chapter 6.

3.5 Research Question Detail

The main research question of this thesis is:

- What is the relationship between a strategic approach to quality and employee happiness?

In order to answer this question, the following 5 sub-questions and related hypotheses were explored:

- 1) What constitutes ‘a strategic approach to quality’? (Chapter 2)
- 2) What constitutes ‘employee happiness’? (Chapter 3)
- 3) Is there a relationship between a strategic approach to quality management (column A) and employee happiness (column B)? (Chapter 6, Section 6.1)

Column A: Drivers of a Strategic Approach to Quality (refer to strategic quality approach construct in section 4.6.6)	Column B: Employee Happiness (refer to employee happiness construct in section 4.6.7)
<ol style="list-style-type: none"> 1. Leadership 2. Planning 3. Customer Focus 4. People Focus 5. Process Management 6. Supplier Partner Focus 7. Organisational Performance 8. Measurement, Analysis, and knowledge Management 9. Innovation, Quality and Improvement 10. Leadership through involvement 11. Factual approach to decision making 12. Primary focus on the customers 13. Continuous learning and people involvement 14. Prevention based process management 15. Cooperation and teamwork (including partnerships) 16. Fulfilling obligations to all stakeholders and society 17. Focus on Results and Creating value 	<ol style="list-style-type: none"> 1. Employee satisfaction 2. Employee engagement 3. Employee morale

18. Continuous improvement and breakthrough thinking	
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- 4) What is the specific impact of a strategic approach to quality on employee engagement, satisfaction and morale? (Chapter 6, Section 6.2)
 - What is the direction of the causation between these factors?
- 5) Are employee happiness and quality results higher at organisations with a strategic approach to quality? (Chapter 6, Sections 6.3 and 6.4)

Null Hypothesis 1: All quality attitude results are the same within the award winning organisations (Chapter 6, Section 6.3)

- Sub Null Hypothesis 1A: All quality attitude results are the same for award winning organisations by sector
- Sub Null Hypothesis 1B: All quality attitude results are the same for award winning organisations by tenure
- Sub Null Hypothesis 1C: All quality attitude results are the same for award winning organisations by position
- Sub Null Hypothesis 1D: All quality attitude results are the same for award winning organisations by company
- Sub Null Hypothesis 1E: All quality attitude results are the same for award winning organisations by employment status

Null Hypothesis 2: All employee happiness results are the same within the award winning organisations (Chapter 6, Section 6.4)

- Sub Null Hypothesis 2A: All employee happiness results for award winning organisations are the same by sector
- Sub Null Hypothesis 2B: All employee happiness results for award winning organisations are the same by tenure
- Sub Null Hypothesis 2C: All employee happiness results for award winning organisations are the same by position
- Sub Null Hypothesis 2D: All employee happiness results for award winning organisations are the same by company
- Sub Null Hypothesis 2E: All employee happiness results for award winning organisations are the same by employment status

This chapter defined and justified the use of satisfaction, morale, and engagement as the employee measures of happiness used in this research. The literature showed that employee happiness can be measured at a personal cognitive level (satisfaction), at the personal affect level (engagement) and at the group level (morale). A theoretical framework was introduced that depicts the link between a strategic approach to quality and employee happiness explored in this study. The framework will be tested using surveys and focus groups. The survey and focus group results will determine the impact of a strategic approach to quality management on measures of employee happiness. The findings will answer the research questions outlined in sections 1.4 and 3.5.

Chapter Four - Methodology

The previous chapters outlined the literature on a strategic approach to quality and employee happiness. This chapter utilizes the literature review and outlines an extended theoretical review, which helps justify the methods chosen in this thesis. Based on this methodological review, the researcher outlines and justifies the positivist paradigm that informs the research.

The second half of the chapter shows the specific details of the research design including how the audience is chosen and accessed. The choice of a mixed approach of surveys (quantitative) and focus groups (qualitative) to support the validity and reliability of the data collected. The target audience of Canada Awards for Excellence winners and non-winners is outlined with details of the population and sample targets. The chapter ends with a preliminary review of the survey and focus group structure.

A justification is given for the choice of samples and the population studied. Details of the 3 sections of the survey are outlined with all considerations of question and response rate design. Justification for all three sections of the survey are provided with details of the 37 questions that measure employee attitudes towards a strategic approach to quality, the 24 questions to measure employee happiness, and the 4 questions that define the personal attributes of the survey taker for analysis purposes.

4.1 - Methodological position

This section outlines the methodological position taken in this research. The ontological and epistemological assumptions that underpin the methodology and methods are explored. The methodology combines the ontological and epistemological assumptions into the practicalities of carrying out the research. In this research, methodology has a very different meaning than methods. Methodology refers to the whole research process and how methods are incorporated into that process (Creswell, 2009). Methods refer to the tools used to carry out the research e.g. surveys, focus groups, or statistical analysis (Creswell, 2009). Methodology includes the role each method has to play in achieving the objectives of the research, how they are carried out in order to reduce any potential sources of errors and how the results and data gained from the methods are analysed.

This research takes a positivist methodological position anchored with choices made regarding ontological and epistemological assumptions, the nature of explanation, the types of theory and methods of construction and language, the role of the researcher and objectivity, the concept of truth, and generalising results across time and space (Blaikie 1993). These underpinnings shape the choices to use a mixed methods approach that is explored later in the chapter.

4.2.1 - Ontological and Epistemological Assumptions

This research takes the ontological assumption that the universe is ordered and that events are discrete and observable. The researcher sees social reality as a complex set of cause and effect relationships. This research also takes the epistemological assumption where truth can be found by observing events and irregularity in a closed system.

A strategic approach to quality management is in the researcher's view a measurable process. The hypotheses discover if the adoption of a strategic approach to quality, impacts negatively or positively on employees. This research shows that this relationship can be found with large samples of data from a cross section of organisations. The events are observed using a 65 question survey targeted to a sample of employees at a variety of Canadian organisations in the private and public sector. This survey is built using three different measurable constructs based on the literature review. These constructs link to the theoretical framework in section 3.4. The first 37 questions of the survey measure employee attitudes towards a strategic approach to quality. These questions link with a multidimensional construct of a strategic approach to quality management. This construct includes all of the drivers and principles from the Canadian, American, Australian and European models for a strategic approach to quality as well as input from quality theorist writing and the wider academic literature on quality (refer to section 2.1.1.1). The next 24 questions in the survey measure employee happiness, which include a multidimensional construct of job satisfaction, engagement, and morale. This construct is based on the literature review detailed in section 3.2. The researcher firmly believes that truth has been found using this approach and that this will uncover both adequate and legitimate knowledge about the thesis questions.

4.2.2 - The Nature of Explanation

The question of explanation is around source and whether or not it lies in social structures or in individual motives (Blaikie 1993). It also sees whether we can explain using causal explanations or by using reason explanations. The former follows the logic of explanation used in the natural sciences, where the later rejects these and replaces them with the reasons or motives social actors can give for their actions (Blaikie, 1993). This research is under the assumption that in quality

management, causal explanations are possible by studying patterns of the social structures and generalising these patterns.

4.2.3 - Types of theory and methods of construction and language

This research takes a deductive approach to theory generation where findings are produced that support or refute the hypothesis through data collection and analysis (Bryman and Cramer, 1990). The theory is that a strategic approach to quality management has a relationship with employee measures of satisfaction, morale, and engagement. A hypothesis is drafted for each of the employee measures of happiness. Then observations are made using the 65 question online survey, correlation, and other statistical calculations are made. This deductive approach produces findings and shows the relationship between a strategic approach to quality management and employee happiness. These findings are tested empirically and the results are generalised to other organisations. This research uses theory neutral observation language to describe the results and findings of the survey.

4.2.4 - Role of the researcher and objectivity

Using a detailed survey as the primary data collection method is the objective method. The role of detached observer is concerned with objectivity and is associated with positivism and the logics of deduction (Blaikie 1993). The only person at the organisation that the researcher has any personal contact with is the site contact. The other survey participants are completely independent of the researcher.

Regarding objectivity the following questions need to be answered, namely: What does it mean to be “objective,” and what do methods and results have to be like to be objective (Blaikie 1993)? Being objective means keeping the data and values separate because values and

prejudices of the researcher can contaminate the data (Blaikie 1993). This research uses methods that are replicable. For example, the same correlations and statistical tests can be used by other researchers to test the validity of the results, and if carried out in the same way, will lead to the same results.

4.2.5 - Concept of Truth

A claim is made true by the world being the way the claim says it is. A claim is epistemologically objective when its truth holds independently of any individual's thoughts or feelings about it (Meckler and Baillie, 2003). A property is ontologically subjective if it is essentially dependent on mentality. Organisational Science makes epistemologically objective claims about properties that are ontologically subjective in the sense of being observer-dependent (Meckler and Baillie, 2003). Although they exist independently of any individual person they depend on our collective attitudes and activities. In this sense, claims of organisational science are social constructions. They can be true nonetheless (Meckler and Baillie, 2003). This research takes the position of an unprejudiced observer objectively seeing the world or at least attempting to see the world as it really is. The researcher reports these observations in theory neutral language. The research takes the position that truth is possible to observe using surveys and focus groups.

4.2.6 - Generalising Results

This research takes the approach that the findings can be generalised and used beyond the organisations targeted for the research. As the methods are valid and reliable (detailed in section 4.3.4 and 4.3.5) and representative of the samples (detailed in section 4.6.2) the results will be usable to apply to the greater populations and beyond.

4.2.7 - Paradigm Choice and methods

The researcher believes the world is ordered, external and objective. The research focuses on facts to look for causality and laws. The approach to building the constructs for a strategic approach to quality management and employee happiness is consistent with reducing phenomena to simple elements. The survey strategy is in line with the belief that the researcher is independent from that which is being researched. The researcher methods are in line with excluding subjective interpretations. The deductive approach using hypotheses is supportive of theory testing. The targets set for organisations with statistically valid samples of people completing the survey are supportive of the notion of using large samples (Williams, 1978; Babbie, 1990; Blaikie, 1993). Consistent with the paradigm choice, the researcher writes in the third person. A summary of positivist underpinnings is in Table 4.1.

Table 4.1 - Positivist Underpinnings General Summary

Underpinnings: (Easterby-Smith et al., 2012)
<ul style="list-style-type: none">- World is external and objective- World is independent of observer- Focus on facts- Look for causality and laws- Reduce phenomena to simple elements- Researcher is independent from that which is being researched- No subjective interpretation by the researcher- Theory testing- Large samples- Ordered universe- Discrete and observable events- Truth is possible. Theory is true because it agrees with the facts- Scientific constructions of validity, reliability, and objectivity

The researcher believes that truth is possible by finding objective facts in discrete and observable events. In terms of methods the research primarily uses quantitative survey methodology, which

is supported by some focus group data collection. These methods are valid, reliable, and objective.

4.2.8 - Opinion of critiques – Openness to explore other methods

Positivism's ontology has been criticized as an inadequate view of the nature of social reality. Some say that positivism takes for granted the socially constructed world (Blaikie, 1993). Since positivism treats the world of nature as a closed system other factors are often ignored. In open systems, a large number of generative mechanisms will be exercising their powers to cause effects that positivists do not account for. They are therefore criticized of not reflecting the complexity of the mechanisms that are operating (Blaikie, 1993).

This research rests on the assumption that positivism is a more than adequate way to know or understand the world. However, based on the numerous critiques (Van Maanen, 1995) of this paradigm the researcher is sensitive to the weaknesses of the methodology. Based on this line of thinking, this research approach is predominantly positivist. Some qualitative data collection methods including focus groups were carried out to gain a deeper insight into some of the areas of the research. This does not change the research paradigm, it just strengthens the research by considering a more open and deep discussion with a key contact at the organisation. The researcher understands and recognizes the different points of view and is using these views to bring forth new and useful knowledge on the subject of a strategic approach to quality management. The researcher believes that this openness to other points of view and approaches strengthen the validity of the research.

This section presented and analysed the existing methodological approaches to quality management research then justified the use of a positivist paradigm for this research. This

research takes a positivist methodological position anchored with ontological and epistemological assumptions that the world is ordered and that events are discrete and observable. The researcher takes a position that causal explanations are possible and can be explained by studying patterns of the social structures and generalising these patterns. This research takes a deductive approach to theory generation where the researcher takes a role of an objective detached observer. The research takes the position that truth is possible to observe using surveys and focus groups and that the findings can be generalised and used beyond the organisations targeted for the research. A summary of the methodology is presented in Table 4.2. The next section will outline the specifics of the chosen research methods.

Table 4.2 - Summary of Methodology

	Positivist
Ontological Assumptions	<ul style="list-style-type: none"> • Universe is ordered • Events are discrete and observable.
Epistemological Assumptions	<ul style="list-style-type: none"> • Truth can be found by observing events and irregularity in a closed system.
Methodology	<ul style="list-style-type: none"> • Mixed approach using both quantitative and qualitative methods. • Sequential explanatory strategy. • Collection and analysis of quantitative data followed by the collection and analysis of qualitative data that builds on the results.
Methods	Surveys, focus groups, statistical analysis
Types of Data	Mainly measurable, observable, quantitative data supported by qualitative data

4.3 - Research Methods

This section outlines a pilot study, reviews the choice of a mixed approach of surveys (quantitative) and focus groups (qualitative) to support the validity and reliability of the data collected. The target audience of Canada Awards for Excellence winners and non-winners is outlined with details of the population and sample targets. The chapter ends with a preliminary review of the survey and focus group structure.

4.3.1 - Initial Pilot Engagement Study

Between March 2010 and February 2011, the researcher participated in a pilot study working alongside Aon Hewitt and Associates, a leader in the field of employee engagement measurement.

For 12 years Aon Hewitt and Associates has conducted a “50 best Employers in Canada” employee engagement study that includes 28 engagement drivers with over 100 questions related specifically to employee engagement (Aon Hewitt, 2010). Every year Aon Hewitt chooses a special topic to link with engagement. Having identified the gaps in the existing literature and research around engagement, it was suggested by the researcher to Aon Hewitt that a strategic approach to quality management would be a suitable topic for the 2011 special research study. They agreed to work with the researcher on the following research question: “Do organisations with a strategic approach to quality have higher levels of employee engagement?” The study was based on quantitative surveys completed by a large sample of people (134,000 completed surveys) from 251 target organisations. Aon Hewitt conducted the data collection and data analysis with no involvement of the researcher.

The role of the researcher was to create a construct of a strategic approach to quality management that could be used in the annual survey. The researcher created the quality construct of 15 questions, which was then added to the 2011 “50 best Employers in Canada” study as a special research topic. Data collection took place in June/July 2010. 251 organisations participated in the survey including a total of 134,000 completed employee surveys from a total population in those organisations of 320,000.

The results indicated that organisations with high commitment to quality have high levels of employee engagement (Crawford and Stoehr, 2011). The significant Pearson correlation (at the 0.01 level) between the engagement construct and the quality construct was 0.81 and the R² value was 0.6509.

4.3.2 - Limitations of Pilot Study

In this pilot study the researcher was limited to a maximum of 15 questions for the quality construct. As detailed in Appendix 5 the survey used for this research has a more robust model for a strategic approach to quality management that includes 37 questions. Also the research was limited in the employee construct, to questions only relating to employee engagement. Appendix 5 outlines the survey used for this research that includes 24 questions relating to engagement, satisfaction, and morale. As detailed in chapter three the research measures employee happiness from a perspective that goes beyond engagement alone, looking at engagement, satisfaction and morale.

Also in this pilot study the sample of organisations and data collection methods were decided on by Aon Hewitt. The respondents all scored relatively highly in the variable linked to quality and

excellence commitment. Beyond creating the strategic approach to quality construct, the researcher did not have any control over the data collection and analysis of the data.

Part of the rationale for this thesis is that it gives the researcher the opportunity to take full control of the data collection and analysis, rather than in the case of the pilot where the data collection and analysis were carried out by Aon Hewitt. This allowed for exploration of the pattern and tested it further in terms of connecting a strategic approach to quality management with three employee measures of happiness. The additional questions and control of methods allow for more comparisons with the elements of a strategic approach to quality management. There was also an opportunity to explore underlying theory in more depth in the form of an academic study.

4.3.3 – Quantitative and Qualitative Methods

The research uses a sequential mixed methods approach with both a quantitative survey method supported by qualitative focus groups. This method adopts a sequential explanatory strategy where collection and analysis of quantitative data is followed by the collection and analysis of qualitative data to build on the results (Greene et al., 1989; Morse, 1991; Creswell, 2009). This method supports the earlier stated positivist philosophical assumptions and stance. The breadth of the survey data allows for the examination of relationships between variables related to a strategic approach to quality management and employee engagement/satisfaction/morale. The survey results are meant to simplify a strategic approach to quality management into identified variables. These objective variables were analyzed statistically to test the impact of a strategic approach to quality management on employees. In order to understand the impact a strategic

approach to quality has on different employees, these data were also analysed to see if there are differences between attitudes to quality/happiness from the various variables including:

- Leadership, management and front line employees.
- Private sector, public sector and not-for-profit organisations
- Long term, medium term, and short term employees
- Awards winning organisations and non-winning organisations
- Full time, and part time employees
- Between the various participating organisations

To enrich the data, focus groups were conducted with key members of the leadership team from each of the target organisations. This was to help interpret results of the questionnaire data and improve the validity.

The purpose of the survey was to generalise from the sample to the entire population. Sampling techniques were used as an efficient method of collecting data that represents the opinions of larger populations (Williams, 1978). With samples, inferences can be made about employee satisfaction/engagement/moral on the entire population (Babbie, 1990).

A survey method was used because of its strength in establishing relationships between the data (Bryman and Bell, 2007) and also using data to test theory. The survey gives the advantage of breadth (Bryman and Bell, 2007) as access to many more employees than there would have been with focus groups alone. The resulting data gives more explanatory power with advanced statistical techniques (Bryman and Bell, 2007). This breadth allows for the identification of attributes of a large population from a relatively small sample (Fowler, 2002).

Rapid turnaround time in data collection was another advantage of the chosen survey method. Surveys were launched for each of the target organisations and data was collected within a four-week period for each target. Data collection is more useful when collected in a constrained time period (Fink, 2002). When data collection is spread over too long a period of time the differences in results could be due to the time of year the employee is completing the survey rather than their opinion of the subject itself (Fowler 2002).

The surveys were conducted using web-based tools because of the distribution advantages (Sue and Ritter, 2007) including lower cost, further reach and convenience (Sue and Ritter, 2007). Web surveys have several advantages, including shorter transmitting time, lower delivery cost, more design options, and less data entry time (Fan and Yan, 2010). The survey is cross sectional and the data were collected for each target organisation at one point in time.

Interviews and focus groups with site contacts and senior leadership executives were also used to discuss the results of the surveys. These face-to-face interviews and focus groups strengthened the research by considering a more open and deep discussion with a key contact at each organisation. The larger focus group was recorded and the detailed notes and recording transcript were taken by the researcher. The focus group included 30 senior executives from a cross section of organisations. The question of impact (both positive and negative) of the implementation of a strategic quality approach was the main discussion point. The Focus groups were necessary to establish broader context of the data. There is value in understanding meaning and motive by exploring issues face-to-face with the research subjects (Bryman and Bell, 2007).

The intent was to confirm the survey data with a qualitative approach. This gave the advantage of mixed methods (Bryman and Bell, 2007). If there is a low response with one method, this can

be compensated for with the use of another (Bryman and Bell, 2007). It allowed for more depth in the discussion into the reasons why the respondents gave certain answers in the questionnaire. The advantages of focus groups are that the participants can provide historical information and it allows the researcher to control the line of questioning (Creswell, 2009)

4.3.4 - Validity

Validity is concerned with the assessment that the scale measures what it is supposed to measure (Creswell, 2009). Validity is about whether the inference one makes is appropriate, meaningful, and useful given the individual or sample with which one is dealing and the context in which the test user and individual/sample are working (Zumbo, 2009). Validity is whether we are measuring the right concept or not. Does the measure allow the researcher to draw meaningful and useful inferences? There are several approaches to test how valid the measures are, including content validity, predictive validity, and construct validity (Hair et al., 1992).

Content validity is concerned with whether the items measure the content they were intended to measure (Creswell, 2009). It is the degree to which the domain of properties or characteristics of a concept one desires to measure are in fact captured by the measures (Bagozzi, 1994). A measure has content validity if there is a general agreement among the subjects and researchers that the instrument has measurement items that cover all the content domain of the variables being measured (Nunnally and Bernstein, 1994).

Predictive validity also known as external or criterion validity is concerned with the extent to which the model is related to independent measures of organisational performance (Hair et al., 1992).

Construct validity asks if the scores serve a useful purpose and have positive consequences when they are used in practice (Humbley and Zumbo, 1996). Messick (1990) identified six distinguishable aspects of construct validity evidence: content, substantive processes, score structure, generalisability, external relationships, and consequences of testing. He and others (Humbley and Zumbo, 1996; Zumbo, 2009) have argued strenuously that validity cannot rely solely on any one of these complementary forms of evidence in isolation from the others.

In this research, validity has been achieved, and the instruments used have a good degree of validity. The survey was the main data collection method and the focus group was used to help validate the findings. The focus group was used to support/strengthen the finding of the survey. Several techniques have been used to accomplish this. Validity and reliability of the survey instrument are shown in chapter five.

Firstly, the survey and focus group questions were developed using a deductive process based on the literature review stage of this research. Selection of the measurement items in the survey was based on the extensive review of the literature and the evaluation criteria of major international quality awards from Canada, the United States, Australia, and Europe. The overall quality construct based on these awards models was also cross-referenced with the work of quality theorist writings and with academic literature (Section 2.1.1.4). The survey in this research has content validity because the instrument has measurement items that cover all the content domain of the variables being measured.

Secondly, the survey was tested and revised. The research director and other academics were asked to give their feedback on the survey, and the survey was piloted with quality experts known to the researcher to make any suggestions concerning clarity of the wording, correct use

of specific words, ambiguity, consistency of the questions, and overall presentation. As a result of this pilot, some amendments to improve questions, format, and scales were made to improve the survey.

Lastly, focus groups with senior leadership were held after the survey data collection as a second data-gathering instrument, which contributed to the validity of this research. The data themes converged from several sources including the focus groups, the survey data, and the literature review.

4.3.5 - Reliability

Reliability refers to whether the measurement scale is consistent and stable. In other words, reliability is the extent to which a test or procedure produces similar results under constant conditions on all occasions (Bryman and Bell, 2007). Reliability questions if the items' responses are consistent across constructs and if the scores are stable over time, were the instrument to be administered a second time (Creswell 2009).

Reliability of the survey instrument is tested using the item-to-total correlation and Cronbach's Alpha analysis. This analysis is detailed in section 5.3 and it shows that the strategic quality and employee measures of happiness are reliable constructs. Validity and reliability of the measurements enhance the methodological rigour of the research and provide a meaningful explanation of the phenomena that are being investigated (Bryman and Bell, 2007). The results of surveys have the advantage of generalisability (Bryman and Bell, 2007; Babbie, 2011). The disadvantage of this method is that the depth of information is not as accessible as it would have been using a more qualitative approach (Bryman and Bell, 2007; Creswell, 2009).

Quantitative research methods gave the advantage of measurement. Measurement allows the researcher to delineate fine differences between people including differences in attitudes, belief, and experience (Bryman and Bell, 2007). Valid and reliable measurement gave a consistent device for making these distinctions. Measurement provided the basis for more precise estimates of the degree of relationship between concepts (Bryman and Bell, 2007). It allowed for connections between elements of a strategic approach to quality and elements of job satisfaction, engagement, and morale.

4.3.6 - Target Audience

Two audiences were targeted within the research population

1. Quality Award winners
2. Non Quality Award Winners

In previous studies related to a strategic approach to quality, the organisations have been difficult to label as excellent (Rust et al., 1995). In this research, employees of organisations who have won the prestigious Canada Award for Excellence were surveyed. The Canada Award for Excellence is an award given to organisations that demonstrate a commitment to quality principles and criteria. These principles and criteria are the basis for a strategic approach to quality (Excellence Canada, 2009).

The awards are among the most prestigious business honours in Canada, bringing to the winners national and international recognition, enhancing prestige, and imparting a definite marketing edge. The winners “Canada's best according to rigorous evaluation criteria” are ideal role models for other Canadian firms, demonstrating concrete examples of business excellence and providing inspiration for others to follow (Rogers, 1991).

Winners are chosen based on a rigorous adjudication process that includes a submission, an onsite assessment, and a final jury panel selection (Excellence Canada, 2011). Winning an award of excellence provides independent third party certification that the organisation has implemented an effective strategic approach to quality.

4.4 - Survey Structure

The survey addresses two levels. The first measures the employee perceptions of the organisations' approach to quality and the second measures the employee happiness.

The first level of the survey is based on the strategic quality approach construct. It includes 37 questions (detailed in section 4.6.6) and measure employee perceptions of a strategic approach to quality. These questions are based on the academic literature on a strategic approach to quality management, which included writing, by key professionals in the field of quality, quality awards criteria and the relevant academic literature.

The second level of the survey is based on the impact on the employee measures construct detailed in section 3.2. It includes 24 questions (detailed in section 4.6.7) that measure employee happiness. As per the model in Figure 3.2, employee happiness is examined from three perspectives including employee satisfaction, employee engagement, and employee morale. The questions are based on the literature review.

This survey has 65 questions and is organised into three sections (See Appendix 1 for the complete survey instrument).

- Section 1 measures the extent of the organisations strategic quality approach
- Section 2 measures of employee happiness

- Section 3 includes personal attributes questions

4.5 - Focus Group Structure

The qualitative focus group approach was used to compliment and support the quantitative survey data analysis. The focus group was organised to include an open discussion about the problems, issues and benefits of implementing a strategic quality approach. It was conducted on December 5, 2012 with 22 senior executives.

Table 4.3 shows an anonymised list of participants in the focus group detailing job titles of those taking part. 18 out of the 22 participants (82 per cent) were Executive level. Of the participants 11 of them (50 per cent of the total participants) were Presidents and CEOs. The four participants not included as executives in the above total were three Vice Presidents and one Director.

This approach was chosen as opposed to individual interviews because of the difficulty of gathering these high level executives for this type of research. The focus group was facilitated and led by the researcher.

The advantages of this approach are that participants are able to provide deep thinking and insight about the problems and advantages. It also allowed the researcher to control the line of questioning. The questions were unstructured and generally open-ended and were intended to elicit views and opinions from the participants (Creswell, 2009)

Table 4.3 - Leadership Focus Group Participants

Name	Position	Organisation
Respondent 1	Vice President,	Private Sector 1
Respondent 2	Executive Director	Public Sector 1
Respondent 3	Senior Vice President	Not for Profit 1
Respondent 4	Editor-in-Chief	Private Sector 2
Respondent 5	Commissioner	Public Sector 2
Respondent 6	CEO	Not for Profit 2
Respondent 7	Chief Operating Officer	Private Sector 3
Respondent 8	President	Private Sector 4
Respondent 9	Senior Vice-President, Operations	Private Sector 5
Respondent 10	Chief Executive Officer	Private Sector 6
Respondent 11	President and CEO	Private Sector 7
Respondent 12	ADM	Public Sector 3
Respondent 13	Vice-President, Human Resources	Not for Profit 3
Respondent 14	President and CEO	Private Sector 8
Respondent 15	President and CEO,	Private Sector 9
Respondent 16	CEO	Private Sector 10
Respondent 17	President and Chief Executive Officer	Not for Profit 4
Respondent 18	President	Private Sector 11
Respondent 19	Vice President, Customer Service,	Public Sector 4
Respondent 20	Director and Founder	Private Sector 12
Respondent 21	Director,	Private Sector 13
Respondent 22	Chief Administrative Officer	Public Sector 5

The focus group explores three themes detailed in section 5.5:

- 1) How do you define “happiness at work”?
- 2) What is the impact of a strategic approach to quality on an organisation?
- 3) What is the direction of the causation? (Assuming there is causation)

The limitations of this approach were that the responses were indirect and filtered views of the focus group members (Creswell, 2009), it provided information in a designated place rather than

the natural field setting (Creswell, 2009), and the researcher's presence had a bias the responses (Creswell, 2009).

The focus group was recorded and the digital file of the recording is stored by the researcher along with a transcript of the notes that run to 35 pages in length.

4.6 - Research design

This section shows the specific details of the research design including how the audience is chosen and accessed. A justification is given for the choice of samples and the population studied. Details of the 3 sections of the survey are outlined with all considerations of question and response rate design. Justification for all three sections of the survey are provided with details of the 37 questions that measure employee attitudes towards a strategic approach to quality, the 24 questions to measure employee happiness, and the 4 questions that define the personal attributes of the survey taker for analysis purposes.

4.6.1 - Survey Access and Audience

This section outlines who the audience was for the survey and how they were accessed.

4.6.1.1 - Access

The survey is web based and was sent out with an email invitation. Web surveys have several advantages, including shorter transmitting time, lower delivery cost, more design options, and less data entry time (Fan and Yan, 2010; Sheehan and Hoy, 1999; Weible and Wallace, 1998). The cost of an e-mail survey is estimated to be 5-10 per cent of a paper survey. The cost savings are derived primarily from the reduction and/or elimination of paper and mailing costs in an e-mail survey (Sheehan and Hoy, 1999; Weible and Wallace, 1998).

4.6.1.2 - Audience

The target audience is employees of Canada Award for Excellence winners and non-winners. Follow-up calls/emails were issued to increase the number of respondents and to decrease non-response bias (Goulet, 1977). Working with the Excellence Canada and the University of the West of England's sponsorship helped get the necessary responses from these organisations (Dillman, 1991).

The target list was of Award winners who have won the Canada Awards for Excellence award in the past eight years, between 2005 and 2013. The names of the participating organisations have been removed to protect their anonymity. These winners are a mix of service and manufacturing organisations.

- 1) Winner 1 – Private Sector, Manufacturing Organisation, 200 employees (accepted)
- 2) Winner 2 – Private Sector, Service Organisation, 5 Employees (accepted)
- 3) Winner 3 – Not for Profit, Service Organisation, 84 Employees (accepted)
- 4) Winner 4 – Not for Profit, Service Organisation, 400 Employees (accepted)
- 5) Winner 5 – Private Sector, Service Organisation, 250 Employees (accepted)
- 6) Winner 6 (declined)
- 7) Winner 7 (declined)
- 8) Winner 8 (declined)
- 9) Winner 9 (declined)
- 10) Winner 10 (declined)
- 11) Winner 11 (declined)
- 12) Winner 12 (declined)

The study also targeted a selection of non-award winners that matched the list of award winners in terms of size. For example, with Winner 1 (200 employees) surveyed as the award winner, Non-Winner 4 (215 employees) with a similar number of employees was approached as a contrast. Another example of a paired target was Winner 3 (84 employees) with the non-winning organisation Non-Winner 6 (98 employees). In some cases, organisations with a similar number

of employees declined to participate. In these cases like the case of Winner 5 (250 employees) it was required to find more than one smaller non-winning organisations to meet the research target. Those organisations are listed in the following Non-Winner target list (the names of the participating organisations have been removed to protect their anonymity).

- 1) Non-Winner 1 – Not for Profit, Service, 15 employees (accepted)
- 2) Non-Winner 2 – Private Sector, Service, 25 employees (accepted)
- 3) Non-Winner 3 – Public Sector, Service, 54 employees (accepted)
- 4) Non-Winner 4 – Not for Profit, Service, 215 employees (accepted)
- 5) Non-Winner 5 – Private Sector, Service, 20 employees (accepted)
- 6) Non-Winner 6 – Not for Profit, Service, 8 employees (accepted with the frame of the senior leadership team)
- 7) Non-Winner 7 – Public Sector, Service, 98 employees (accepted)
- 8) Non-Winner 8 (declined)
- 9) Non-Winner 9 (declined)
- 10) Non-Winner 10 (declined)
- 11) Non-Winner 11 (declined)
- 12) Non-Winner 12 (declined)
- 13) Non-Winner 13 (declined)
- 14) Non-Winner 14 (declined)

The aim of the researcher is to have just as many results from employees at winning organisations as there are from non-winning organisations. No other pairing criteria were used in the selection of target organisations. As detailed in Chapter 5, the aim was achieved with 53 per cent of the responses from winners and 47 per cent of responses from non-winners.

For both the winners and non-winners a site contact person was selected who was most interested in the results. This helped increase responses because channelling the survey through the most interested manager improves participation (Verma and Young, 2000).

4.6.2 - Population and Samples

The use of samples to obtain relatively precise information about a population is a very efficient technique (Williams, 1978). Samples were used to represent populations in this study.

4.6.2.1 - Population

Population is defined as the universe of people from which the sample is to be selected (Bryman and Bell, 2007). The target population in this study was the entire staff of each of the target organisations. In some cases like with Winners 3 and 5 and Non-Winners 1, 2, 4, and 5 the population target was the entire organisation. In other cases like with Winners 1, 2, and 4 and non-winners 3 and 6, the population target was narrowed based on the level of participation the organisation agreed to (refer to Table 4.4 for a summary) The range of employees targeted at each of the participating organisations is from senior management to front line employees. This range allowed for the assessment of both the approach the organisation takes to quality, and employee happiness measures. In the case where access to email was limited for some employees the population frame was narrowed to employees with access to email and computers (Winner 1, Non-winner 4).

Table 4.4 - Population/Frame Target by Organisation

- Winner 1: Employees with computers
- Winner 2: Entire quality services office
- Winner 3: Entire organisation
- Winner 4: Entire division
- Winner 5: Entire corporate office
- Non-Winner 1: Entire organisation
- Non-Winner 2: Entire organisation
- Non-Winner 3: Entire Branch
- Non-Winner 4: Employees with computers
- Non-Winner 5: Entire organisation
- Non-Winner 6: Entire leadership team

4.6.2.2 - Sample

A sample is the segment of the population that is selected for investigation. A representative sample is one that reflects the population accurately (Bryman and Bell, 2007). The population frame is the materials or devices which delimit, identify, and allow access to the elements of the target population (Wright and Tsao, 1983). The population frame in this research includes all employees at the target organisation with email addresses.

This research uses random probability samples of the entire population frame to select respondents. This is the survey method that has an increased chance of obtaining a representative sample (Couper et al., 2001). Randomization is a necessary pre-requisite for a valid interpretation of the outcome of a statistical test (Fisher, 1955)

The sample was selected using the following process for each target organisation (Bryman and Bell, 2007).

- 1) Population was defined and counted with help from the site contact
- 2) Population frame (those with emails) were counted (N)
- 3) A appropriate sample size was calculated (n) based on the population frame size
- 4) The employees in the population frame were numbered.
- 5) Random numbers were generated and selected “n” different random numbers that lie between 1 and N.
- 6) This method was used for each organisation that participated in the survey.

For the smaller organisations the entire population was used as the target frame.

Example of Sampling for Winner X Corporate Operations:

- 250 employees with email addresses is the Total Population Frame
 - o N=250
- Random Sample of 150 were targeted
 - o n=150
- The 250 employees were numbered. Random numbers were generated and 150 of the 250 were chosen based on this random number selection. Out of those 150, 129 surveys collected.

4.6.3 - Errors, Response Rates, and Analysis

Online surveys have at least two unique challenges related to coverage error and sampling error (Couper et al., 2001). Coverage error is the proportion of the target population that is not covered by the frame and the difference between those covered and those not covered (Groves, 1989). For online surveys the coverage error arises because not everyone in the population may have access to the Internet, which could result in a biased sample (Couper et al., 2001). To reduce this coverage error, if organisations have a significant number of employees without internet/email access, paper copies of the survey with cover letters were made available. These paper based surveys were then manually entered into the database of responses. For example, in the case of Winner 1, several of the surveys were delivered by mail and they were manually entered into the database by the researcher.

Sampling error is the difference between a sample and the population from which it is selected (Bryman and Bell, 2007). For web surveys sampling error can occur when people who would normally have access to the Internet do not for some reason (namely in a location without internet access for the day or if internet service is down) resulting in a biased sample (Couper et al., 2001). This sampling error was reduced by sending multiple reminders at different times (Goulet, 1977).

All attempts were made to increase the response rates in order to avoid non-response bias. This bias occurs when researchers do not obtain information from a sizable portion of the sample members and when the missing members' responses affect conclusions about the variables of interest (Bryman and Bell, 2007). Sample members may become non-respondents because they refuse to respond, lack the ability to respond, or are inaccessible to the researcher (Williams, 1978). Maximizing survey response is the best available option to reduce non-response bias (Yu and Cooper, 1983).

Response rate is formally defined as the number of completed questionnaires divided by the number of eligible sample members (Kviz, 1977). The main issue concerning response rates is that it has become one of the primary ways for judging successful survey research (Frohlich, 2002). Therefore it was critical in this research to maximize response rates. The following strategies were used to maximize response rate.

4.6.3.1 - Survey length

One major issue with a survey of this nature was the length. The length might discourage potential respondents from completing the survey. Dillman (1978) says that the shorter a survey is, the better; and that it must not be longer than 11 pages or 125 items (Dillman, 1978). Others

have found that a questionnaire length of 41–50 questions over 4-5 pages delivered the highest average response rate (Yu and Cooper, 1983). Another study found that if a survey is under four or five pages then resistance was lower and the response rate was higher (Yammarino et al., 1991). In this research the number of questions was limited to 65 and the number of pages to five so that it is still short enough to be user friendly but long enough to be valuable and valid.

4.6.3.2 - Pre-notice

Notice was sent out in advance to each of the organisation that the survey is coming. This pre-notice helped generate early interest (Allen et al., 1980). When people know the survey is coming it enhances understanding of the importance when it arrives (Yu and Cooper, 1983). This pre-notice was in the form of an email to the main contact people to share internally.

4.6.3.3 - Sponsorship by Excellence Canada and UWE

This survey was sponsored by Excellence Canada and the University of the West of England, Bristol. Excellence Canada agreed to allow use of their logo on the survey and wrote an introduction message to the survey. This endorsement built credibility for the study (Dillman, 1991) as it showed who else is interested in the results (Presser et al., 1992). It also increased the relevance of participating (Khurana and Talbot, 1998).

4.6.3.4 - Multiple emails / Steady pressure / Appeals

The survey was distributed in multiple waves of emails. This served as a reminder to participants and showed that the survey is important. Multiple studies have shown that multiple mailings consistently yield more responses (Goulet, 1977; House et al., 1977; Comer and Bryner, 1982). Steady pressure was also applied to the participants by way of reminder emails and calls to the site contact. This pressure increased the survey's perceived relevance (Dowlatshahi, 1998; Jiang

et al., 2000). These emails made direct and sincere requests for help to get response rates up. This approach of appeals for help has been shown to work better than flattering statements about how potential respondents are “making a difference” (Houston and Nevin, 1977; Childers et al., 1980).

4.6.3.5 - Results

In the initial correspondence with contact for each site, the researcher promised to share the results with the participating organisations. This encouraged participation because respondents saw a tangible payback for their time to complete the survey (Yammarino et al., 1991). The aggregate results were made available to all of the participating organisations. The researcher met with each of the site contacts to present the results formally and help them understand the trends and themes.

4.6.3.6 - Leverage design/Subject interest

For each of the target organisations the researcher identified an interested site contact. This site contact’s name and office were included on the “invitation to participate” email. In many of the award winning organisations the researcher had personal contacts with the senior executives and leveraged their endorsement for increased participation. This use of leveraged survey designs helps overcome low perceived relevance by keeping subtle, but firm pressure on often busy managers to complete surveys (Forker, 1997). Where possible the researcher channelled the survey to the most interested manager as this helped improve participation (Song and Parry, 1999).

4.6.3.7 - Formatting

The survey is formatted using carefully positioned questions that make the survey look easy to complete. Survey formatting can minimize the respondent's expected effort (Dillman, 1978). A survey's format, including carefully positioned questions that make the survey look easy to complete, potentially improve response rates (Fox et al., 1988). In the absence of an interviewer to motivate the respondent or to provide guidance on how to answer each question, the respondent seeks such information from the instrument itself (Schwarz, 1995). The respondent uses the verbal and visual elements of the interface to provide guidance (Ware, 2000). Simple formatting is used for this survey (see Appendix 1 for an example of the paper and web survey).

4.6.3.8 - Web Formatting

The web survey has multiple questions per screen rather than one question per screen, as this leads to faster completion times and less missing data (Couper et al., 2001). The web survey has radio buttons rather than open text boxes for answers, as this leads to less missing data (Couper et al., 2001).

4.6.3.9 - Pre-tested survey

The survey was pre-tested by a small sample with similar background to those whom the main questionnaire was sent. Feedback from these pre-tests was used to revise the survey. These pre-tests helped to improve readability, question order, and remove ambiguous questions (Dowlatshahi, 1998). See section 4.6.9 for timeline of researcher methods.

4.6.4 - Question Design Considerations

Question statements are as short as possible in order to increase respondents' comprehension (Foddy, 1993; Dillman, 2000; Fink, 2003; Holbrook et al., 2006). All questions are a maximum

of 20 words per sentence to ensure comprehension (Oppenheim, 1992). Each section or group of questions is preceded by a 16-64 word introduction in order to enhance comprehension and increase data quality (Blair et al., 1977; Andrews, 1984).

Grammatical complexities are minimized. Questions employ the active voice rather than the passive voice, use nouns rather than pronouns, and avoid the possessive form. Using this approach reduces the cognitive demands on the respondents and frees up mental capacity in order to think about a response (Brislin, 1986; Dillman, 2000; Dornyei, 2003).

Some of the questions (including questions 1, 2, 3, 4, 8, 13, 15, 19, 20, 21, 22, 23, 29, 33, 35, 38) may evoke a “socially desirable response.” Social desirability refers to a tendency to respond in a manner that makes the respondent look good rather than to respond in an accurate and truthful manner (Holtgraves, 2004). An attempt to reduce this tendency was made in the survey design by using some indirect questions and by using the phrase “Don’t happen to know” in the introduction to sections 1 and 2. This phrase allows respondents to think a bit longer to retrieve knowledge on the topic (Brace, 2004) and signals to participants with less firm attitudes that it is acceptable to volunteer a “don’t know” response (Bradburn et al., 2004). The survey also avoids more than one verb or more than one concept in a single question. Using more than one verb or concept (double barrelled questions) is detrimental to accuracy (Brislin, 1986; Fowler, 1992).

Where possible the survey is designed to include general questions about a topic before specific questions about the same topic. For example question 40 asks about job satisfaction in general and then questions 41-50 ask about satisfaction with the various facets of job satisfaction. This is important because specific questions have been shown to influence responses to general questions but not the other way around (Schuman and Presser, 1996; Baker, 2003).

The survey avoids negatively worded questions or statements. Negatively worded statements and questions take longer to process and have a greater number of mistakes by respondents (Weems et al., 2002).

Personal attribute questions about the respondents are at the end of the survey rather than at the beginning in order to avoid negative feelings of personal information impacting on the answer behaviour or participation (Converse and Presser, 1986; Oppenheim, 1992).

4.6.5 - Response Design Considerations

Where appropriate, the survey includes a “Don’t Know” response. This gives a more accurate picture of the question being asked (Schuman and Presser, 1996). The “Don’t Know” response is available for all of the questions in sections 1 and 2 of the survey.

The scale used for sections 1 and 2 is a 7 point scale. 7 point scales have been shown to be more reliable (Cronbach, 1951) as it allows greater differentiation of responses than the 5-point scale (Finn, 1972; Cox, 1980; Schwarz and Hippler, 1991). Also a 7 point scale is better when dealing with more abstract judgments (Foddy, 1993). The survey questions in this study deal with abstract judgments rather than absolute judgments. The inclusion of a middle option increases the validity and reliability of a response scale (Schuman and Presser, 1996). Since these 7 point scales gives multiple-indicator measures with equal distances between categories, they are treated as interval/ratio data (Bryman and Bell, 2007). Having these attribute variables allows for univariate (one variable at a time) analysis using frequency Tables, and bar charts. Bivariate (two variables at a time) analysis using contingency Tables, scatter diagrams, Pearson’s r , and comparing means to analyze relationships. Multivariate (3 or more variables) analysis is done

using contingency Tables (Bryman and Bell, 2007). A summary of statistical tests is detailed in section 5.4.

4.6.6 - A Strategic Approach to Quality Management Questions

This section outlines the specific questions that were chosen by the researcher to measure the organisation's strategic approach to quality management. The specific links between the questions chosen and the literature review are clearly outlined.

4.6.6.1 - Introduction Paragraph

The 37 quality management questions are preceded by the following introduction paragraph. Blair (1977) and Andrews (1984) are among authors who state that an introduction paragraph is a good way to enhance comprehension and increase data quality.

Example introduction paragraph: *“The following questions are about your organisations strategic commitment to quality. Answer the questions using the 7 point scale where 1 means strongly disagree and 7 means strongly agree. If you can't answer the question or don't happen to know a response select the “Don't Know” option.”*

The 37 questions have been chosen due to their relevance with international awards criteria, writings by leading academic theorists, and academic literature. The specific linkage with these three categories is outlined in Appendix 5.

4.6.7 – Measures of Employee Happiness Questions

The employee satisfaction questions are preceded by the following introduction in order to enhance comprehension and increase data quality (Blair et al., 1977; Andrews, 1984).

The following questions are about your personal satisfaction at work. Answer the questions using the 7 point scale where 1 means very dissatisfied and 7 means very satisfied. If you can't answer the question or don't happen to know a response select the "Don't Know" option.

The employee engagement and morale questions are preceded by the following introduction in order to enhance comprehension and increase data quality (Blair et al., 1977; Andrews, 1984).

The following questions are about your engagement and morale at work. Answer the questions using the 7 point scale where 1 means strongly disagree and 7 means strongly agree. If you can't answer the question or don't happen to know a response select the "Don't Know" option.

As in the case of the analysis of the questions found in Appendix 5, 7 point scales give multiple-indicator measures with equal distances between categories, they are treated as interval/ratio data. Having these attribute variables allows for univariate (one variable at a time) analysis using frequency Tables, and bar charts. Bivariate (two variables at a time) analysis using contingency Tables, scatter diagrams, Pearson's r , and comparing means to analyze relationships. Multivariate (3 or more variables) analysis is done using contingency Tables (Bryman and Bell, 2007).

4.6.8 - Personal Attributes Questions

A limited number of personal factual/attribute questions are included. These questions are used as a statistical variable in the analysis. When considering employee attitudes to satisfaction, engagement and morale, demographic variables should be considered to comprehend thoroughly the possible factors that impact employee happiness (Fosam et al., 1998). Demographic attributes comprise of factors that define individuals like tenure, position, and job status. The assumption is

that given that the workforce of any organisation is not demographically homogeneous, one expects employee satisfaction to differ across sub-groups (Fosam et al., 1998). When attempting to understand relationships and impacts of strategic quality, it is important to understand whether demographic characteristics influence perceptions towards strategic quality and employee happiness. After conducting a literature review (Lee and Wilbur, 1985, Bedeian et al, 1992; Guimaraes and Igarria, 1992; Bilgic, 1998; Lim and Teo, 1998; Samson and Terziovski, 1999; Sureshchandar et al., 2003), the survey includes four attribute questions (refer to Appendix 5).

The first attribute question is about the respondent's role at the organisation. It is critical in the analysis to distinguish between senior leadership, management, and front line employees. When it comes to implementing a strategic quality approach typically approaches related to the criteria are created by senior leadership, then cascaded to management, then deployed to front line employees (Samson and Terziovski, 1999). The role questions are closed ended question with three responses. "*Senior Leadership, Management (I report to Senior Leadership), and Front Line Employee (I primarily report to Management).*" Since there are more than two variables that cannot be ranked the variable type is nominal (Bryman and Bell, 2007).

The second attribute question determines the number of years of service at the organisation. Job tenure can make significant variations in an individual's work-related attitudes (Lee and Wilbur, 1985; Guimaraes and Igarria, 1992; Lim and Teo, 1998). When an individual has been on the job for a long time, their investments in the job and organisation may be greater than someone who has been on the job for a short period (Lim and Teo, 1998); this could influence an individual's intention to leave the organisation, job satisfaction, and organisational commitment (Lim and Teo, 1998). It is critical in the analysis to distinguish between employees who are new

and those who have been with the organisation for a number of years. Time is important to understanding an organisation's approach to quality (Sureshchandar et al., 2003). Exposure to a strategic quality approach over time is a relevant factor. The 'years of service question' has four possible response bands. "*Less than 6 months, 6 months – 2 years, 3-5 years, 6-10 years, 10+ years.*" Having these variables makes analysis easier and more insightful. Since there are more than two variables that can be rank ordered and the distances between them are not equal, the variable type is ordinal (Bryman and Bell, 2007).

The third attribute question determines employment status. It is important to distinguish between full time employees and part time employees. This question has four possible responses including Full time, Part time, Temporary Position, and Other. The "Other" category allows the user to suggest a better description. Having these variables makes analysis easier and more insightful. Since there are more than two variables that cannot be ranked, the variable type is nominal (Bryman and Bell, 2007).

The fourth attribute question determines whether the respondent works for an organisation that has won the Canada Award for Excellence. Since the results of the electronic are anonymous, there is no way of knowing if the respondent works for one of the award winning target organisations or not. This question allows for some analysis of award winners and the construct of a strategic approach to quality. The possible responses are "*Yes, No, and Don't know*". Since there are more than two variables that cannot be ranked the variable type is nominal (Bryman and Bell, 2007).

Having these attribute variables allows for univariate (one variable at a time) analysis using frequency Tables, and bar charts as well as bivariate (two variables at a time) analysis using

contingency Tables and comparing means. Multivariate (3 or more variables) analysis is done using contingency Tables (Bryman and Bell, 2007).

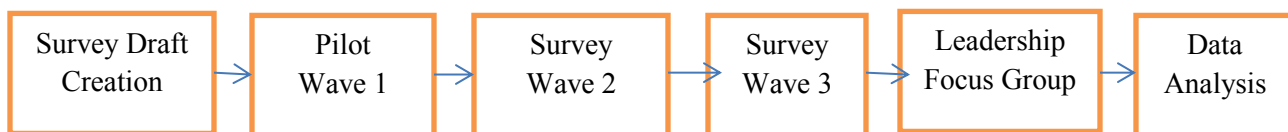
The attribute questions are preceded by the following introduction in order to enhance comprehension and increase data quality (Blair et al., 1977; Andrews, 1984).

Introduction *“The following questions are to help us analyze the data. Answer the questions using the appropriate response selection.”*

4.6.9 - Survey and Focus Group Timeline

This section outlines the sequence of events from survey draft creation to data analysis. Figure 4.1 depicts the process in a flow chart.

Figure 4.1 – Research Sequence Flow Chart



4.6.9.1 - Survey Draft creation

The first step in the data gathering process was the initial draft of the survey. The questions were developed as detailed in section 4.6.6-4.6.8 based on the literature. The initial version of the survey was created using the online survey tool Survey Gizmo. The survey was then tested in three ways. The first was to pilot the survey with a small organisation targeting the entire population frame.

4.6.9.2 - Wave 1 Pilot

There were three stages to the Wave 1 Pilot. The first stage was to get feedback on the survey tool from academic colleagues. Feedback from the researcher’s director of studies was solicited

and incorporated into the survey design. The researcher's director of studies felt that the detail about the wording of the survey questions and various steps taken to ensure high response rates was very strong.

The second stage of the first wave was to solicit feedback from experts on the subject of strategic quality about the validity of the questions. The researcher approached 3 people who are well respected quality content experts (Expert Contact 1: 30 years of experience and Chair of the design committee for the Canada Award for Excellence Criteria, Expert Contact 2 –Lead Assessor for the Canada Awards for Excellence, Expert Contact 3 – Adjudicator and Jury Panel Member of the Canada Awards for Excellence) and asked them to provide feedback on the question set. They all felt that the survey questions were designed and written in a way that would accurately capture an organisations approach to quality management. The quality expert opinion is that the survey tool measures what it is supposed to measure. For example, one of the quality content experts, who once worked with W. Edwards Deming, said: “Excellent questions to measure the strategic approach to quality. I am keenly interested in reviewing your results.”

The third and final stage of the first wave was a full pilot. The pilot organisation was Non-Winner 1 and the target population was the entire organisation with 15 full time employees. The entire population was chosen as the sample and 14 of the 15 employees completed the survey for a 93 per cent response rate. After the 2 week data collection period, feedback was solicited from the organisation. Several of the survey takers were interviewed face to face and asked the following questions:

- 1) Did you feel that the survey was too long?
- 2) Did you understand the questions?
- 3) Did you feel there was any unnecessary repetition?

4) What was your overall feeling about the survey tool?

All of the respondents spoke positively about the survey tool. Feedback on question design and survey structure was considered and incorporated back into the survey. After the first wave feedback, the survey was confirmed to be ready for a larger distribution in Wave 2.

4.6.9.3 - Wave 2

After the first wave pilot, several target organisations were approached. The researcher followed up with each of them with a personal phone call and email with a link to the survey.

Five out of the eleven target organisations agreed to participate in the research. Winner 1, Winner 2, Non-Winner 2, Non-Winner 4, and Non-Winner 5, all agreed to participate in the research. (The names of the participating organisations have been removed to protect their anonymity)

After wave 2 the researcher was provided with some additional feedback from academic colleagues. One of the researcher's progression exam examiners suggested that an additional attribute questions around quality tools be added to the research questions set. Based on this feedback the following new question was added to the survey tool to be answered by wave 3 targets. (See Appendix 5 for details) This new questions allows for more comparison analysis between organisations with high levels of quality focus and those with lower levels.

4.6.9.4 - Wave 3

The third and final wave of survey data collection targeted fifteen organisations and six of them accepted the invitation to participate. Winner 3, Winner 4, Winner 5, Non-Winner 3, Non-

Winner 6, and Non-Winner 7 all participated in the research. The names of the participating organisations have been removed to protect their anonymity.

After the survey data collection period the results were analysed and the qualitative focus group with senior leaders was organised to get a deeper understanding of the results.

4.6.9.5 - Leadership Focus Group

The initial analysis was shared with the focus group members. The focus group was organised to include an open discussion about the initial results. The focus group also included a deep discussion about the problems, issues and benefits of implementing a strategic quality approach. It was conducted on December 5, 2012 with 22 senior executives. The list of the participants in the Leadership focus group is listed in section 4.5 in Table 4.3

This approach was chosen as opposed to individual interviews because of the difficulty of gathering these high level executives for this type of research. The focus group was facilitated and led by the researcher.

The advantage of this approach was that participants were able to provide deep thinking about the problems and advantages of implementing strategic quality. It also allowed the researcher to control the line of questioning. The questions were open-ended and were intended to elicit views and opinions from the participants.

The following 3 themes were explored:

1. How do you define “happiness at work”
2. What is the impact of a strategic approach to quality on an organisation

3. What is the direction of the causation

Prior to the focus group the senior leaders were emailed 10 questions to reflect on. The pre-meeting reflection questions are available in Appendix 4.

The focus group was recorded and the digital file of the recording is available to the researcher.

4.6.9.7 - Data Analysis

After all the data was collected from the surveys and focus group. The data analysis was facilitated by the use of the SPSS software tool. Various statistical techniques were used and the details are given in the next chapter.

This chapter reviewed and outlined an extended theoretical review, which justified the methods chosen in this thesis. The underpinnings of three methodological approaches or paradigms were reviewed. Based on this methodological review, the positivist paradigm that informs this research was justified.

The second half of the chapter showed the specific details of the research design including how the audience is chosen and accessed. The reasons for a mixed approach of surveys (quantitative) and focus groups (qualitative) to support the validity and reliability of the data collected were outlined. The target audience of Canada Awards for Excellence winners and non-winners was reviewed with details of the population and sample targets. A justification was given for the choice of samples and the population studied. Details of the 3 sections of the survey were outlined with all considerations of question and response rate design. Justification for all three sections of the survey were provided with details of the 37 questions that measure employee attitudes towards a strategic approach to quality, the 24 questions to measure employee

happiness, and the 4 questions that define the personal attributes of the survey taker for analysis purposes.

The research timeline was shared explaining the various waves of the research and when and how the data were collected. The next chapter provides the details of the survey and focus group results with a full data analysis.

Chapter Five - Data Analysis

Chapter four outlined both the research methodology and research methods used in this thesis. This chapter shows the specific details of the data analysis including response rates, frequency, and descriptive analysis. Data preparation and attitude scale construction are outlined. The chapter also provides descriptive and reliability analyses of the survey results. Each of the constructed measures were tested for reliability using Cronbach's Alpha and item-to-total correlation. The results show that each of the constructs were reliable. The data analysis was facilitated by the use of the SPSS software tool.

A detailed overview of the various statistical tests including frequency analysis, descriptive statistics, reliability analysis, Pearson correlation, cross tabulation, scatter diagrams, chi squared, t-test/Mann Whitney U test, ANOVA analysis of variance are outlined and justified.

5.1 – Descriptive Analysis of the Data

This section focuses on providing general information about the respondents and participating organisations. The intent is to provide a profile of the sample in the research. Frequency analysis is used according to the following characteristics:

- Company names
- Position
- Award winning status
- Employment status
- Sector
- Tenure

5.1.1 - Response rates by company

The overall response rate for all organisations was 59.13 per cent. This excludes the poor response rate achieved from Winner 4. All of the participating organisations had excellent response rates. These response rates are listed in Table 5.1.

Table 5.1 - Response Rate by Participating Organisation

Company	Response Rate
Non-Winner 1	93%
Non-Winner 2	48%
Winner 1	56%
Non-Winner 4	53%
Non-Winner 5	100%
Non-Winner 3	66%
Winner 3	52%
Non-Winner 7	73%
Winner 5	55%
Winner 2 – Quality Services Office	100%
Non-Winner 6 Leadership Team	87%
Winner 4	3.75%

Each of the participating organisations had a response rate ranging from 48 per cent for Non-Winner 2 to 100 per cent for Non-Winner 5 and Winner 2 - Quality Services Office. The rigorous error reduction and response maximizing approaches detailed in section 4.6.3 proved to work well. Response rates for email surveys of 40 per cent are considered average, 50 per cent are considered good, and 60 per cent are considered very good (Sheehan, 2001). According to this scale the overall response rate of 58.68 per cent for this research is between good and very good.

The detailed response rates by company are listed in Tables 5.2 and 5.3. The first Table shows the organisations where the entire organisation was the population frame and the second Table

shows the organisations where a smaller department within the organisation was the population frame.

Table 5.2 - Response Rates for Full Population Frames

Overall response rate for Full organisational Frame: $564/961 = 58.68\%$
<ul style="list-style-type: none">- Non-Winner 1: 14/15 for a 93 per cent response rate for the entire organisation- Non-Winner 2: 12/25 for a 48 per cent response rate for the entire organisation- Non-Winner 3: 36/54 for a 66 per cent response rate for the entire Branch- Non-Winner 4: 115/215 for a 53 per cent response rate for employees with computers- Non-Winner 5: 20/20 for a 100 per cent response rate for the entire organisation- Non-Winner 7: 72/98 for a 73 per cent response rate for the entire division- Winner 1: 113/200 for a 56 per cent response rate for employees with computers- Winner 3: 44/84 for a 52 per cent response rate for the entire organisation- Winner 5: 138/250 for a 55 per cent response rate for the entire corporate office

Table 5.3 - Response Rates for Smaller Departmental Population Frames

Overall response rate for the small frames: $12/13 = 92.3$ per cent
<ul style="list-style-type: none">- Winner 2 – Quality Services Office: 5/5 for 100 per cent response rate for the entire quality services office- Non-Winner 6 - Senior Leadership Team: 7/8 for 87.5 per cent response rate for the entire senior leadership team

In the case of Winner 4 that was a late addition to Wave 3 of the research, there was a disappointing response rate of 3.75 per cent or 15 completed surveys out of 400 employees that were targeted. This was due to several reasons that were determined by conducting a telephone interview with the site contact. It was concluded that both bad timing and survey fatigue were contributing factors to the low response rate. Since this low response rate was not typical compared with all of the other organisations surveyed, the results from Winner 4 were rejected and not used during the detailed analysis. The main concerns with using the data were overall validity, reliability, and generalisability of this sample.

5.1.2 - Frequency Analysis

Frequency analysis was used for data reduction purposes and to develop an overall understanding of the survey responses and a general picture of how the sample group responded.

The initial analysis used descriptive analysis for the whole sample.

5.1.2.1 - Company Name

Table 5.4 shows the number of responses from each of the target organisations. After the survey period a total of 591 results were collected. In some cases like with Winner 5, Non-Winner 2, Non-Winner 1, Non-Winner 4, Non-Winner 5, Winner 3, Non-Winner 3, Non-Winner 7, and Winner 1 the entire organisation was targeted. In other cases like with Winner 2, Non-Winner 6, and Winner 4 smaller population frames were targeted within the larger population.

Table 5.4 - Frequency Distribution of Target Organisations

		Company Name			
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Non-Winner 1	14	2.4	2.4	2.4
	Non-Winner 2	12	2.0	2.0	4.4
	Winner 1	113	19.1	19.1	23.5
	Winner 2	5	.8	.8	24.4
	Non-Winner 3	36	6.1	6.1	30.5
	Non-Winner 4	115	19.5	19.5	49.9
	Non-Winner 5	20	3.4	3.4	53.3
	Non-Winner 6 Leadership Team	7	1.2	1.2	54.5
	Winner 3	44	7.4	7.4	61.9
	Winner 4	15	2.5	2.5	64.5
	Non-Winner 7	72	12.2	12.2	76.6
	Winner 5	138	23.4	23.4	100.0
	Total	591	100.0	100.0	

The three organisations with the most respondents were Winner 5 with 23.4 per cent of the total and Non-Winner 4 with 19.5 per cent of the total and Winner 1 with 19.1 per cent of the total. The three organisations with the fewest respondents were Winner 2 representing 0.8 per cent of the total, the Non-Winner 6 leadership team representing 1.2 per cent of the total and Non-Winner 2 representing 2 per cent of the total.

5.1.2.2 - Position

Samples of all types of employees in the entire population were targeted. This included Senior Leadership, Management (those who primarily report to Senior Leadership), and front line employee (those who primarily report to Management). As per Table 5.5 out of the 591 results 10 per cent were senior leadership, 32.9 per cent were Management, and 57.1 per cent were front line employees.

Table 5.5 - Frequency Distribution of Position

Which of the following best describes your role at your organisation					
		Frequency	Percent	Valid Percent	Cumulative Percent
	Senior Leadership	58	9.8	10.0	10.0
	Management (I report to Senior Leadership)	190	32.1	32.9	42.9
Valid	Front Line Employee (I primarily report to Management)	330	55.8	57.1	100.0
	Total	578	97.8	100.0	
Missing	System	13	2.2		
Total		591	100.0		

5.1.2.3 - Role within each organisation

The distribution of role within each separate organisation is listed in Table 5.6. Each organisation had representation from all three roles with the exception of Non-Winner 4 that had no respondents from the leadership team and Non-Winner 6 that only had respondents representing the leadership team of the organisation.

Table 5.6 - Distribution of Role Within Organisation

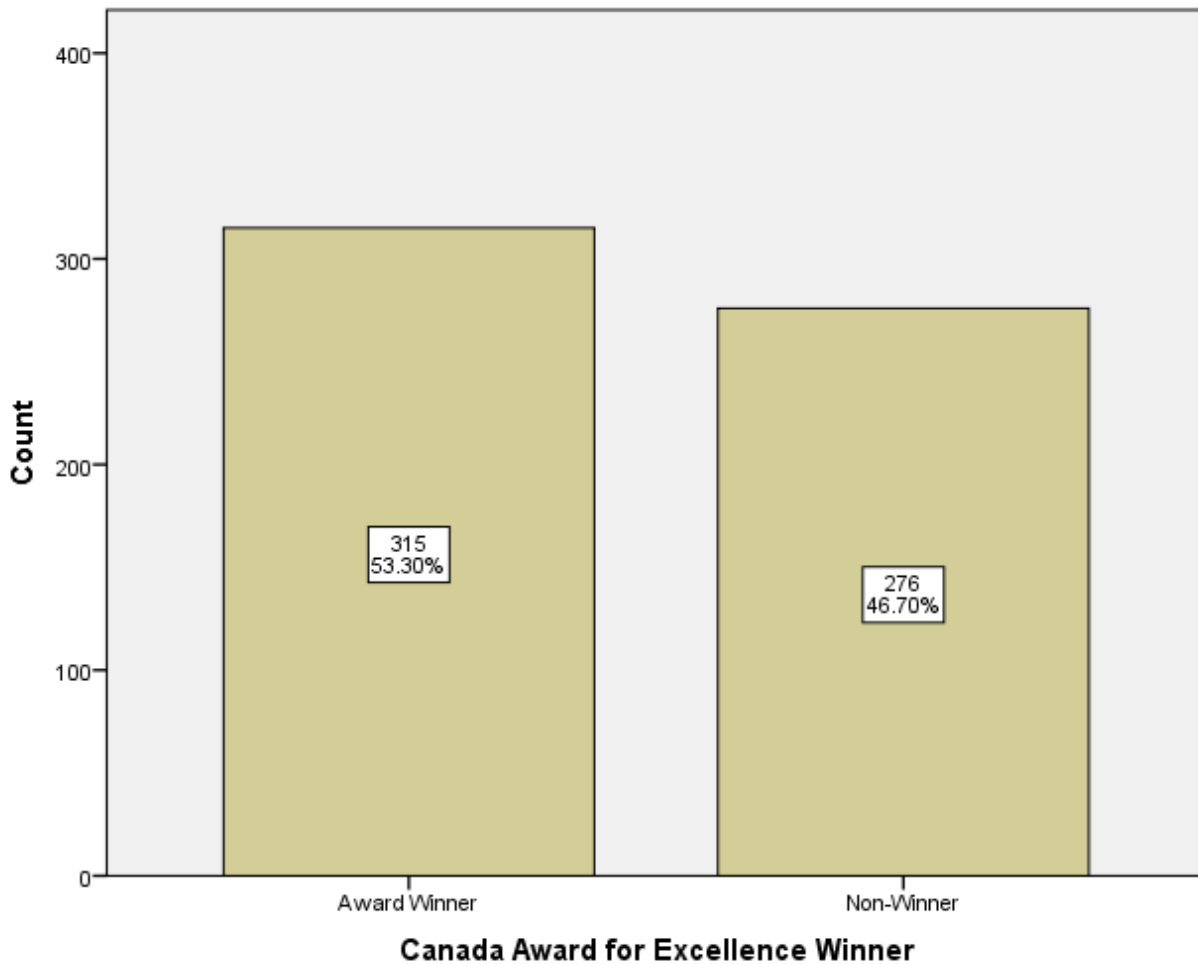
Company Name * Which of the following best describes your role at your organisation
Cross tabulation

Count	Company Name	Which of the following best describes your role at your organisation			Total
		Senior Leadership	Management (I report to Senior Leadership)	Front Line Employee (I primarily report to Management)	
	Non-Winner 1	6	3	5	14
	Non-Winner 2	2	8	2	12
	Winner 1	8	58	47	113
	Winner 2	1	3	1	5
	Non-Winner 3	1	5	30	36
	Non-Winner 4	0	12	103	115
	Non-Winner 5	1	6	13	20
	Non-Winner 6	7	0	0	7
	Leadership Team				
	Winner 3	1	8	31	40
	Winner 4	2	5	8	15
	Non-Winner 7	3	10	59	72
	Winner 5	26	72	31	129
	Total	58	190	330	578

5.1.2.4 - Award Winning Status

Out of the returned survey results 315 (53.3 per cent) were from individuals at Canada Awards for Excellence Winning organisations and 276 (46.7 per cent) were from non-winning organisations. This distribution is very close to achieving the target (50:50 split) that the researcher was planning for. This equal representation shown in Figure 5.1 provides for adequate data to do comparisons of winners and non-winners detailed in Chapter six.

Figure 5.1 – Award Winning Status



5.1.2.5 - Employment Status

Out of the returned survey results the majority (84.6 per cent) were completed by full time employees. 10 per cent were completed by part time employees and 5.4 per cent were completed by other people. See Table 5.7.

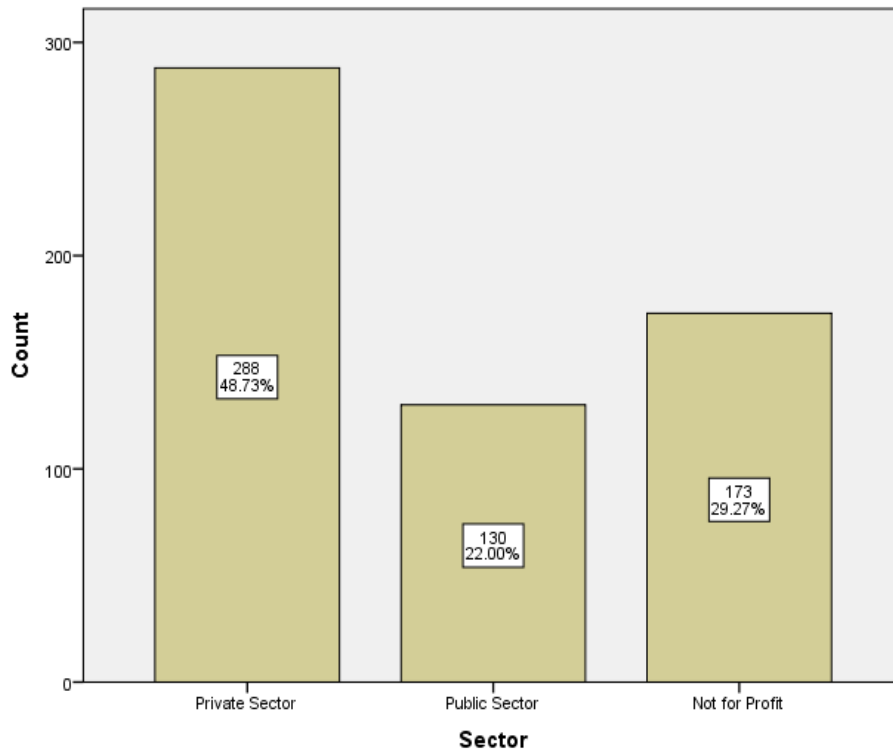
Table 5.7 - Employment Status

		Employment status			
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Full time	489	82.7	84.6	84.6
	Part time	58	9.8	10.0	94.6
	Temporary position	23	3.9	4.0	98.6
	Other	8	1.4	1.4	100.0
	Total	578	97.8	100.0	
Missing	System	13	2.2		
Total		591	100.0		

5.1.2.6 - Sector

The majority of the survey responses were from private sector organisations at 48.73 per cent of responses. Not for profit organisations represented 29.27 per cent of those surveyed, and Public sector government organisations represented 22 per cent of the responses. See Figure 5.2.

Figure 5.2 – Sector Distribution



5.1.2.7 - Tenure

Out of the survey responses 38.6 per cent were from people who worked at the organisation for more than 10 years. The next largest group was 3-5 year term employees representing 22.8 per cent of the total. The smallest group of survey responses came from employees with less than 6 months on the job representing 6.6 per cent. See Table 5.8. Approximately $\frac{3}{4}$ had over 3 years of experience in the organisation. This indicates that the majority of the people answering the survey were with the organisation for a relatively long time and had experienced the organisation's culture for that length of time. This section gives an indication of the calibre of the respondents.

Table 5.8 - Tenure Distribution

		How long have you worked at your organisation			
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Less than 6 months	38	6.4	6.6	6.6
	6 months – 2 years	96	16.2	16.6	23.2
	3 - 5 years	132	22.3	22.8	46.0
	6-10 years	89	15.1	15.4	61.4
	More than 10 years	223	37.7	38.6	100.0
	Total	578	97.8	100.0	
Missing	System	13	2.2		
Total		591	100.0		

5.2 – Data Preparation

The survey responses were coded to be compatible with Statistical Package for Social Science (SPSS). SPSS is one of the most widely used software packages for social research (Cramer 1998). These data were then analysed to achieve the research objectives.

Since the data were collected electronically there was no need to manually enter the data into the program. Results collected using Survey-Gizmo were converted to SPSS analysis compatible format. Each survey question was given a unique variable label. For example, question 1 on the survey ``Employees understand the overall aim or mission of the organisation`` was given the variable label AimMission.

After the data labelling processes had been completed, all measures were then assessed for their reliability and validity. As previously mentioned validity and reliability of the measurements enhances the methodological rigour of the research and provides a meaningful explanation of the phenomena that are being investigated.

5.2.1 - Attitude Scale construction

The following method was used to construct an attitude scale for quality, employee, morale, engagement, and satisfaction. The data was transformed from the ordinal Likert scale to a constructed, continuous attitude scale.

Several attitude scales were created including QUALITY, EMPLOYEE, SATISFACTION, ENGAGEMENT, and MORALE1. The descriptive statistics are in Table 5.9 for each of the attitude variables.

Table 5.9 - Summary Results by Attitude Construct

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
Quality	590	1.97	7.00	5.6070	1.00627
Employee	580	1.29	7.00	5.5521	1.03277
Satisfaction	580	1.45	7.00	5.6105	.93450
Engagement	577	1.00	7.00	5.6399	1.29968
Morale1	578	1.00	7.00	5.3881	1.22442
Valid N (listwise)	577				

The attitude constructs transformed the ordinal data into a continuous attitude scale by combining the separate ordinal variables into new variables. All of the survey questions that were related to each attitude were combined together into a single attitude variable. This was done in SPSS by transforming the individual survey responses for all of the attitude related questions into new variables called QUALITY, EMPLOYEE, SATISFACTION, ENGAGEMENT, and MORALE1.

5.2.1.1 - Quality Attitude Variable

The QUALITY variable is the mean of 37 separate variables. These 37 variables are the first 37 questions on the survey that relate to a strategic approach to quality management. It is computed using the transform variable function in SPSS with the following command:

MEAN(AimMission,Direction,Slcommit,effectiveL,Plan,inputPc,inputPe,MtorExceed,MeasrCsat,cFBimprov,MeasrEsat,ideasEnc,Recog,ProDoc,FollPro,MonPro,AnaPro,SuppPro,ClientPerf,EmpPerf,ProPerf,SuppPerf,FinanPerf,KnolMan,Innovation,LeadInvol,FactDec,PrimaCust,EmpDev,Suggestions,PrevVSCorr,CoopTeam,CoopInspire,SocialRes,ValueCust,ContImp,PersContImp)

As seen in Appendix 7 Table a7.1 the variable is based on 590 survey responses and the mean for the QUALITY variable is 5.6070 and the std. deviation is 1.00627.

Based on the tests of Normality detailed in Table 5.10, both Komogorov-Smirnov and Shapiro-Wilk tests confirm that the data in the construct are significant at 0.000. This means that the data are not normally distributed. This limits some of the statistical options that rely on the assumption of normally distributed data.

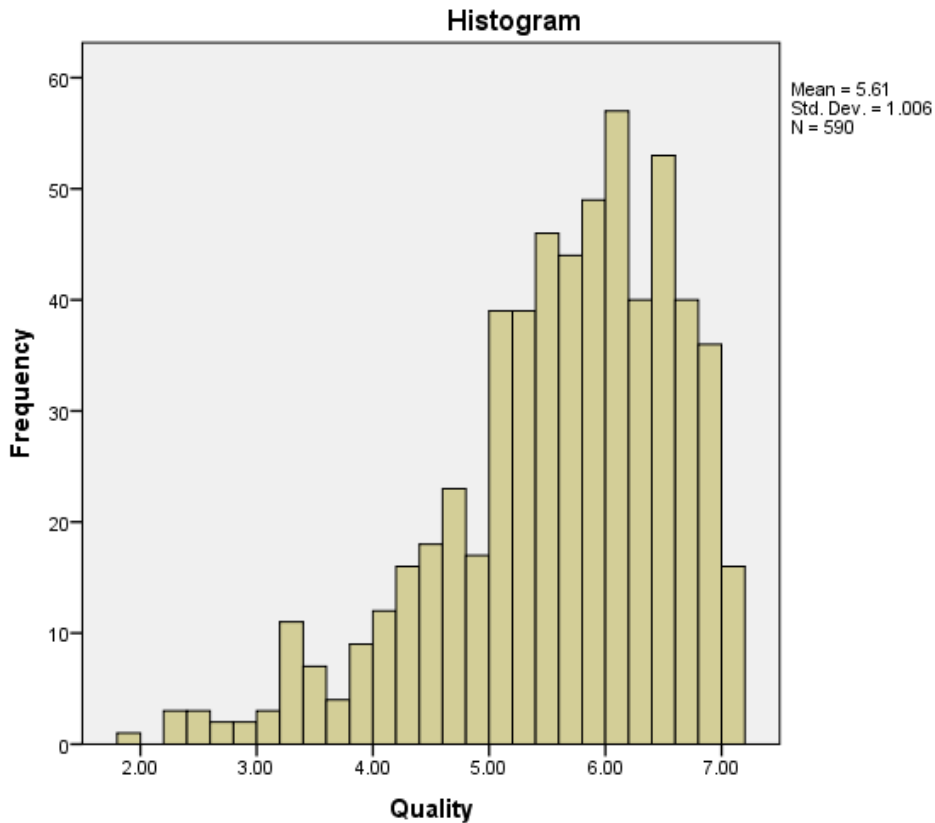
Table 5.10 - Tests of Normality of Quality Construct Variable

Tests of Normality						
	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Quality	.083	590	.000	.936	590	.000

a. Lilliefors Significance Correction

As seen in Figure 5.3 the data for this construct are negatively skewed with a skewness of -.940. This further confirms the fact that the data are not normally distributed and the statistical tests relying on the assumption of normality will not be usable.

Figure 5.3 – Histogram of the Quality Construct Variable



5.2.1.2 - Employee Attitude Variable

The employee attitude variable includes all 24 questions related to employee happiness (questions 38-61 of the survey). These include all of the questions related to engagement, morale, and satisfaction combined.

The ordinal data was transformed into a continuous attitude scale by combining the separate ordinal variables into a new variable called Employee. All of the survey questions that were

related to employee measure attitude were combined together into a single employee attitude variable. It is computed using the transform variable function in SPSS with the following command:

MEAN(JobInGenral, WorkSat, PaySat, OppsSat, SuperviSat, PeopleSat, SkillsVar, WholeTask, ImpactOthers, Freedom, Feedback, Recommend, Say, Stay, Leave, BestWork, ContributeMr, OpinionMatters, Morale, Hours, BreaksLunch, Valued, Fairness, Likeworking)

As seen in Appendix 7 Table a7.2 the variable is based on 580 survey responses and the mean for the Employee variable is 5.55 and the standard deviation is 1.03.

Based on the tests of Normality detailed in Table 5.11, both Komogorov-Smirnov and Shapiro-Wilk tests confirm that the data in the construct are significant at 0.000. This means that the data are not normally distributed. This limits some of the statistical options that rely on the assumption of normally distributed data.

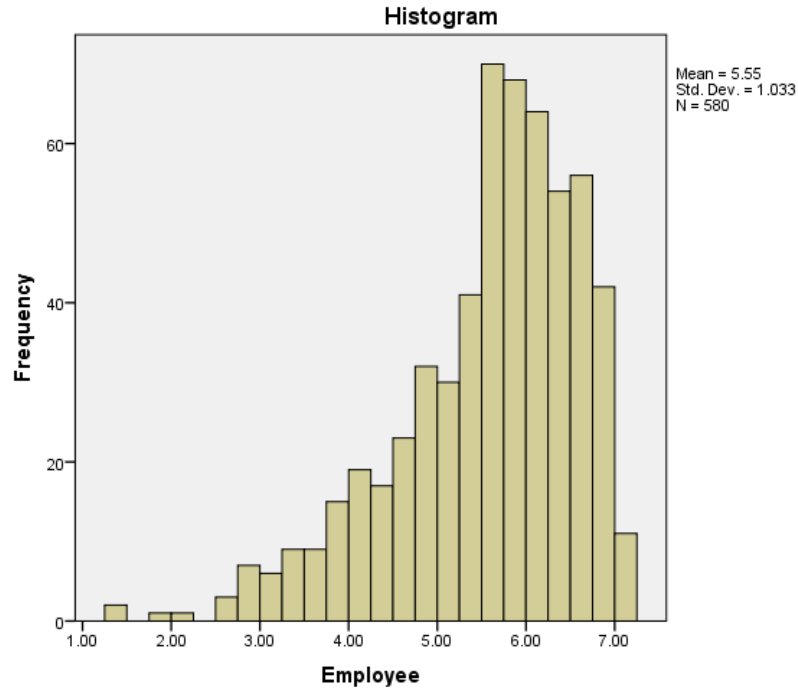
Table 5.11 - Tests of Normality of Employee Construct Variable

	Tests of Normality					
	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Employee	.109	580	.000	.927	580	.000

a. Lilliefors Significance Correction

As seen in Figure 5.4 the data for the Employee construct are negatively skewed with a skewness of -1.042. This further confirms the fact that the data are not normally distributed and the statistical tests relying on the assumption of normality will not be usable.

Figure 5.4 – Histogram of the Employee Construct Variable



5.2.1.3 - Satisfaction Attitude Variable

The satisfaction attitude variable includes all 11 questions related to employee satisfaction (questions 38-48 of the survey). The ordinal data was transformed into a continuous attitude scale by combining the separate ordinal variables into a new variable called Satisfaction. All of the survey questions that were related to satisfaction were combined together into a single attitude variable.

The SATISFACTION variable is the mean of 11 separate variables. It is computed using the transform variable function in SPSS with the following command:

```
MEAN(JobInGenral,WorkSat,PaySat,OppsSat,SuperviSat,PeopleSat,SkillsVar,WholeTask,ImpactOthers,Freedom,Feedback)
```

As seen in Appendix 7 Table a7.3 the variable is based on 580 survey responses and the mean for the Satisfaction variable is 5.6105 and the standard deviation is 0.93450.

Based on the tests of Normality detailed in Table 5.12, both the Komogorov-Smirnov and Shapiro-Wilk tests confirm that the data in the construct are significant at 0.000. This means that the data are not normally distributed. This limits some of the statistical options that rely on the assumption of normally distributed data.

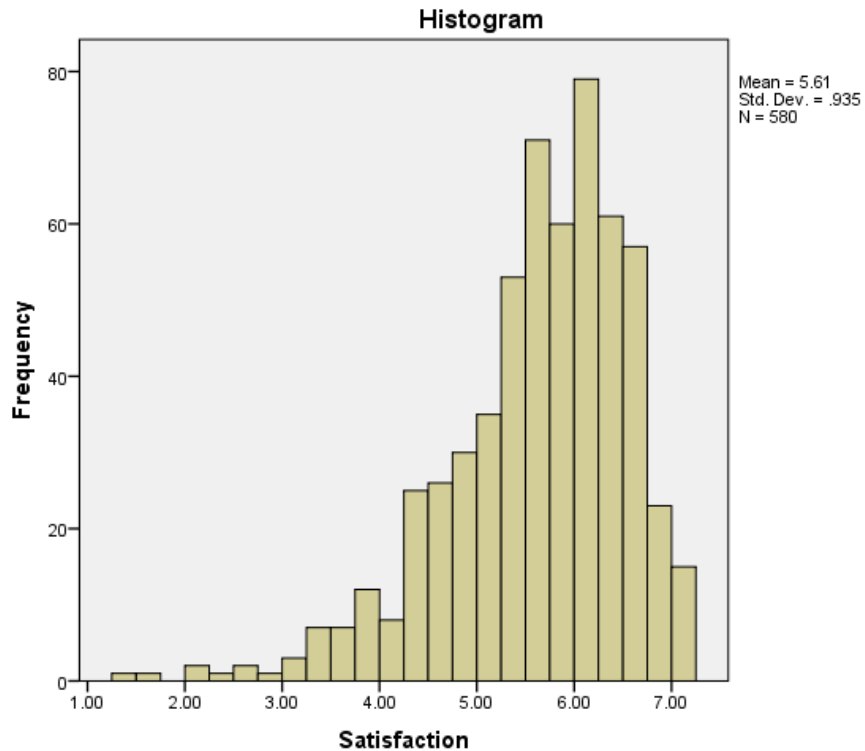
Table 5.12 - Tests of Normality of Satisfaction Construct Variable

Tests of Normality						
	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Satisfaction	.104	580	.000	.935	580	.000

a. Lilliefors Significance Correction

As seen in Figure 5.5 the data for the satisfaction construct are negatively skewed with a skewness of -1.074. This further confirms the fact that the data are not normally distributed and the statistical tests relying on the assumption of normality will not be usable.

Figure 5.5 – Histogram of the Satisfaction Construct Variable



5.2.1.4 - Engagement Attitude Variable

The Engagement attitude variable includes all 6 questions related to employee engagement (questions 49-54 of the survey). The ordinal data were transformed into a continuous attitude scale by combining the separate ordinal variables into a new variable called engagement. All of the survey questions that were related to engagement were combined together into a single attitude variable.

The ENGAGEMENT variable is the mean of 6 separate variables. It is computed using the transform variable function in SPSS with the following command:

MEAN(Recommend,Say,Stay,Leave,BestWork,ContributeMr)

As seen in Appendix 7 Table a7.4 the variable is based on 577 survey responses and the mean for the Engagement variable is 5.6399 and the std. deviation is 1.29968.

Based on the tests of Normality detailed in Table 5.13, both the Komogorov-Smirnov and Shapiro-Wilk tests confirm that the data in the construct are significant at 0.000. This means that the data are not normally distributed. This limits some of the statistical options that rely on the assumption of normally distributed data.

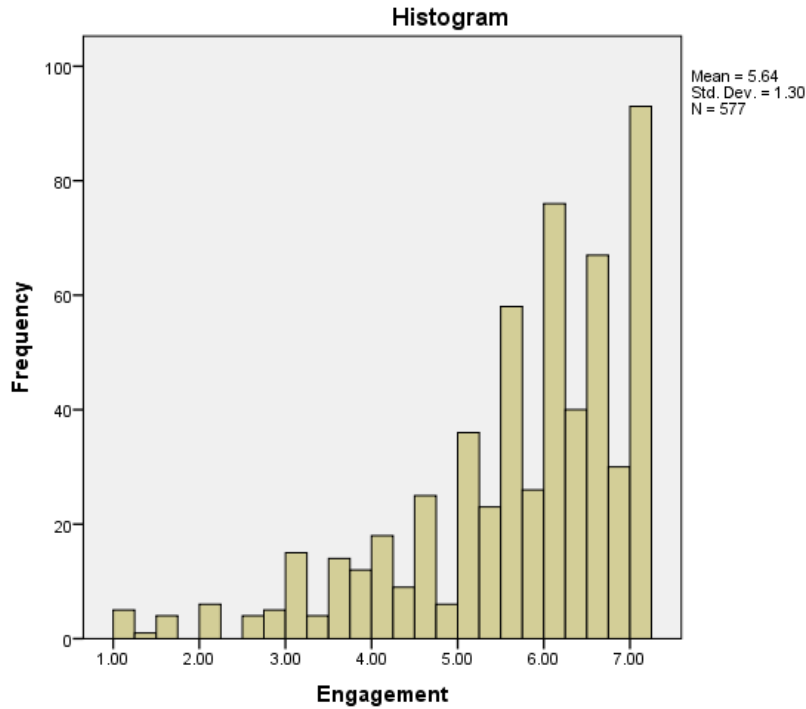
Table 5.13 - Tests of Normality of Engagement Construct Variable

Tests of Normality						
	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Engagement	.148	577	.000	.877	577	.000

a. Lilliefors Significance Correction

As seen in Figure 5.6 the data for the engagement construct are negatively skewed with a skewness of -1.244. This further confirms the fact that the data are not normally distributed and the statistical tests relying on the assumption of normality will not be usable.

Figure 5.6 – Histogram of the Engagement Construct Variable



5.2.1.5 - Morale Attitude Variable

The Engagement attitude variable includes all 7 questions related to employee morale (questions 55-61 of the survey). The ordinal data were transformed into a continuous attitude scale by combining the separate ordinal variables into a new variable called Morale1. All of the survey questions that were related to Morale were combined together into a single attitude variable.

The MORALE1 variable is the mean of 7 separate variables. It is computed using the transform variable function in SPSS with the following command:

```
MEAN(OpinionMatters,Morale,Hours,BreaksLunch,Valued,Fairness,Likeworking)
```

As seen in Appendix 7 Table a7.5 the variable is based on 578 survey responses and the mean for the Engagement variable is 5.3881 and the standard deviation is 1.22442.

Based on the tests of Normality detailed in Table 5.14, both the Komogorov-Smirnov and Shapiro-Wilk tests confirm that the data in the construct are significant at 0.000. This means that the data are not normally distributed. This limits some of the statistical options that rely on the assumption of normally distributed data.

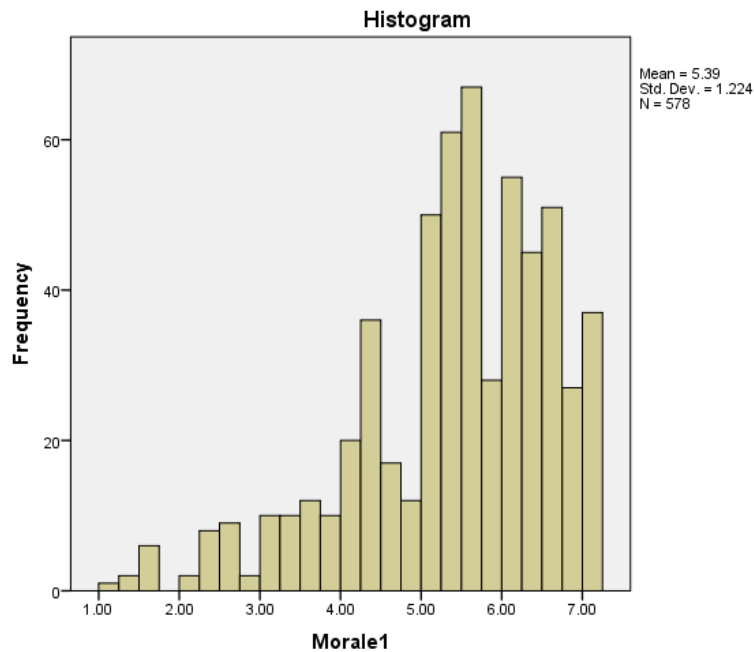
Table 5.14 - Tests of Normality of Morale Construct Variable

Tests of Normality						
	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Morale1	.109	578	.000	.930	578	.000

a. Lilliefors Significance Correction

As seen in Figure 5.7 the data for the Morale construct are negatively skewed with a skewness of -.956. This further confirms the fact that the data are not normally distributed and the statistical tests relying on the assumption of normality will not be usable.

Figure 5.7 – Histogram of the Morale Construct Variable



5.2.1.6 – Three Category Measures

For various statistical tests the data were transformed into three category measures. This made for easier analysis of cross tabulations. The quality, employee, morale, satisfaction and engagement constructs were all transformed from 7 point scales to 3 point categories. These five transformations were completed using the following process.

Using the computed attitude scale, three groups were defined and the data were transformed into these three categories:

Category 1: below average (0 through to (mean -1 standard deviation)

Category 2: average (mean + and - one standard deviation.

Category 3: above average (mean+1 standard deviation) through to highest value

Table 5.15 - Descriptive Statistics for Quality Construct

Descriptive Statistics			
	N	Mean	Std. Deviation
Quality	590	5.6070	1.00627
Valid N (listwise)	590		

For the quality attitude the ranges were therefore

1= 0 through 4.6

2 = 4.6 through 6.6

3= greater than 6.6

This was calculated in SPSS using the following function in Table 5.16. The same approach was used for all of the three category recoding. The new three category quality measure is listed in Appendix 7, Table a7.6 descriptives.

Table 5.16 - Recode Example

```
RECODE Quality (Lowest thru 4.6=1) INTO quality3cat.  
  
VARIABLE LABELS quality3cat 'quality3cat'.  
  
EXECUTE.  
  
RECODE Quality (4.6 thru 6.6=2) INTO quality3cat.  
  
VARIABLE LABELS quality3cat 'quality3cat'.  
  
EXECUTE.  
  
RECODE Quality (6.6 thru Highest=3) INTO quality3cat.  
  
VARIABLE LABELS quality3cat 'quality3cat'.  
  
EXECUTE.  
  
EXAMINE VARIABLES=quality3cat  
  
  /PLOT BOXPLOT STEMLEAF HISTOGRAM NPLOT  
  
  /COMPARE GROUPS  
  
  /STATISTICS DESCRIPTIVES  
  
  /CINTERVAL 95  
  
  /MISSING LISTWISE  
  
  /NOTOTAL.
```

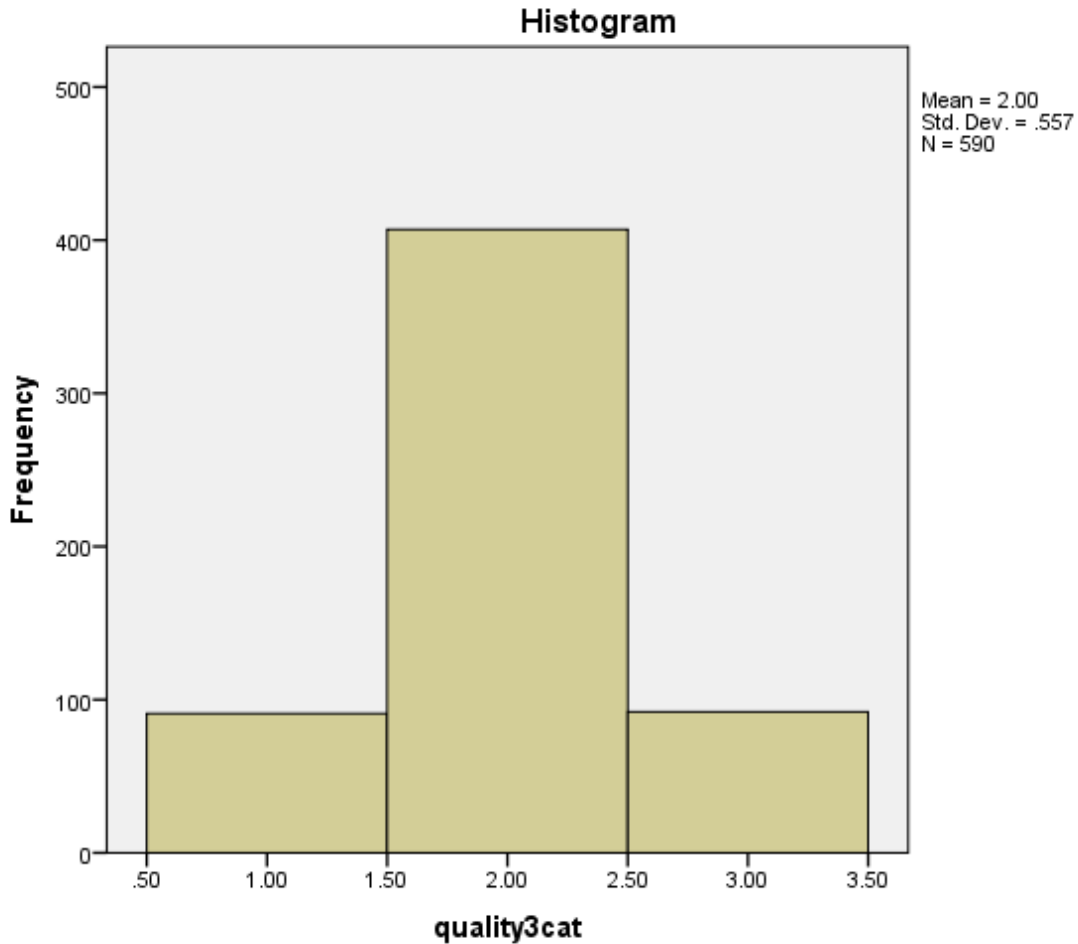
Although the data appear to be normal in the histogram in Figure 5.8 the tests of Normality detailed in Table 5.17, both Komogorov-Smirnov and Shapiro-Wilk tests confirm that the data in the construct are significant at 0.000. This means that the data are not normally distributed.

Table 5.17 - Three Category Quality Measure Normality Test

Tests of Normality						
	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
quality3cat	.345	590	.000	.733	590	.000

a. Lilliefors Significance Correction

Figure 5.8 – Histogram for Three Category Quality Measure



Similar transformations were performed for the Employee, satisfaction, engagement, and morale measure. Each 7 point scale was transformed into three categories using the category guidelines below. Refer to Table 5.18 for the ranges used for the three categories.

Category 1: below average (0 through to (mean -1 standard deviation)

Category 2: average (mean + and - 1 standard deviation).

Category 3: above average (mean+1 standard deviation) through to highest value

Table 5.18 - Summary of Three Category Transformations

Employee Categories	Satisfaction Categories	Engagement Categories	Morale Categories
Category 1: (0-4.52)	Category 1: (0-4.60)	Category 1: (0-4.34)	Category 1: (0-4.16)
Category 2: (4.52-6.58)	Category 2: (4.60-6.55)	Category 2: (4.34-6.94)	Category 2: (4.16-6.61)
Category 3: (>6.58)	Category 3: (>6.55)	Category 3: (>6.94)	Category 3: (>6.61)

The following tests of normality were performed on the new variable. Refer to Appendix 7, Table a7.7 for the descriptives of the new variables.

Table 5.19 - Tests of Normality on Three Category Variables

	Tests of Normality					
	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
sat3cat	.357	577	.000	.721	577	.000
eng3cat	.337	577	.000	.746	577	.000
mor3cat	.343	577	.000	.736	577	.000
employee3cat	.343	577	.000	.738	577	.000

a. Lilliefors Significance Correction

Although the data appear to be normal in the histogram in Figure 5.9 through 5.12, the both Komogorov-Smirnov and Shapiro-Wilk tests of Normality detailed in Table 5.19, confirm that the data in the new three category constructs are significant at 0.000. This means that the data are not normally distributed.

Figure 5.9 – Histogram for Three Category Satisfaction Measure

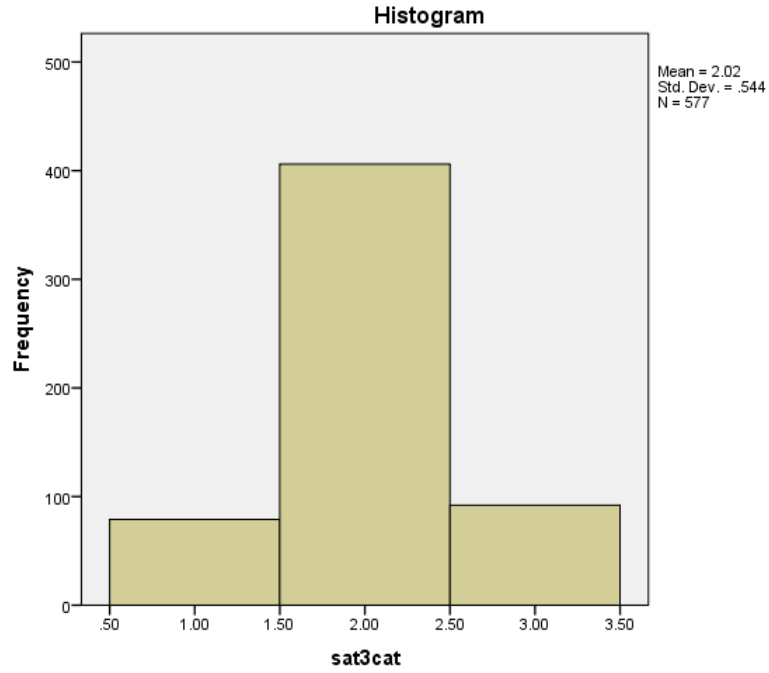


Figure 5.10 – Histogram for Three Category Engagement Measure

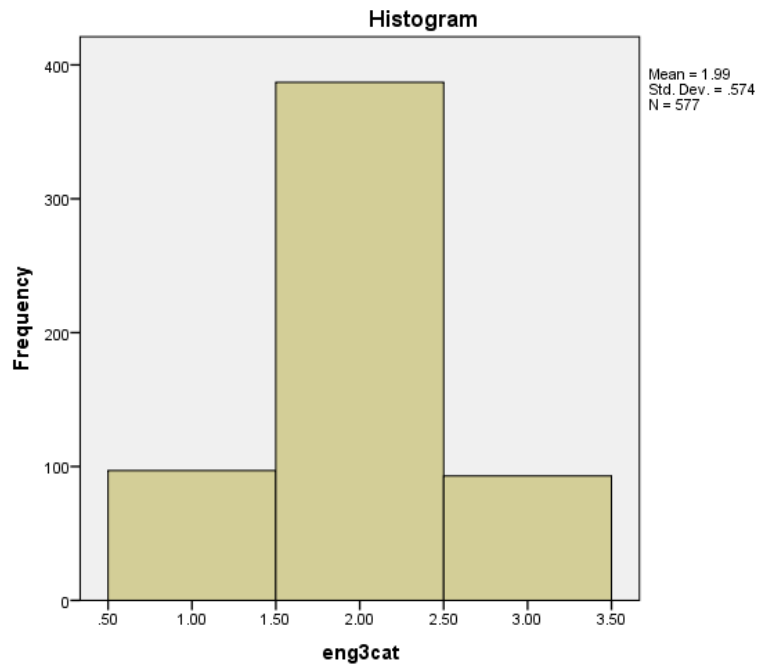


Figure 5.11 – Histogram for Three Category Morale Measure

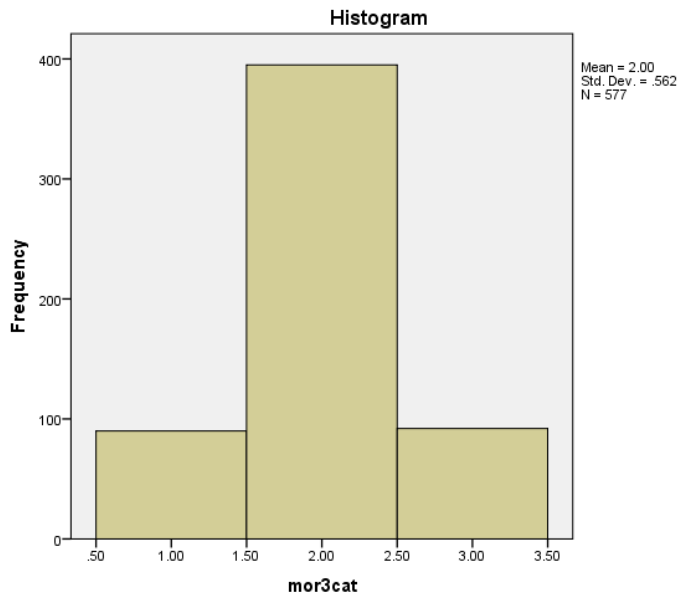
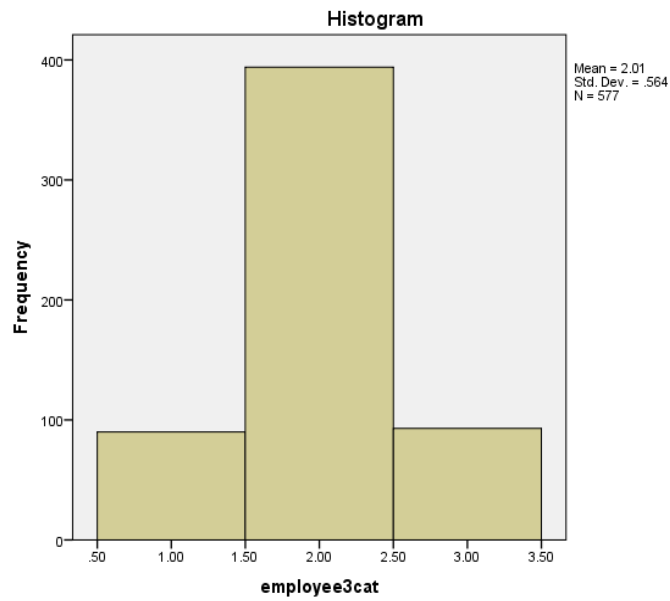


Figure 5.12 – Histogram for Three Category Employee Construct Measure



In the next section the reliability of all of these constructs will be examined.

5.3 – Reliability Analysis for Research Variables

Item-to-total correlation and Cronbach's Alpha were used to measure reliability of the quality and employee constructs. The item-to-total measure is the correlation of the item and a composite score of all the other remaining items. If an item had low item-to-total correlation, it would be removed from the construct. This method is considered as the most common procedure used by the researchers in guaranteeing the reliability of a multi-item scale (Churchill, 1979). The measure is used to determine the relationship of a particular item to the rest of the items in that dimension. The process helps to ensure the items making up that dimension share a common core (Churchill, 1979). Ferketich (1991) recommended that corrected item-total correlations should be above 0.30 to be considered a good scale.

The Cronbach's Alpha is the reliability based on this internal consistency (Nunnally, 1978). The technique is a good estimate of reliability of constructs. If the construct had a low Cronbach's Alpha it would need to be adjusted. A Cronbach's Alpha value of 0.70 is an acceptable minimum for a scale that is newly developed (Nunnally and Bernstein, 1994).

Each of the constructed measures were tested for reliability using Cronbach's Alpha and item-to-total correlation namely, Quality Measure, Employee happiness, Satisfaction Measure, Engagement Measure, and Morale Measure.

5.3.1 - Quality Measure (37 items)

The Cronbach's Alpha for the quality measure which includes 37 elements is 0.978 (Table 5.20). This is well above the acceptable minimum of 0.70.

Table 5.20 - Quality Construct Reliability Statistics

Quality Construct Reliability Statistics		
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.978	.978	37

The Item-total statistics for the 37 item quality construct are all above the minimum acceptable value of 0.30. Refer to Appendix 7, Table a7.8.

All items in the quality construct were found to have a high item-total correlation, well above the acceptable level of 0.30 (Ferketich, 1991). Also all Cronbach's Alpha measures were significantly higher than the acceptable level of 0.70 (Nunnally, 1978). These results confirm that the quality construct scale used is reliable.

5.3.2 - Employee Measure (24 items)

The Cronbach's Alpha for the employee measure which includes 24 elements is 0.959 (Table 5.21). This is well above the acceptable minimum of 0.70.

Table 5.21 – Employee Happiness Reliability Statistics

Employee Happiness Reliability Statistics		
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.959	.962	24

The Item-total statistics for the 24 item employee happiness construct are all above the minimum acceptable value of 0.30. Refer to Appendix 7, Table a7.9.

All items in the employee happiness construct were found to have a high item-total correlation, well above the acceptable level of 0.30 (Ferketich, 1991). Also the Cronbach's Alpha measure

was significantly higher than the acceptable level of 0.70 (Nunnally, 1978). These results confirm that the employee measure construct scale used is reliable.

5.3.3 - Satisfaction Measure (11 items)

The Cronbach’s Alpha for the satisfaction measure which includes 11 elements is 0.898. (Table 5.22) This is well above the acceptable minimum of 0.70.

Table 5.22 – Satisfaction Measure Reliability Statistics

Reliability Statistics		
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.898	.903	11

The Item-total statistics for the 11 item satisfaction measure construct are all above the minimum acceptable value of 0.30. Refer to Appendix 7 Table a7.10.

As is the case with previous measure constructs, all items in the satisfaction measure construct were found to have a high item-total correlation, well above the acceptable level of 0.30 (Ferketich, 1991). Also the Cronbach’s Alpha measure was significantly higher than the acceptable level of 0.70 (Nunnally, 1978). These results confirm that the satisfaction measure construct scale used is reliable.

5.3.4 - Engagement Measure (6 items)

The Cronbach’s Alpha for the engagement measure which includes 6 elements is 0.938 (Table 5.23). This is well above the acceptable minimum of 0.70.

Table 5.23 – Engagement Measure Reliability Statistics

Reliability Statistics		
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.938	.942	6

The Item-total statistics for the 6 item engagement measure construct are all above the minimum acceptable value of 0.30. Refer to Appendix 7, Table a7.11.

Consistent with the other measure constructs, all items in the engagement measure construct were found to have a high item-total correlation, well above the acceptable level of 0.30 (Ferketich, 1991). Also the Cronbach's Alpha measure was significantly higher than the acceptable level of 0.70 (Nunnally, 1978). These results confirm that the engagement measure construct scale used is reliable.

5.3.5 - Morale Measure (7 items)

The Cronbach's Alpha for the morale measure which includes 7 elements is 0.890. (Table 5.24) This is well above the acceptable minimum of 0.70.

Table 5.24 – Morale Measure Reliability Statistics

Morale Reliability Statistics		
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.890	.899	7

The Item-total statistics for the 7 item morale measure construct are all above the minimum acceptable value of 0.30. Refer to Appendix 7, Table a7.12.

All items in the morale measure construct were found to have a high item-total correlation, well above the acceptable level of 0.30 (Ferketich, 1991). Also the Cronbach's Alpha measure was

significantly higher than the acceptable level of 0.70 (Nunnally, 1978). These results confirm that the morale measure construct scale used is reliable.

A number of statistical techniques have been used to study the research variables and their relationships. The next part gives a brief discussion of these techniques.

5.4 – Statistical Methods and Tests

This section outlines the statistical tests that were used to analyse the data from the surveys. Statistical tests were used to distinguish real effects of importance from effects that are in consequence of errors of random sampling or uncontrolled variability (Fisher, 1955).

In this study the researcher used IBM SPSS Statistics Version 20 for Windows utilizing the following statistical techniques:

- Frequency Analysis and Descriptive Statistics
- Reliability Analysis
- Pearson Correlation
- Cross tabulation
- Scatter diagrams
- Chi squared,
- t-tests/Mann Whitney U
- ANOVA analysis of variance
- Bonferroni

5.4.1 - Frequency Analysis and Descriptive Statistics

Frequency analysis is used for analyzing all nominal or ordinal categorical variables (Babbie, 2011). In section 5.1.2 several frequency Tables are outlined for each of the attribute variables, showing the number and percentage of case for each value. These are variables with a fixed number of discrete values (Babbie, 2011). In this research frequency analysis is used to enable the researcher to describe the results by company names, position, award winning status, employment status, sector, and tenure.

Descriptive statistics are used to measure central tendency and dispersion of the data. In section 5.2 the researcher uses mean and standard deviation to describe and measure the attitude scales. The most frequently used measure of central tendency is the mean (Saunders et al., 2012). The mean is appropriate for the analysis of variables at the interval or ratio level of measurement (Babbie, 2011). Standard deviation is a measure of dispersion appropriate to ratio variables that indicates the extent to which the values are clustered around the mean or spread away from it (Babbie, 2011).

5.4.2 - Reliability Analysis

Reliability refers to the extent to which a measuring instrument contains variable errors (Frankfort-Nachmias and Nachmias, 1996). Reliability refers to whether the measurement scale is consistent and stable. In other words, reliability is the extent to which a test or procedure produces similar results under constant conditions on all occasions (Bryman and Bell, 2007).

Reliability of the survey instrument is tested using the item-to-total correlation and Cronbach's Alpha analysis. This analysis is detailed in section 5.3 and it shows that the strategic quality and employee measures of happiness are reliable constructs.

5.4.3 - Pearson Correlation

Pearson Correlation is used to measure the extent to which two variables are associated. These measures reflect the strength and the direction of association between the variables, and the degree to which one variable can be predicted from the other (Frankfort-Nachmias and Nachmias 1996). It ranges from +1 to -1. A correlation of +1 means that there is a perfect positive linear relationship between variables, a correlation of -1 means that there is a perfect negative linear relationship between variables, and a correlation of 0 means that there is no linear relationship between variables (Frankfort-Nachmias and Nachmias 1996). Pearson correlation is used in this study to find relationships between the quality and employee constructs.

5.4.4 - Cross tabulation

Cross tabulation Tables are used to show the distribution of one variable for each category of a second variable (Babbie, 2011). In this research cross tabulation Tables were used to compare the differences in attitude towards strategic quality/employee happiness between all of the variable groups from the attributes section of the survey.

5.4.5 - Scatter Diagrams

A scatter diagram is a graphic plotting of the values of two variables, with one variable serving as the x-axis and the other as the y-axis of the graph. The strength of the relationship between the variables is indicated by the closeness of the points to an imaginary straight line (Saunders et al., 2012). Scatter diagrams are used in chapter six, section 6.1 to depict the relationship between the quality construct and the employee measure constructs. The positive relationship is evident because the scatter diagram shows as the values of the quality construct increase so do those for the employee measure constructs.

5.4.6 - Chi-squared tests

The chi square test shows how likely it is that two variables are associated. It is based on a comparison of the observed values in a Table with what might be expected if the two distributions were entirely independent (Saunders et al., 2012). In this research the chi-squared test is used to determine the significance of the differences among the independent groups; specifically to investigate the differences in attitude to quality and employee happiness between the attribute variables including sector, award winning status, tenure, position, company, and employment status.

5.4.7 - T- Test/ Mann Whitney U Test

The t test is used to test for significant differences between different kinds of means (Babbie, 2011). In this study the t test was used to identify the differences in attitude to quality by sector, award winning status, tenure, position, company, and employment status. One of the assumptions for using this test is that the data are normally distributed (Saunders et al., 2012). As seen in section 5.2 the quality and employee constructs are not normally distributed as they are all negatively skewed. Hays (1994) and Saunders et al. (2012) say that the assumption of normality for t tests can be ignored with valid results.

The Mann Whitney test that is the non-parametric version of the t-test for non-normal data (Saunders et al., 2012) was also performed on these data because the assumption of normality was violated. In all cases both the t-test and Mann Whitney U test were performed the same conclusions were confirmed by both tests.

5.4.8 - ANOVA analysis of variance

One-way ANOVA or analysis of variance is used to test whether three or more groups are different (Babbie, 2011). ANOVA analyses the spread of data values by comparing means. The F statistic represents these differences (Saunders et al., 2012). If the likelihood of any difference between groups occurring by chance alone is low, this will be represented by a large F ratio with a probability of less than 0.05. This is termed statistically significant. One of the assumptions of using one-way ANOVA analysis is that the data for each group should be normal (Babbie, 2011). However, “this assumption is not particularly important provided that the number of cases in each group is large (30 or more)” (Saunders et al., 2012 p. 520).

Since each group in this study has more than 30 cases, one-way ANOVA was used to identify the differences in attitudes towards quality and employee happiness by sector, award winning status, tenure, position, company, and employment status. If the results of ANOVA were significant ($p < 0.05$), a post-hoc analysis with a Bonferroni method was conducted to identify differences in attitude towards quality and employee happiness among the variables.

5.4.9 - Bonferroni Test

When a significant F test result in the ANOVA test the null hypothesis was rejected, in these cases a Bonferroni post hoc test was used to understand which groups differ from the rest. In chapter six, sections 6.3 and 6.4 a Bonferroni post hoc test was used to identify differences between award winners and non-winners in attitudes towards quality and measures of happiness.

5.5 - Focus Group Analysis

The focus groups were conducted on December 5, 2012. The session was recorded and transcribed and the audio and summary notes are being held by the researcher. The researcher

faced several common tasks regarding this qualitative data. The transcript data needed to be organised and managed. The data needed to be segmented and coded into themes with meaning. Computer software can help speed all these tasks (Drisko, 1998). Speeding up common tasks allows the researchers to put more time into the interpretation that the software cannot perform (Drisko, 1998).

To speed up the analysis process, the focus group data were analysed using computer assisted Qualitative Data Analysis Software (QDAS). QDAS can broadly be categorised as text managers, code-and-retrieve programs and theory builders (Miles and Weitzman 1994). QDAS tools have the potential to increase reflexive and ethical practices, transparency of choices and collaboration during the research process (Paulus et al, 2014).

The chosen QDAS software of ATLAS.ti can also help researchers make sense of qualitative data. It extends the researcher's mental capabilities to organise, to remember, and to be systematic (Konopasek, 2008). Muhr (1997) refers to ATLAS.ti as “the knowledge workbench.” Atlas.ti enables researchers to visualise thoughts and mental operations. These “thoughts can be stored, recollected, classified, linked, filtered out in great numbers ... and made meaningful in sum (Konopasek, 2008).”

The data analysis was conducted using the following approach (Adapted from Creswell (2009)). These steps allowed for a systematic process of analysing the textual data. A systematic process of analysis is aimed at improving the reliability of this analysis.

Table 5.25 – Qualitative Review Process

Data Analysis in Qualitative Research - Adapted from Creswell (2009)
1) Organising and Preparing the Raw data (recorded and transcribed)
2) Reading through all the data
3) Coding the data using ATLAS.ti
4) Arrive at Themes
5) Interrelating Themes
6) Interpreting the Meaning of the Themes

The first step was done by recording the focus group with an audio device. The audio recording is stored by the researcher but not included here for ethical reasons. Once recorded, the researcher transcribed the recording into a 35-page transcript that is also being stored by the researcher. A summary of flip chart notes and group discussions were also prepared and are in the researchers protected files for ethical reasons.

The second step was done by reading through all the data. This was to obtain a general sense of the information to understand the overall meaning. Notes were completed to capture the researcher's general thoughts about the data.

The third step of coding was done to segment the data into categories. Coding is the process of organising the material into chunks or segments of text before bringing meaning to information (Rossman and Rallis, 1998, p. 171). The data were coded into 18 categories that were derived from the content. Refer to Appendix 7, Table a7.13 for Coding Summary with word count.

The top three codes used were return on excellence, return for the organisation, and engagement. The most frequently used codes show a pattern that can be grouped into the themes of definition, impact of excellence, and causation.

In addition to the code analysis a word count analysis of the transcript was also performed. This was to aid with data reliability and to overcome the subjective views of the researcher. This

analysis in Table a7.14 in Appendix 7 shows the most frequently used words in the transcript. Common insignificant words like “the, and, an” were removed from the results. Table a7.14 is limited to the words that appeared in the transcript more than 20 times. Engagement, people and satisfaction (theme of definition) were the top three words used in the transcript. Other commonly used words like ‘people’, ‘employees’, ‘impact’, and ‘cause’ form the basis for the other two themes of impact of excellence and causation.

The next step was done by grouping the codes and frequent words into themes and descriptions for analysis. As will be detailed in Chapter six, section 6.2 the themes were grouped into three categories. The first category was the common definition of engagement, moral and satisfaction. The second category was the specific impact of excellence on both the organisation and the employees. The third theme was the direction of the causation.

The last step was to interpret the meaning of the themes. That analysis is detailed in Chapter six, section 6.2 and focuses on the lessons learned in comparison to the survey data analysis and the information gleaned from the literature.

This chapter showed the specific details of the data analysis including response rates, frequency, and descriptive analysis. Data preparation and attitude scale construction are outlined. The chapter also provides descriptive and reliability analyses of the survey results. Each of the constructed measures were tested for reliability using Cronbach’s Alpha and item-to-total correlation namely. The results show that each of the constructs are reliable.

A detailed overview of the various statistical tests including frequency analysis, descriptive statistics, reliability analysis, Pearson correlation, cross tabulation, scatter diagrams, chi squared,

t-test/Mann Whitney U test, ANOVA analysis of variance are outlined and justified. The next chapter provides the data findings that answer the research questions.

Chapter Six - Data Findings

Chapter five provided the specific details of the data analysis including response rates, frequency, and descriptive analysis. A detailed overview of the various statistical tests were outlined and justified.

This chapter takes the valid and reliable data discussed in chapter five and outlines the specific results of the surveys and focus groups. All of the research questions are answered within this chapter. Section 6.1 uses relationship analysis to show how a focus on strategic quality has a significant correlation to the employee satisfaction, engagement, and morale. Section 6.2 shares results of the senior leadership focus groups that dealt specifically with the positive and negative impacts of an organisation's approach to strategic quality on employees. The last two sections of the chapter show how employees working at organisations with a strategic focus on quality (award winning organisations) have significantly higher morale, satisfaction, and engagement. Also there is evidence to show that attitudes towards quality and attitudes towards employee happiness are the same regardless of sectors, position, company, tenure, and employment status. All award winners have similar and consistently higher attitudes to quality and employee happiness.

6.1 - Construct Relationship Analysis

This section uses relationship analysis to show how a focus on strategic quality has a significant correlation to the employee satisfaction, engagement, and morale. The section begins with global construct relationships then explores the relationship between elements within each construct to see which elements have the strongest relationships. Pearson Correlation is used to measure the extent to which the quality measures are associated with employee happiness.

The detailed analysis answers the following question: Is there a relationship between a strategic approach to quality management (column A) and employee happiness (column B)

Column A: Drivers of a Strategic Approach to Quality (refer to strategic quality approach construct in 4.6.6)	Column B: Employee Happiness (refer to employee happiness construct in 4.6.7)
<ol style="list-style-type: none"> 1) Leadership 2) Planning 3) Customer Focus 4) People Focus 5) Process Management 6) Supplier Partner Focus 7) Organisational Performance 8) Measurement, Analysis, and knowledge Management 9) Innovation, Quality and Improvement 10) Leadership through involvement 11) Factual approach to decision making 12) Primary focus on the customers 13) Continuous learning and people involvement 14) Prevention based process management 15) Cooperation and teamwork (including partnerships) 16) Fulfilling obligations to all stakeholders and society 17) Focus on Results and Creating value 18) Continuous improvement and breakthrough thinking 	<ul style="list-style-type: none"> • Employee satisfaction • Employee engagement • Employee morale

In Table 6.1 the relationship between the entire constructs are listed. The quality construct (18 elements) is significantly correlated at the 0.01 level with the entire employee happiness construct (3 elements) at .780. This is a strong positive significant correlation, which means that the two constructs are related.

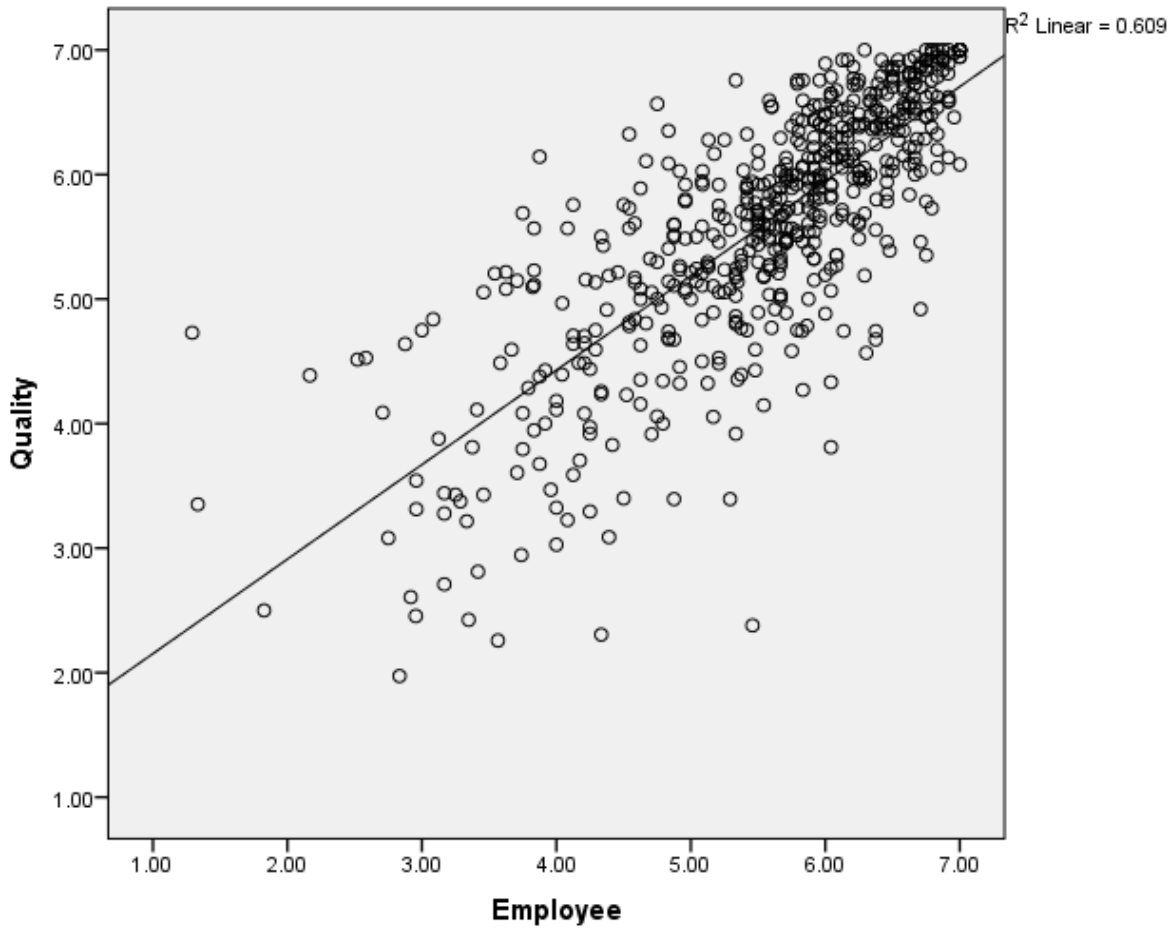
Table 6.1 - Construct Relationship Analysis Based on 591 Survey Responses

		Correlations				
		Quality	Morale1	Employee	Satisfaction	Engagement
Quality	Pearson Correlation	1	.758**	.780**	.691**	.734**
	Sig. (2-tailed)		.000	.000	.000	.000
	N	590	578	580	580	577
Morale1	Pearson Correlation	.758**	1	.926**	.777**	.818**
	Sig. (2-tailed)	.000		.000	.000	.000
	N	578	578	578	578	577
Employee	Pearson Correlation	.780**	.926**	1	.935**	.928**
	Sig. (2-tailed)	.000	.000		.000	.000
	N	580	578	580	580	577
Satisfaction	Pearson Correlation	.691**	.777**	.935**	1	.798**
	Sig. (2-tailed)	.000	.000	.000		.000
	N	580	578	580	580	577
Engagement	Pearson Correlation	.734**	.818**	.928**	.798**	1
	Sig. (2-tailed)	.000	.000	.000	.000	
	N	577	577	577	577	577

** . Correlation is significant at the 0.01 level (2-tailed).

The relationship between the entire quality construct (all 18 drivers) and the entire employee happiness construct (all 3 measures) is represented in Figure 6.1. Using the 591 results the correlation is 0.780, which is significant at the 0.01 level. A value of measures of association between 0.30 and 0.99 is considered evidence of strong association and the relationship is considered extremely interesting (Babbie, 2011).

Figure 6.1 – Entire Quality and Employee Constructs



Looking at a cross tab analysis (Table 6.2) of the 3-category quality attitude measure and the 3-category employee happiness measure (construction of these three category attitude measures is detailed in chapter three) there is a positive relationship between the two variables. There are no cases (0 per cent) where an individual felt that the quality measures were at a 1 (below average) and employee happiness was at a 3 (above average). 34.1 per cent of the time respondents felt that the quality measures were at a 2 (average) and employee happiness was at a 1 (below average). 65.9 per cent of the time when people felt that quality measures were 1 (below average) they also felt that employee happiness was at a 1 (below average). 100 per cent of

respondents (59.1 per cent at above average and 40.0 per cent average) who thought that quality measures were average or above average had above average employee happiness results.

Table 6.2 – Cross Tabulation of Entire Quality Construct with Entire Employee Construct

quality3cat * employee3cat Crosstabulation

		employee3cat			Total	
		1.00	2.00	3.00		
quality3cat	1.00	Count	60	28	0	88
		% within employee3cat	65.9%	7.1%	0.0%	15.2%
	2.00	Count	31	333	38	402
		% within employee3cat	34.1%	84.1%	40.9%	69.3%
	3.00	Count	0	35	55	90
		% within employee3cat	0.0%	8.8%	59.1%	15.5%
Total		Count	91	396	93	580
		% within employee3cat	100.0%	100.0%	100.0%	100.0%

The results of the Pearson correlation, the scatter diagram, and the cross tabulation are all indicating that there is a strong positive relationship between an organisations overall strategic approach to quality and higher levels of employee morale, satisfaction, and engagement. It seems that as an organisation’s quality scores increase there is a higher collective level of satisfaction, engagement, and morale for employees. The next section looks at the relationship between quality and satisfaction alone.

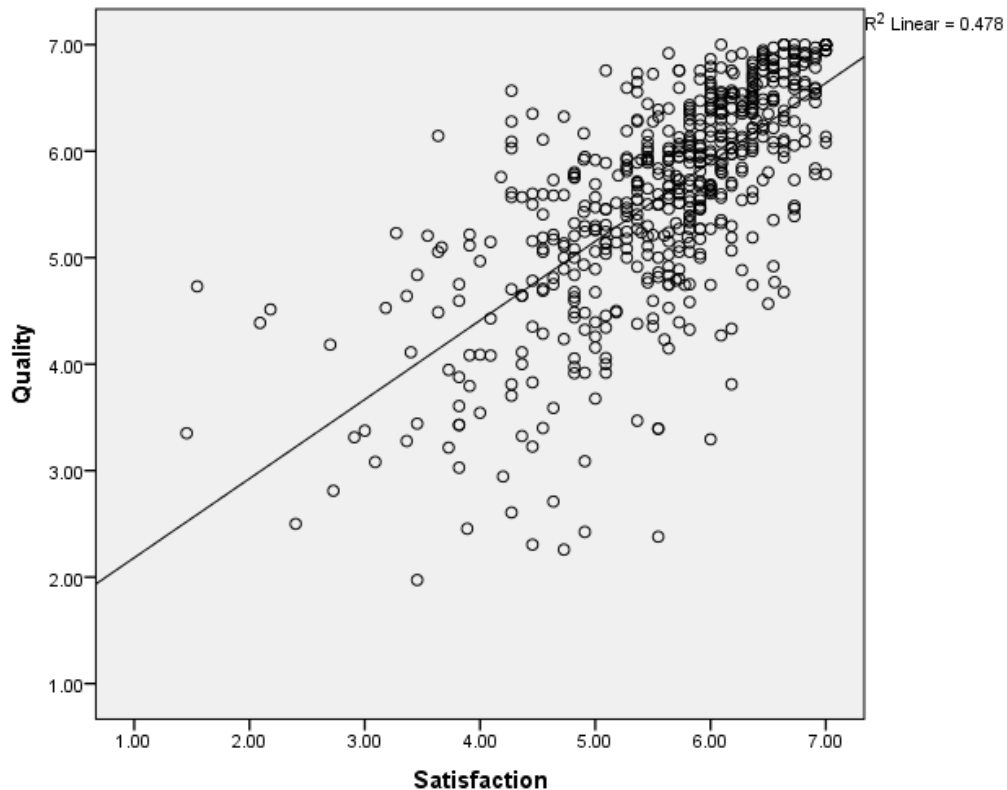
6.1.2 - Quality and Satisfaction Relationship Analysis

Table 6.1 shows how the Quality Construct (18 elements) is significantly correlated at the 0.01 level with the Satisfaction element at 0.619. This is a strong, positive, significant correlation, which means that quality and satisfaction are related. Out of the three elements of employee

happiness, satisfaction had the lowest Pearson correlation. However, this is still considered a very strong positive relationship (Babbie, 2011).

The following scatter diagram (Figure 6.2) shows the relationship between the entire quality construct (all 18 drivers) and employee satisfaction (1 of the 3 employee measures of happiness).

Figure 6.2 – Entire Quality Construct and Single Satisfaction Element



Looking at a cross tab analysis (Table 6.3) of the 3-category quality attitude measure and the 3-category satisfaction measure, there is a positive relationship between the two variables. There are no cases (0 per cent) where an individual felt that the quality measures were at a 1 (below average) and the satisfaction measure was at a 3 (above average). 46.2 per cent of the time respondents felt that the quality measures were at a 2 (average) and the satisfaction measure was at a 1 (below average). 53.8 per cent of the time when people felt that quality measures were 1

(below average) they also felt that the satisfaction measure was at a 1 (below average). 100 per cent of respondents (57.6 per cent at above average and 42.4 per cent average) who thought that quality measures were average or above average had above average satisfaction results.

Table 6.3 – Three Category Quality Compared with Three Category Satisfaction

quality3cat * sat3cat Crosstabulation

		sat3cat			Total	
		1.00	2.00	3.00		
quality3cat	1.00	Count	43	45	0	88
		% within sat3cat	53.8%	11.0%	0.0%	15.2%
	2.00	Count	37	326	39	402
		% within sat3cat	46.2%	79.9%	42.4%	69.3%
	3.00	Count	0	37	53	90
		% within sat3cat	0.0%	9.1%	57.6%	15.5%
Total		Count	80	408	92	580
		% within sat3cat	100.0%	100.0%	100.0%	100.0%

The results of the Pearson correlation, the scatter diagram, and the cross tabulation are all indicating that there is a strong positive relationship between an organisations overall strategic approach to quality and higher levels of employee satisfaction. Results indicate that as an organisation’s quality scores increase there is a higher level of satisfaction for employees. The next section looks at the relationship between quality and engagement alone.

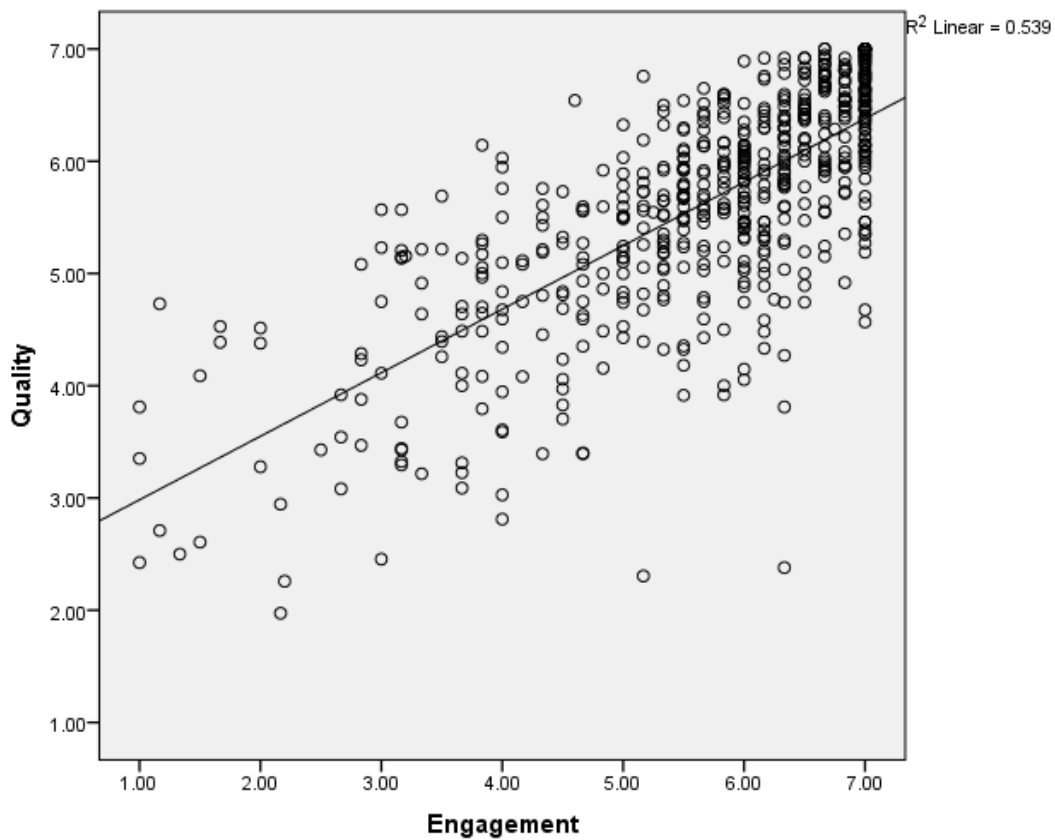
6.1.3 - Quality and Engagement Relationship Analysis

Table 6.1 shows how the quality construct (18 elements) is significantly correlated at the 0.01 level with the engagement element at 0.734. This is a strong, positive, significant correlation,

which means that quality and engagement are related. This is considered a very strong positive relationship (Babbie, 2011).

The following scatter diagram (Figure 6.3) shows this relationship in graphical form. As the quality construct measure gets higher the engagement measure seems to move in the same direction.

Figure 6.3 – Quality Construct and Engagement Element



The cross tab analysis (Table 6.4) provides further evidence that there is a strong relationship between the 3-category quality attitude measure and the 3-category engagement measure. There was one single case (1.1 per cent) where an individual felt that the quality measures were at a 1 (below average) and the engagement measure was at a 3 (above average). 45.4 per cent of the

time respondents felt that the quality measures were at a 2 (average) and the engagement measure was at a 1 (below average). 54.6 per cent of the time people felt that quality measures were 1 (below average) they also felt that the engagement measure was at a 1 (below average). 98.9 per cent of respondents (49.5 per cent at above average and 49.5 per cent average) who thought that quality measures were average or above average had above average engagement results.

Table 6.4 - Three Category Quality Compared with Three Category Engagement

quality3cat * eng3cat Crosstabulation

		eng3cat			Total	
		1.00	2.00	3.00		
quality3cat	1.00	Count	53	33	1	87
		% within eng3cat	54.6%	8.5%	1.1%	15.1%
	2.00	Count	44	310	46	400
		% within eng3cat	45.4%	80.1%	49.5%	69.3%
	3.00	Count	0	44	46	90
		% within eng3cat	0.0%	11.4%	49.5%	15.6%
Total	Count	97	387	93	577	
	% within eng3cat	100.0%	100.0%	100.0%	100.0%	

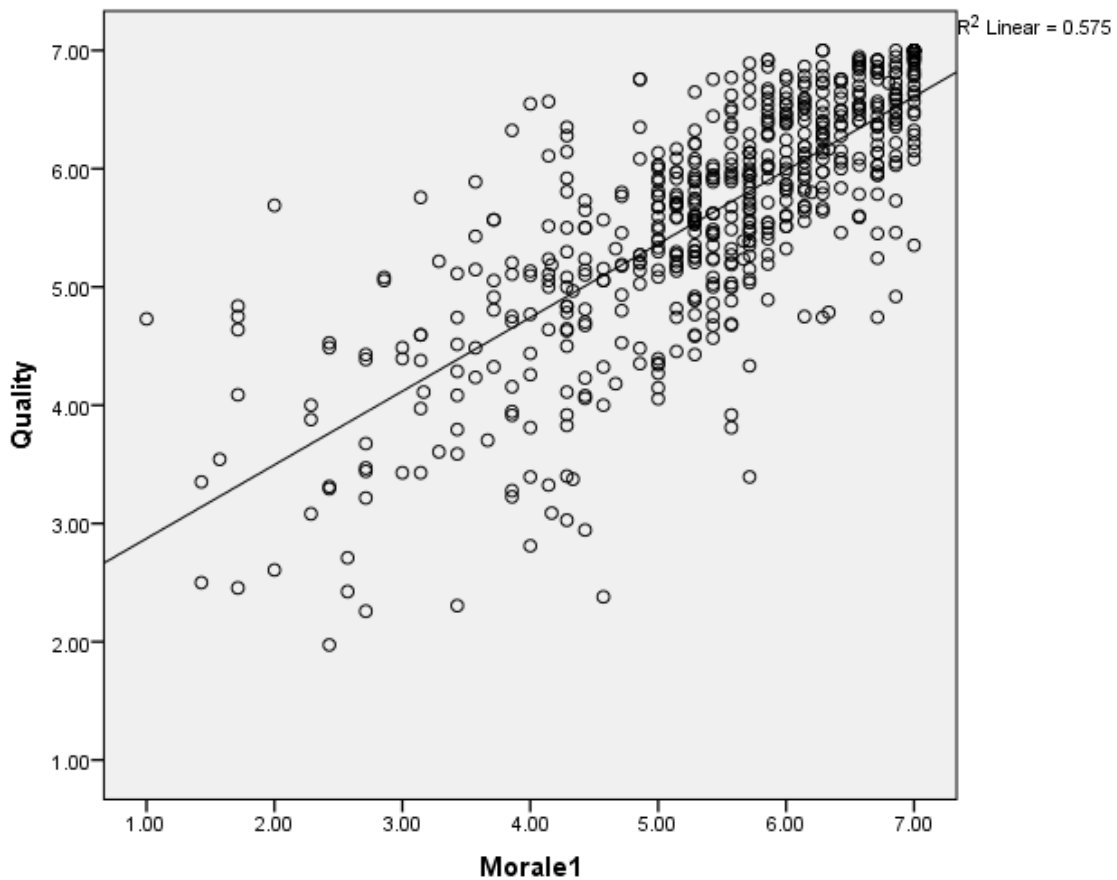
The results of the Pearson correlation, the scatter diagram, and the cross tabulation are all indicating that there is a strong positive relationship between an organisations overall strategic approach to quality and higher levels of employee engagement. Results indicate that as an organisation’s quality scores increase there is a higher level of engagement for employees. The next section looks at the relationship between quality and morale alone.

6.1.4 - Quality and Morale Relationship Analysis

Table 6.1 shows how the quality construct (18 elements) is significantly correlated at the 0.01 level with the morale element at 0.758. This is a strong, positive, significant correlation, which means that Quality and morale are related. This is the strongest correlation out of all the elements of employee happiness.

The following scatter diagram (Figure 6.4) shows this relationship in graphical form. As the quality construct measure gets higher the morale measure moves in the same direction.

Figure 6.4 – Quality Construct and Morale Element



The cross tab analysis (Table 6.5) also indicates that there is a strong relationship between the 3-category quality attitude measure and the 3-category morale measure. There were no cases (0 per cent) where an individual felt that the quality measures were at a 1 (below average) and the morale measure was at a 3 (above average). 40 per cent of the time respondents felt that the quality measures were at a 2 (average) and the morale measure was at a 1 (below average). 60 per cent of the time people felt that quality measures were 1 (below average) they also felt that the morale measure was at a 1 (below average). 100 per cent of respondents (51.1 per cent at above average and 48.9 per cent average) who thought that quality measures were average or above average had above average engagement results.

Table 6.5 – Three Category Quality Compared with Three Category Morale

quality3cat * mor3cat Crosstabulation

		mor3cat			Total	
		1.00	2.00	3.00		
quality3cat	1.00	Count	54	34	0	88
		% within mor3cat	60.0%	8.6%	0.0%	15.2%
	2.00	Count	36	319	45	400
		% within mor3cat	40.0%	80.6%	48.9%	69.2%
	3.00	Count	0	43	47	90
		% within mor3cat	0.0%	10.9%	51.1%	15.6%
Total		Count	90	396	92	578
		% within mor3cat	100.0%	100.0%	100.0%	100.0%

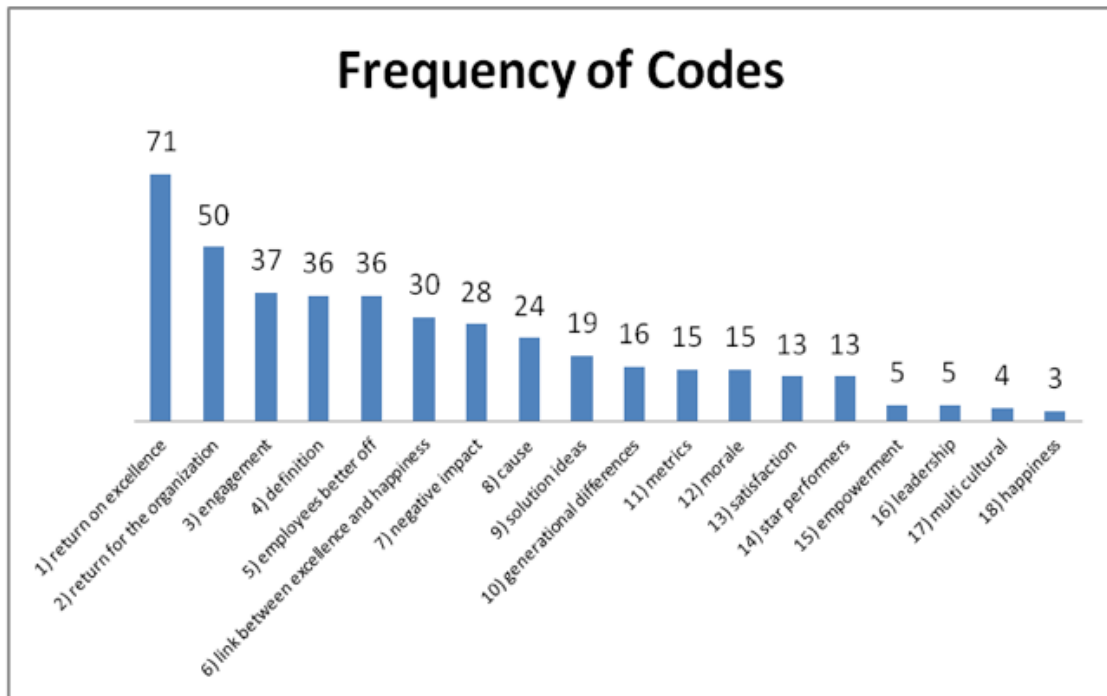
The results of the Pearson correlation, the scatter diagram, and the cross tabulation are all indicating that there is a strong positive relationship between an organisations overall strategic approach to quality and higher levels of employee morale. Results indicate that as an organisation’s quality scores increase there is a higher level of morale for employees.

This section showed that based on the Pearson correlation analysis, the scatter diagrams, and the cross tabulation analysis, it is clear that there is a significant positive correlation between quality and employee happiness. The quality construct has very strong correlation of 0.780 with the employee construct. There is also a significant correlation between the quality construct and each element of employee happiness. Morale had the strongest correlation at 0.758. Engagement was the second strongest correlation at 0.734. Satisfaction had the least correlation at 0.691, which is still a strong significant relationship. The next section shows the both the positive and negative impact of strategic quality on employees.

6.2 - Issues and Findings 2 – What is the impact of strategic quality on employees

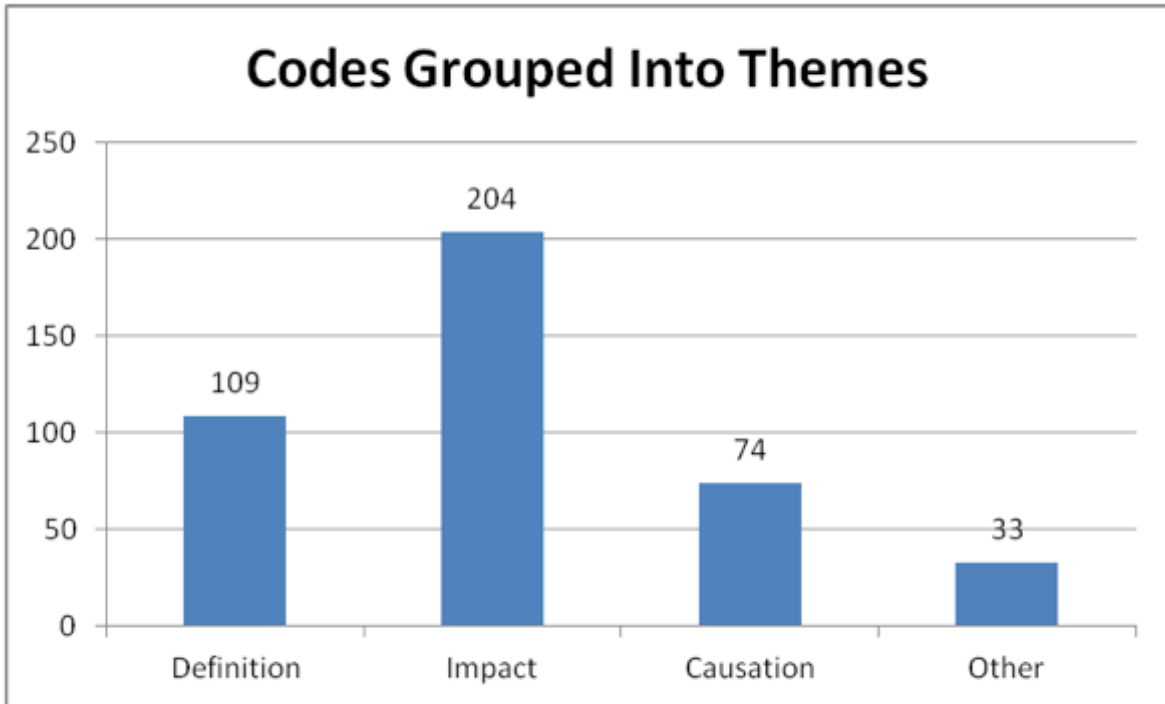
This section shares the results of the senior leadership focus groups that dealt specifically with the definition of engagement, morale and satisfaction, the positive and negative impacts of an organisation's approach to strategic quality on employees, and the direction of the causation. The focus groups were conducted on December 5, 2012. The session was recorded and transcribed and the audio and summary notes are being held by the researcher. The data analysis was conducted using ATLAS.ti. The data were coded into 18 categories (refer to Figure 6.5). Return on excellence was the most frequently used code with 71 occurrences. Return for the organisation, engagement, definition, and employees better off were the next most frequently used codes with 50, 37, 36 and 36 respectively. In total there were 420 codes used throughout the transcript.

Figure 6.5 – Frequency of Codes



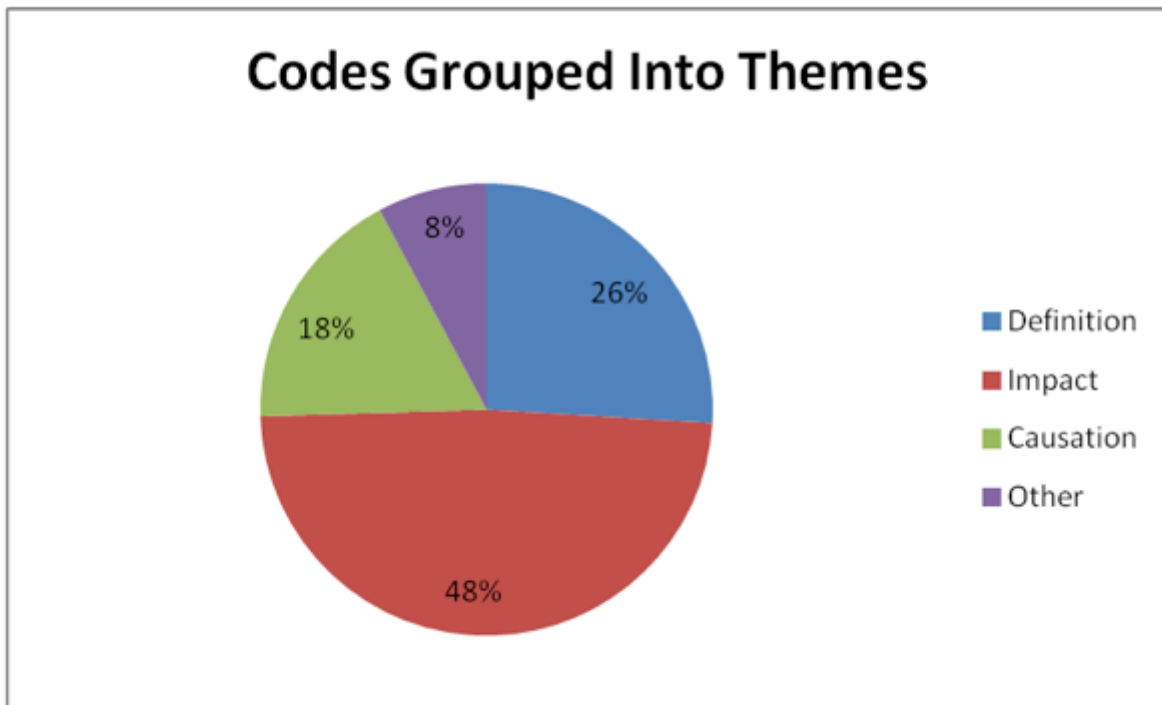
Grouping these codes together (Figure 6.6) reveals the three most prevalent themes of the focus group. When the codes are grouped together codes related to the Impact were the most frequent with 204 total codes in that group. The definition of happiness at work was the second biggest group with 109 codes in that group. The third most used codes were related to causation with 74 codes in that group. The 33 remaining code references that did not fit into any of these categories were labelled as “other”. The “Impact” group included codes 1, 2, 5, 7, and 9 combined. The “Definition” group included codes 3, 4, 12, 13, 15 and 18. The “Cause” group included codes 6, 8, 11, and 16. The “Other” group included the remaining codes that did not fit in any of the other groups including 10, 14, and 17.

Figure 6.6 – Codes Grouped Together Into Themes



The impact theme represented 48 per cent of the cited codes. The definition theme represented 26 per cent of the cited codes. The causation theme accounted for 18 per cent of the cited codes and the other category was the remaining 8 per cent. Refer to Figure 6.7.

Figure 6.7 – Prevalence of Code Group as a Percentage



These three themes are summarized in section 6.2.1, 6.2.2 and 6.2.3. The focus group sessions will be described with rich thick description to convey the findings. From the leadership focus group with 22 senior executives (recorded and retained by researcher) it was determined that the strategic quality implementation impacts employees in many ways. The focus group discussion led to powerful insights into how a strategic focus on quality can lead to improved employee satisfaction, morale, and engagement. This group helped define happiness at work, gave specific examples of the impact of quality on happiness, and discussed the direction of the causation.

6.2.1 - Impact of Quality

As per Figure 6.7 the transcript codes revealed that the impact of quality was the most prevalent theme of the discussion. The focus group members stressed that there are both positive and negative impacts of implementing a strategic approach to quality management.

After analysing the transcript the two most significant elements of positive impact were split up in two categories. The first is how implementing a strategic approach to quality will benefit the organisation and the second is how implementing a strategic approach to quality will benefit the individual employee.

A quote from the transcript regarding performance improvements “In this case we identify customer satisfaction connected to quality and excellence, we have better financial performance, we are able to sustain a high quality brand, a high value proposition and to be able charge a premium for that higher quality level of service or product. This improves the reputation for the organisation.”

The benefits of implementing quality to the organisations can be categorized as either performance improvements or the benefits associated with being recognized as a leader (See Table 6.6).

Table 6.6 – Positive Impact of Strategic Quality on the Organisation

Performance Improvements	Recognition Improvements
<ul style="list-style-type: none"> - Customer satisfaction increase - Financial performance increase - Productivity increase - Increased resilience and being able to go through tough times - Can count on staff to see you through storms - Increased mental health/wellness - Helps meet strategic objectives - Shared values, teams - Trust/caring culture 	<ul style="list-style-type: none"> - Maintain brand/position - Can sustain a high quality brand and charge a premium where appropriate - Increase reputation - Retention/recruitment benefits - Awards and certifications and the good will that accompany these awards.

The group concluded that measurable performance improvements like customer satisfaction increases, financial performance increases and productivity increases were happening as a result

of their strategic quality management initiatives. The following quote from one of the leaders summed up the discussion around measures: “We thought obviously excellence programmes drives cost down, drives transaction cost down, drives per unit cost down, and increase the accuracy of our work (Quote by Public Sector, Chief Administrative Officer).”

There are also several benefits to individual employees that were identified. These benefits are valuable in telling the “what’s in it for me” story. There were several benefits identified and they are summarized below in Table 6.7.

Table 6.7 – Benefits to the Employee from Organisation’s Strategic Approach to Quality

<ul style="list-style-type: none">- Opportunities both professional and personal- Job success/sustainability- Pride- Stable employment- Reputation- Happier/Healthier- Growth and Development- Ownership/empowerment/contribution- Loyalty- Increased self-awareness- Sense of belonging- Co-worker cohesion- Political credibility/respect- Freedom/autonomy- Enhanced career path- Financial/performance recognition- Peer recognition- Clear understanding of direction- Personal alignment to common goal “I make a difference”

The following quote represented the general opinion of the positive impact of a strategic approach to quality on employees. “We identified several benefits for employees through the various programmes and initiatives, opportunities for personal, professional development and career goals. There is a greater level of trust among teams where the business is committed to quality and excellence. There is job stability but also more solid organisation because it’s more

effective. Generally there is a happier and healthier workforce (Quote from Private Sector President and CEO).”

There was also some discussion about the negative impact of quality on employees. The negative impacts were also explored with some thought on how these can be overcome. A quote from one of the CEO’s in the room told the story of the perception of more work: “Out of the shoot people think that there is an increase in process and documentation, and there is probably more work, and who is going to do it, and who is going to do my job if I’m involved in it (Quote from Private Sector, President and CEO)?”

The negative impacts on employees were coded 28 times in the transcript. This represents 7 per cent of all coding. Refer to Table 6.8 for a summary of the most prevalent negative impacts. It was stressed by some of the participants that these negative impacts could be overcome with the right communication strategy. The following quote supports this thinking. “The key to eliminating or countering this we thought was about trust, about commitment, about accountability and it’s about communication, and so identifying clearly what it is the journey we are on and what it is going to look like when we get there, and what are the milestones on the way so we can celebrate (Quote from Private Sector, President and CEO).” The way to overcome these negative impacts was to increase trust, outline leadership commitment and accountability and to implement a staged communication strategy.

Table 6.8 - Negative Impacts of Quality on Employees

<ul style="list-style-type: none">- Perception of increased workload- Perception of Front end workload on documentation and process- Lack of understanding on who is going to do all this work?- Can be perceived as unfair when there is not a clear line of accountability- Perception that we must not be doing a good enough job today if we are trying to improve- General fear of change from status quo

- “Here we go again” mentality associated with “flavour of the month” programs

This section summarized the leadership focus group’s discussion about the impact of a strategic approach to quality on employees. The following section outlines the group’s opinion about the definition of what they called “happiness at work”.

6.2.2 - Defining Happiness at work

Defining happiness at work was the second most prevalent code theme. The group agreed that happiness at work is a function of engagement, morale, and satisfaction. This confirmed and further validated the choice of employee measures of happiness that were based on the literature as outlined in Chapter three.

The group defined an "engaged employee" as one who is fully involved in, and enthusiastic about their work, and thus will act in a way that furthers their organisation's interests. The group thought that engaged employees “say” good things about their organisations, they “stay” at their organisations, and they “thrive” and go over and above what is being asked of them. One of the CEO’s said “The hallmarks of engagement will be innovative work places where people take ownership, where people are proactive, where there is a high level of dedication to their work, and to not only professionalism but excellence beyond professionalism, just going over and above, with a connectedness and commitment to the organisational vision, mission, goals and objectives (Quote from Private Sector, President and CEO).”

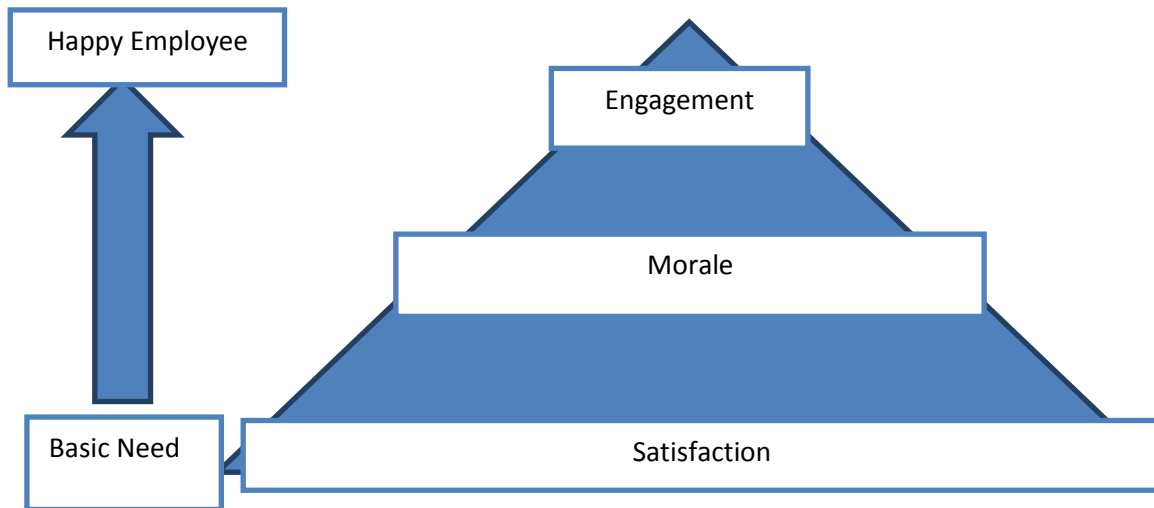
Satisfaction was looked at in two ways. There was affective job satisfaction, which reflects the degree of pleasure or happiness their job in general induces. There was also cognitive job

satisfaction, which is defined as being a more objective and logical evaluation of various facets of a job like pay, supervisor and other needs. A quote from the discussion regarding satisfaction will add description to this definition. “We saw the base line as being satisfaction. Things like working conditions, pay scale, supervision, your boss, co-workers, work life balance, sort of like the base in the hierarchies of needs if you will (Quote from Private Sector, President).”

Morale was said to be the most fragile of the three items and is the capacity of a group of people to pull together persistently and consistently in pursuit of a common purpose. The group said that “The basics of satisfaction drive morale and when we looked at morale we identified it to be the belief in the organisation, a sense of well-being, recognition, support, and care (Quote from Private Sector President).”

The focus group saw a link between the three items and there was consensus that satisfaction was a basic need and that morale was dependant on satisfaction and that engagement was the ultimate goal and it was dependant on both morale and satisfaction. Figure 6.8 shows the relationship between the three variables as outlined by the focus group members. As you go from the base of the triangle from satisfaction to morale to engagement. The employee is more likely to stay and go over and above the call of duty.

Figure 6.8 : Employee Engagement is reliant on the basics of morale and satisfaction



The following quote from the transcript was an analogy to explain Figure 6.8. “It’s about the head, the heart, and hands. Your head’s in the game (Satisfaction), your heart’s in it (Morale) your committed passionately about it (Engagement), you feel like you are part of a team and you want to make a difference, if you are engaged you want to put your back in it and that’s the kind of engagements score that we try to achieve (Quote from Private Sector President and CEO).”

The next section will summarize the discussion on the direction of the causation.

6.2.3 - Direction of the causation

Causation was the third most prevalent theme when the codes were grouped. The causation discussion was hoping to answer the following question: “Is it a focus on quality that causes happy employees or is it happy employees that cause quality?” The consensus was that you cannot have one without the other. The following quote sums up the discussion around causation “Our group had complete consensus on the link between quality and satisfaction, I mean, I was expecting some possibility of some debate about it but it was just so matter of fact, I think all of us had lived it, it just seems so inherently obvious to us that it’s essential that the two are linked

to achieve excellence I don't think you can have one without the other (Quote from Private Sector Chief Operating Officer).”

What was beyond debate among those in the focus groups was that the relationship exists. Focus group members felt strongly that you cannot truly fix business problems without having happy employees. You cannot have happy employees without having a focus on quality principles. The following quote was consistent with the general view: “We talked about the direction between one with the other, I think it's a bit of a theoretical debate about which one comes first but I think it's beyond the debates you can't have one without the other, I don't think you can truly fix business problems without having the engagement element and I think we are all in agreement (Quote from Private Sector Chief Operating Officer).”

When you create an environment that fosters strategic quality then everything else becomes possible. When leadership teams remove barriers and empower employees to fix their own problems then happiness can thrive. The following quote was the general point of view among those in the focus group on empowerment: “The word empowerment came up a lot, empowerment was probably one of the biggest links between the two, when you are creating an environment of empowerment that's what makes everything possible and when you get people fixing their own problems we talked about rewards earlier, one of the key thing we talked about rewards to the company it's actually rewards to the employee, a clear path to financial rewards (Quote from Public Sector Senior Vice President).”

The conclusion on causation was that it's an iterative process where positive results from a strategic quality focus lead to happier employees and happier employees then contribute more to the strategic quality focus. The opposite vicious cycle is also possible and should be noted where

unhappy employee's poor attitudes and negative behaviours impacting the organisations ability to implement quality making them more unhappy among other related points.

There were three major themes of the focus group qualitative discussion. First there is a clear positive relationship between an organisation that successfully implements quality and higher levels of employee engagement, satisfaction, and morale. Some of the specific examples of benefits to the organisation are improved performance in the area of customer satisfaction, financials/bottom line, and process management. Also, the organisation can be recognized for their efforts and see benefits of recognition and improved reputation. The benefits are not only for the organisation because the individuals within these organisations also see clear tangible benefits including financial/performance recognition, growth and development, enhanced career path, sense of belonging, and the ability to make a difference.

Second the group defined employee happiness at work. Happiness at work is a function of employee engagement, satisfaction and morale. This is consistent with the literature outlined in chapter three. Engagement was the most significant driver of an organisation's quality journey. Employee engagement was a key measure for organisations implementing quality and good levels of engagement was dependant on good job satisfaction and good morale.

Third, the group discussed the direction of the causation. In theory there is a start and a finish to this equation. However in reality this cycle does not appear to have a clear starting line. An organisation's commitment to quality helps foster an environment that makes people happy at work. Happier people at work help make implementation of quality easier. So this cycle has an iterative, virtuous nature that needs continued nourishment on both ends. The next section uses

statistical analysis to compare attitudes towards quality and happiness measures for award winning organisations and non-winners.

6.3 - Differences between Award Winners and Non-Winners attitude to quality

This section compares the results from award winning organisations to non-winning organisations. The section illustrates how employees are significantly happier (higher morale, satisfaction, and engagement) at organisations that have a strategic focus on quality (award winners). Attitudes towards quality are compared using chi squared, cross tab, and ANOVA/t-test analysis of variance to show how all award winners have similar attitudes to quality.

The minimum sample size needed for valid t-tests and ANOVA analysis using the survey data was n=30 (Bartkowiak and Sen, 2007; Boos and Hughes-Oliver, 2000). One of the assumptions of using one-way ANOVA analysis and t-test is that the data for each group should be normal (Babbie, 2011). However, “this assumption is not particularly important provided that the number of cases in each group is large (30 or more)” (Saunders et al., 2012 p. 520). In this chapter each ANOVA/T-tests are done for groups with greater than 30 cases in each group.

Null hypothesis 1 was tested to determine if attitudes towards quality differ between award winners and non-winners. If award winners are different than non-winners conclusions can be drawn to further illustrate the relationship and impact of a strategic approach to quality on the organisation.

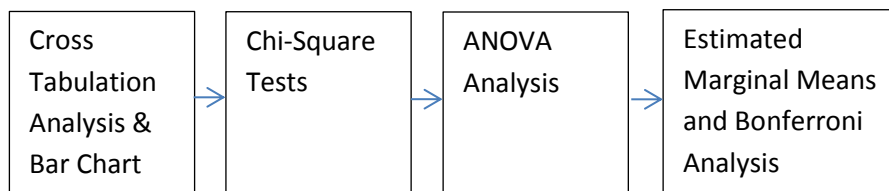
Null Hypothesis 1: All quality attitude results are the same within the award winning organisations

- Sub Null Hypothesis 1A : All quality attitude results are the same for award winning organisations by sector

- Sub Null Hypothesis 1B : All quality attitude results are the same for award winning organisations by tenure
- Sub Null Hypothesis 1C : All quality attitude results are the same for award winning organisations by position
- Sub Null Hypothesis 1D : All quality attitude results are the same for award winning organisations by company
- Sub Null Hypothesis 1E : All quality attitude results are the same for award winning organisations by employment status

Each of the Sub Null Hypotheses was examined to determine significant differences using the approach in the following flow charts (Figure 6.9 and 6.10). For attributes with three or more categories (tenure, position, and company) cross tabulation analysis, Chi-Square tests, ANOVA analysis, and estimated marginal means with Bonferroni analysis were used (Skinner et al., 1989; Babbie 1990; Chambers and Skinner, 2003; Babbie, 2011). The cross tabulation analysis and bar charts show if differences exist at all, the chi-square test confirms if the differences are statistically significant, the ANOVA analysis shows the differences between categories, the estimated marginal means and Bonferroni analysis shows which categories have statistically significant differences (Skinner et al., 1989; Babbie 1990; Chambers and Skinner, 2003; Babbie, 2011).

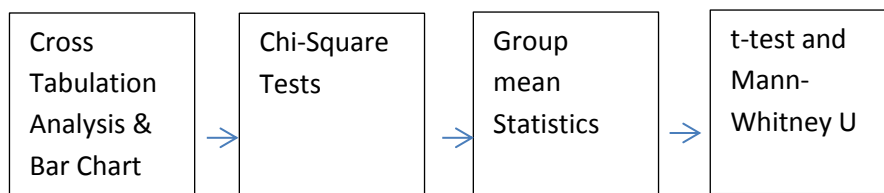
Figure 6.9 – Flow Chart of Survey Analysis –Three or More Categories



For attributes with two categories (sector, award winning status, and employment status), cross tabulation analysis, chi-square test, t-tests, and Mann-Whitney U analysis were used (Skinner et al., 1989; Babbie 1990; Chambers and Skinner, 2003; Babbie, 2011). The cross tabulation analysis

and bar charts show if differences exist between categories, the chi-square test confirms if the differences are statistically significant, the group statistics shows if the means of the attributes are different, the t-test and where data was not normally distributed a non-parametric Mann Whitney U analysis was also performed to show if the differences in means are statistically significant (Skinner et al., 1989; Babbie 1990; Chambers and Skinner, 2003; Babbie, 2011).

Figure 6.10 – Flow Chart of Survey Analysis – Two Categories



6.3.1 - Sub Null Hypothesis 1A: All attitudes towards quality are the same for award winning organisations by sector

This section presents the results of the survey, analysing potential differences in attitude towards quality by sector looking at award winners only. If the findings indicate that award-winning organisations are different by sector than non-winners, then conclusions can be drawn about the relationship and impact of a strategic approach to quality on employee happiness. The section will show that attitudes towards quality are the same for award winners regardless of sector.

Table 6.9 provides a summary of all of the statistics and conclusions based on the analysis. The cross tabulation analysis and bar charts showed no unexpected differences in the results. The chi-square test was not significant and confirmed there were no unexpected differences. The group mean statistics showed minor differences between the two categories. The t-test and Mann Whitney U analysis confirmed that the differences were not statistically significant.

Table 6.9 - Summary of Statistics and Analysis, Quality Sector

Test	Chart or Table – Sector for Award Winners	What it means																																																											
<p>Cross Tab Analysis & Bar Chart</p>	<p style="text-align: center;">quality3cat * Sector Crosstabulation</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="2" rowspan="2"></th> <th colspan="2" style="text-align: center;">Sector</th> <th rowspan="2" style="text-align: center;">Total</th> </tr> <tr> <th style="text-align: center;">Private Sector</th> <th style="text-align: center;">Not for Profit</th> </tr> </thead> <tbody> <tr> <td rowspan="3" style="text-align: center;">1.00</td> <td style="text-align: right;">Count</td> <td style="text-align: center;">10</td> <td style="text-align: center;">3</td> <td style="text-align: center;">13</td> </tr> <tr> <td style="text-align: right;">Expected Count</td> <td style="text-align: center;">11.1</td> <td style="text-align: center;">1.9</td> <td style="text-align: center;">13.0</td> </tr> <tr> <td style="text-align: right;">% within Sector</td> <td style="text-align: center;">3.9%</td> <td style="text-align: center;">6.8%</td> <td style="text-align: center;">4.3%</td> </tr> <tr> <td rowspan="3" style="text-align: center;">2.00</td> <td style="text-align: right;">Count</td> <td style="text-align: center;">168</td> <td style="text-align: center;">33</td> <td style="text-align: center;">201</td> </tr> <tr> <td style="text-align: right;">Expected Count</td> <td style="text-align: center;">171.4</td> <td style="text-align: center;">29.6</td> <td style="text-align: center;">201.0</td> </tr> <tr> <td style="text-align: right;">% within Sector</td> <td style="text-align: center;">65.9%</td> <td style="text-align: center;">75.0%</td> <td style="text-align: center;">67.2%</td> </tr> <tr> <td rowspan="3" style="text-align: center;">3.00</td> <td style="text-align: right;">Count</td> <td style="text-align: center;">77</td> <td style="text-align: center;">8</td> <td style="text-align: center;">85</td> </tr> <tr> <td style="text-align: right;">Expected Count</td> <td style="text-align: center;">72.5</td> <td style="text-align: center;">12.5</td> <td style="text-align: center;">85.0</td> </tr> <tr> <td style="text-align: right;">% within Sector</td> <td style="text-align: center;">30.2%</td> <td style="text-align: center;">18.2%</td> <td style="text-align: center;">28.4%</td> </tr> <tr> <td rowspan="3" style="text-align: center;">Total</td> <td style="text-align: right;">Count</td> <td style="text-align: center;">255</td> <td style="text-align: center;">44</td> <td style="text-align: center;">299</td> </tr> <tr> <td style="text-align: right;">Expected Count</td> <td style="text-align: center;">255.0</td> <td style="text-align: center;">44.0</td> <td style="text-align: center;">299.0</td> </tr> <tr> <td style="text-align: right;">% within Sector</td> <td style="text-align: center;">100.0%</td> <td style="text-align: center;">100.0%</td> <td style="text-align: center;">100.0%</td> </tr> </tbody> </table> <p style="text-align: center;">Bar Chart</p>			Sector		Total	Private Sector	Not for Profit	1.00	Count	10	3	13	Expected Count	11.1	1.9	13.0	% within Sector	3.9%	6.8%	4.3%	2.00	Count	168	33	201	Expected Count	171.4	29.6	201.0	% within Sector	65.9%	75.0%	67.2%	3.00	Count	77	8	85	Expected Count	72.5	12.5	85.0	% within Sector	30.2%	18.2%	28.4%	Total	Count	255	44	299	Expected Count	255.0	44.0	299.0	% within Sector	100.0%	100.0%	100.0%	<ul style="list-style-type: none"> • Pattern seems to be consistent with that of a random sample • The expected distributions for both private and not for profit were similar to the actual distributions
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t-test and Mann-Whitney U	<p style="text-align: center;">Independent Samples Test</p> <table border="1"> <thead> <tr> <th rowspan="2"></th> <th colspan="2">Levene's Test for Equality of Variances</th> <th colspan="7">t-test for Equality of Means</th> </tr> <tr> <th>F</th> <th>Sig.</th> <th>t</th> <th>df</th> <th>Sig. (2-tailed)</th> <th>Mean Difference</th> <th>Std. Error Difference</th> <th colspan="2">95% Confidence Interval of the Difference</th> </tr> </thead> <tbody> <tr> <td rowspan="2">quality3cat</td> <td>Equal variances assumed</td> <td>6.817</td> <td>.009</td> <td>1.762</td> <td>297</td> <td>.079</td> <td>.14911</td> <td>.08463</td> <td>Lower</td> <td>Upper</td> </tr> <tr> <td>Equal variances not assumed</td> <td></td> <td></td> <td>1.837</td> <td>60.946</td> <td>.071</td> <td>.14911</td> <td>.08115</td> <td>-.01316</td> <td>.31138</td> </tr> </tbody> </table> <p style="text-align: center;">Test Statistics^a</p> <table border="1"> <thead> <tr> <th></th> <th>quality3cat</th> </tr> </thead> <tbody> <tr> <td>Mann-Whitney U</td> <td>4849.000</td> </tr> <tr> <td>Wilcoxon W</td> <td>5839.000</td> </tr> <tr> <td>Z</td> <td>-1.751</td> </tr> <tr> <td>Asymp. Sig. (2-tailed)</td> <td>.080</td> </tr> </tbody> </table> <p>a. Grouping Variable: Sector</p>		Levene's Test for Equality of Variances		t-test for Equality of Means							F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference		quality3cat	Equal variances assumed	6.817	.009	1.762	297	.079	.14911	.08463	Lower	Upper	Equal variances not assumed			1.837	60.946	.071	.14911	.08115	-.01316	.31138		quality3cat	Mann-Whitney U	4849.000	Wilcoxon W	5839.000	Z	-1.751	Asymp. Sig. (2-tailed)	.080	<ul style="list-style-type: none"> Shows a non-significant t-test for award winners by sector. Suggests that the differences are not statistically significant. The Mann-Whitney U test confirms the t-test results.
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The results show that there are no significant differences in attitude towards quality between Private Sector organisations that have won the Canada Awards for Excellence and not-for-profit organisations that have won the award. Sub Null hypothesis 1A is therefore accepted because attitudes towards quality are the same for award winning organisations by sector.

Table 6.10 – Global Results Including Non-Winners – Quality Attitude – Sector

Estimated Marginal Means and Bonferroni Analysis		What it means																																																		
<p style="text-align: center;">Estimated Marginal Means of quality3cat</p> <p style="text-align: center;">Multiple Comparisons</p> <p>Dependent Variable: quality3cat</p> <table border="1"> <thead> <tr> <th colspan="2">Bonferroni</th> <th rowspan="2">Mean Difference (I-J)</th> <th rowspan="2">Std. Error</th> <th rowspan="2">Sig.</th> <th colspan="2">95% Confidence Interval</th> </tr> <tr> <th>(I) Sector</th> <th>(J) Sector</th> <th>Lower Bound</th> <th>Upper Bound</th> </tr> </thead> <tbody> <tr> <td rowspan="2">Private Sector</td> <td>Public Sector</td> <td>.3538*</td> <td>.05420</td> <td>.000</td> <td>.2236</td> <td>.4839</td> </tr> <tr> <td>Not for Profit</td> <td>.4889*</td> <td>.04934</td> <td>.000</td> <td>.3704</td> <td>.6074</td> </tr> <tr> <td rowspan="2">Public Sector</td> <td>Private Sector</td> <td>-.3538*</td> <td>.05420</td> <td>.000</td> <td>-.4839</td> <td>-.2236</td> </tr> <tr> <td>Not for Profit</td> <td>.1351</td> <td>.05951</td> <td>.071</td> <td>-.0077</td> <td>.2780</td> </tr> <tr> <td rowspan="2">Not for Profit</td> <td>Private Sector</td> <td>-.4889*</td> <td>.04934</td> <td>.000</td> <td>-.6074</td> <td>-.3704</td> </tr> <tr> <td>Public Sector</td> <td>-.1351</td> <td>.05951</td> <td>.071</td> <td>-.2780</td> <td>.0077</td> </tr> </tbody> </table> <p>Based on observed means. The error term is Mean Square(Error) = .263. *. The mean difference is significant at the 0.05 level.</p>		Bonferroni		Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval		(I) Sector	(J) Sector	Lower Bound	Upper Bound	Private Sector	Public Sector	.3538*	.05420	.000	.2236	.4839	Not for Profit	.4889*	.04934	.000	.3704	.6074	Public Sector	Private Sector	-.3538*	.05420	.000	-.4839	-.2236	Not for Profit	.1351	.05951	.071	-.0077	.2780	Not for Profit	Private Sector	-.4889*	.04934	.000	-.6074	-.3704	Public Sector	-.1351	.05951	.071	-.2780	.0077	<ul style="list-style-type: none"> Indicates that for the global results (including non-winners) there are significant differences between sectors Private Sector employees have significantly higher attitudes to quality than and both Public and Not-for-Profit organisations.
Bonferroni		Mean Difference (I-J)	Std. Error				Sig.	95% Confidence Interval																																												
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When considering the global results in Table 6.10 the conclusions are different. These findings indicate that award-winning organisations are significantly different by sector than all of the organisations (including non-winners). Looking at the global results, private sector organisations have significantly higher attitudes than public and not-for-profit organisations. The contrasting results suggest that a strategic approach to quality has an equalizing impact on the attitude to

quality by sector. The differences that were evident in the global results are no longer different when considering award winners only.

6.3.2 - Sub Null Hypothesis 1B: All attitudes towards quality are the same for award winning organisations by tenure

This section presents the results of the survey, analysing potential differences in attitude towards quality by tenure looking at award winners only. If the findings indicate that award-winning organisations are different than non-winners, then conclusions can be drawn about the relationship and impact of a strategic approach to quality on employee happiness. The section will show that there are significant differences between the longer-term employee’s attitudes to quality and the medium term employees.

Since the “less than 6 months” category only had 14 responses for award winners, the “less than 6 months” category was merged with the “6 month – 2 year” category. This was done to meet the minimum number of responses to have a valid test (Bartkowiak and Sen, 2007; Boos and Hughes-Oliver, 2000; Saunders et al., 2012). Refer to Table 6.11 for the new distribution of tenure.

Table 6.11 – New Merged Tenure Categories (n>30)

Between-Subjects Factors			
	Value Label	N	
tenure2	2.00	0-2 years	65
	3.00	3-5 years	74
	4.00	6-10 years	38
	5.00	More than 10 years	110

Table 6.12 provides a summary of all of the statistics and conclusions based on the analysis. The cross tabulation analysis and bar charts showed that there were some unexpected results. The

significant chi-square test confirmed these differences statistically. The ANOVA analysis showed that there were differences between categories. The estimated marginal means and Bonferroni analysis showed that longer term employees (more than 10 years) felt significantly different than shorter term employees (3-5 year).

Table 6.12 - Summary of Statistics and Analysis, Quality Tenure

Test	Chart or Table – Tenure for Award Winners	What it means																																																																																																					
<p>Cross Tab Analysis & Bar Chart</p>	<p style="text-align: center;">quality3cat * How long have you worked at your organization Crosstabulation</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="2" rowspan="2"></th> <th colspan="5">How long have you worked at your organization</th> <th rowspan="2">Total</th> </tr> <tr> <th>Less than 6 months</th> <th>6 months - 2 years</th> <th>3 - 5 years</th> <th>6-10 years</th> <th>More than 10 years</th> </tr> </thead> <tbody> <tr> <td rowspan="3">quality3cat 1.00</td> <td>Count</td> <td>0</td> <td>2</td> <td>7</td> <td>1</td> <td>0</td> <td>10</td> </tr> <tr> <td>Expected Count</td> <td>.5</td> <td>1.8</td> <td>2.6</td> <td>1.3</td> <td>3.8</td> <td>10.0</td> </tr> <tr> <td>% within How long have you worked at your organization</td> <td>0.0%</td> <td>3.9%</td> <td>9.5%</td> <td>2.6%</td> <td>0.0%</td> <td>3.5%</td> </tr> <tr> <td rowspan="3">2.00</td> <td>Count</td> <td>8</td> <td>31</td> <td>51</td> <td>32</td> <td>72</td> <td>194</td> </tr> <tr> <td>Expected Count</td> <td>9.5</td> <td>34.5</td> <td>50.0</td> <td>25.7</td> <td>74.4</td> <td>194.0</td> </tr> <tr> <td>% within How long have you worked at your organization</td> <td>57.1%</td> <td>60.8%</td> <td>68.9%</td> <td>84.2%</td> <td>65.5%</td> <td>67.6%</td> </tr> <tr> <td rowspan="3">3.00</td> <td>Count</td> <td>6</td> <td>18</td> <td>16</td> <td>5</td> <td>38</td> <td>83</td> </tr> <tr> <td>Expected Count</td> <td>4.0</td> <td>14.7</td> <td>21.4</td> <td>11.0</td> <td>31.8</td> <td>83.0</td> </tr> <tr> <td>% within How long have you worked at your organization</td> <td>42.9%</td> <td>35.3%</td> <td>21.6%</td> <td>13.2%</td> <td>34.5%</td> <td>28.9%</td> </tr> <tr> <td rowspan="3">Total</td> <td>Count</td> <td>14</td> <td>51</td> <td>74</td> <td>38</td> <td>110</td> <td>287</td> </tr> <tr> <td>Expected Count</td> <td>14.0</td> <td>51.0</td> <td>74.0</td> <td>38.0</td> <td>110.0</td> <td>287.0</td> </tr> <tr> <td>% within How long have you worked at your organization</td> <td>100.0%</td> <td>100.0%</td> <td>100.0%</td> <td>100.0%</td> <td>100.0%</td> <td>100.0%</td> </tr> </tbody> </table>			How long have you worked at your organization					Total	Less than 6 months	6 months - 2 years	3 - 5 years	6-10 years	More than 10 years	quality3cat 1.00	Count	0	2	7	1	0	10	Expected Count	.5	1.8	2.6	1.3	3.8	10.0	% within How long have you worked at your organization	0.0%	3.9%	9.5%	2.6%	0.0%	3.5%	2.00	Count	8	31	51	32	72	194	Expected Count	9.5	34.5	50.0	25.7	74.4	194.0	% within How long have you worked at your organization	57.1%	60.8%	68.9%	84.2%	65.5%	67.6%	3.00	Count	6	18	16	5	38	83	Expected Count	4.0	14.7	21.4	11.0	31.8	83.0	% within How long have you worked at your organization	42.9%	35.3%	21.6%	13.2%	34.5%	28.9%	Total	Count	14	51	74	38	110	287	Expected Count	14.0	51.0	74.0	38.0	110.0	287.0	% within How long have you worked at your organization	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	<ul style="list-style-type: none"> • More than 10 years category seems unexpected • Expected count was 3.8 people in the “below average” category and there are actually 0. Similar unexpected results in “average” and “above average.” • Indicating that longer-term employees have a higher attitude towards quality than expected
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Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	21.720 ^a	8	.005
Likelihood Ratio	24.246	8	.002
Linear-by-Linear Association	.340	1	.560
N of Valid Cases	287		

a. 6 cells (40.0%) have expected count less than 5. The minimum expected count is .49.

- Significant differences in attitude are confirmed
- Confirms that the differences in attitude towards quality between the various tenures for award winners are significant.

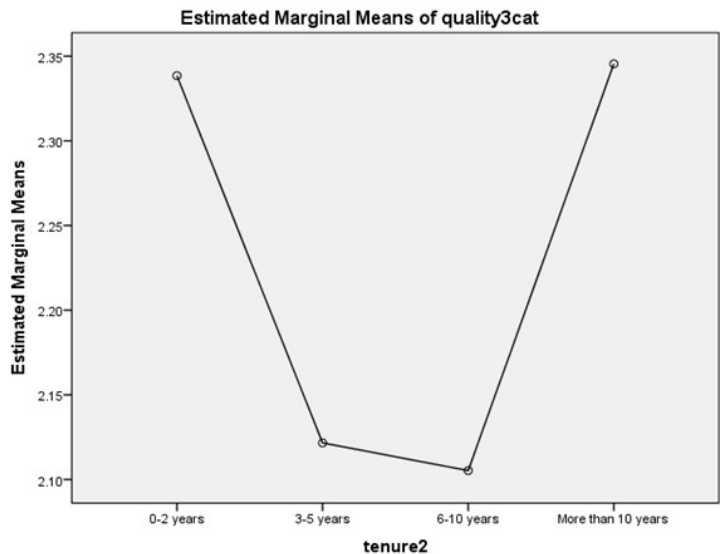
ANOVA Analysis

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	3.521 ^a	3	1.174	4.684	.003
Intercept	1234.781	1	1234.781	4927.915	.000
tenure2	3.521	3	1.174	4.684	.003
Error	70.911	283	.251		
Total	1533.000	287			
Corrected Total	74.432	286			

a. R Squared = .047 (Adjusted R Squared = .037)

- Shows a significant test suggesting that the differences are not due to randomness.

Estimated Marginal Means and Bonferroni Analysis



- Employees with more than 10 years at award winning organisations have a significantly (at the 0.05 confidence level) higher attitude towards quality than the 3-5 year employees.

Multiple Comparisons							
Dependent Variable: quality3cat							
Bonferroni							
(I) tenure2	(J) tenure2	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval		
					Lower Bound	Upper Bound	
0-2 years	3-5 years	.2168	.08509	.068	-.0092	.4429	
	6-10 years	.2332	.10222	.140	-.0384	.5048	
	More than 10 years	-.0070	.07831	1.000	-.2151	.2011	
3-5 years	0-2 years	-.2168	.08509	.068	-.4429	.0092	
	6-10 years	.0164	.09990	1.000	-.2491	.2818	
	More than 10 years	-.2238*	.07526	.019	-.4238	-.0239	
6-10 years	0-2 years	-.2332	.10222	.140	-.5048	.0384	
	3-5 years	-.0164	.09990	1.000	-.2818	.2491	
	More than 10 years	-.2402	.09419	.068	-.4904	.0101	
More than 10 years	0-2 years	.0070	.07831	1.000	-.2011	.2151	
	3-5 years	.2238*	.07526	.019	.0239	.4238	
	6-10 years	.2402	.09419	.068	-.0101	.4904	

Based on observed means.
The error term is Mean Square(Error) = .251.
*. The mean difference is significant at the 0.05 level.

- All of the other categories were different but not significantly different.

The analysis has indicated that the sub null hypothesis 1B should be rejected. There are significant differences between the longer-term employee’s attitudes to quality and the medium term employees. Shorter-term employees and the longest-term employees have the highest attitude towards quality. It should be noted that the 3-5 year employees and 6-10 year employees still have a mean that is above the average score of 2. There does not seem to be a linear relationship in these results. This would be interesting to explore further in future research.

Table 6.13 – Global Results Including Non-Winners – Quality Attitude – Tenure

Estimated Marginal Means and Bonferroni Analysis		What it means																																																																																																																																						
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When considering the global results in Table 6.13 the conclusions are different. Instead of having significant differences the results indicate similarly low attitudes regardless of tenure. Looking at the global results there are no significant differences in attitude to quality by tenure. The

contrasting results suggest that a strategic approach to quality impacts attitude in a positive way for all tenures and in a larger significant way for the shortest-term employees (less than six months) and the longest-term employees (more than 10 years).

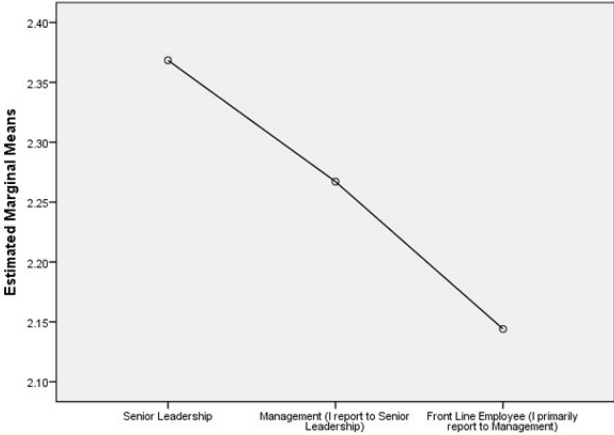
6.3.3 - Sub Null Hypothesis 1C: All attitudes towards quality are the same for award winning organisations by position

This section presents the results of the survey, analysing potential differences in attitude towards quality by position looking at award winners only. If the findings indicate that senior leadership have different attitudes towards quality than management and front line employees, then conclusions can be drawn about the relationship and impact of a strategic approach to quality on employee happiness. The section will show that there are no significant differences between the attitudes to quality when you consider position.

Table 6.14 provides a summary of all of the statistics and conclusions based on the analysis. The cross tabulation analysis and bar charts showed no unexpected differences in the results. The chi-square test was not significant and confirmed that no unexpected differences existed. The ANOVA analysis showed no differences between the three categories. The estimated marginal means showed that there seemed to be some differences but the Bonferroni analysis confirmed that these differences were not statistically significant.

Table 6.14 - Summary of Statistics and Analysis, Quality Position

Test	Chart or Table – Position for Award Winners	What it means																																																																									
<p>Cross Tab Analysis & Bar Chart</p>	<p style="text-align: center;">quality3cat * Which of the following best describes your role at your organisation Crosstabulation</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="2" rowspan="2"></th> <th colspan="3">Which of the following best describes your role at your organisation</th> <th rowspan="2">Total</th> </tr> <tr> <th>Senior Leadership</th> <th>Management (I report to Senior Leadership)</th> <th>Front Line Employee (I primarily report to Management)</th> </tr> </thead> <tbody> <tr> <td rowspan="3">1.00</td> <td>Count</td> <td>1</td> <td>3</td> <td>10</td> <td>14</td> </tr> <tr> <td>Expected Count</td> <td>1.8</td> <td>6.8</td> <td>5.5</td> <td>14.0</td> </tr> <tr> <td>% within quality3cat</td> <td>7.1%</td> <td>21.4%</td> <td>71.4%</td> <td>100.0%</td> </tr> <tr> <td rowspan="3">2.00</td> <td>Count</td> <td>22</td> <td>101</td> <td>81</td> <td>204</td> </tr> <tr> <td>Expected Count</td> <td>25.7</td> <td>98.6</td> <td>79.7</td> <td>204.0</td> </tr> <tr> <td>% within quality3cat</td> <td>10.8%</td> <td>49.5%</td> <td>39.7%</td> <td>100.0%</td> </tr> <tr> <td rowspan="3">3.00</td> <td>Count</td> <td>15</td> <td>42</td> <td>27</td> <td>84</td> </tr> <tr> <td>Expected Count</td> <td>10.6</td> <td>40.6</td> <td>32.8</td> <td>84.0</td> </tr> <tr> <td>% within quality3cat</td> <td>17.9%</td> <td>50.0%</td> <td>32.1%</td> <td>100.0%</td> </tr> <tr> <td rowspan="3">Total</td> <td>Count</td> <td>38</td> <td>146</td> <td>118</td> <td>302</td> </tr> <tr> <td>Expected Count</td> <td>38.0</td> <td>146.0</td> <td>118.0</td> <td>302.0</td> </tr> <tr> <td>% within quality3cat</td> <td>12.6%</td> <td>48.3%</td> <td>39.1%</td> <td>100.0%</td> </tr> </tbody> </table> <p style="text-align: center;">Bar Chart</p>			Which of the following best describes your role at your organisation			Total	Senior Leadership	Management (I report to Senior Leadership)	Front Line Employee (I primarily report to Management)	1.00	Count	1	3	10	14	Expected Count	1.8	6.8	5.5	14.0	% within quality3cat	7.1%	21.4%	71.4%	100.0%	2.00	Count	22	101	81	204	Expected Count	25.7	98.6	79.7	204.0	% within quality3cat	10.8%	49.5%	39.7%	100.0%	3.00	Count	15	42	27	84	Expected Count	10.6	40.6	32.8	84.0	% within quality3cat	17.9%	50.0%	32.1%	100.0%	Total	Count	38	146	118	302	Expected Count	38.0	146.0	118.0	302.0	% within quality3cat	12.6%	48.3%	39.1%	100.0%	<ul style="list-style-type: none"> • Most of the actual values in each category are the same as the expected values. • A few differences are evident in • Front-line employees have more than expected in in below average and Senior Leadership and Management have fewer than expected.
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This analysis has confirmed the acceptance of sub null hypothesis 1C because attitudes towards quality are all the same for award winning organisations. There is no significant difference

between senior leadership, middle management and front line attitudes towards quality. The differences between attitudes to quality between positions in the wider population could be an interesting area for future research. This is a very interesting difference from the global results analysis that showed significant differences between front-line and both management and leadership in all organisations (not just award winners).

Table 6.15 – Global Results Including Non-Winners – Quality Attitude – Position

Estimated Marginal Means and Bonferroni Analysis		What it means																																																
<p style="text-align: center;">Estimated Marginal Means of quality3cat</p> <p style="text-align: center;">Which of the following best describes your role at your organization</p> <p style="text-align: center;">Multiple Comparisons</p> <p>Dependent Variable: quality3cat Bonferroni</p> <table border="1"> <thead> <tr> <th rowspan="2">(I) Which of the following best describes your role at your organization</th> <th rowspan="2">(J) Which of the following best describes your role at your organization</th> <th rowspan="2">Mean Difference (I-J)</th> <th rowspan="2">Std. Error</th> <th rowspan="2">Sig.</th> <th colspan="2">95% Confidence Interval</th> </tr> <tr> <th>Lower Bound</th> <th>Upper Bound</th> </tr> </thead> <tbody> <tr> <td rowspan="2">Senior Leadership</td> <td>Management (I report to Senior Leadership)</td> <td>.0250</td> <td>.08114</td> <td>1.000</td> <td>-.1698</td> <td>.2199</td> </tr> <tr> <td>Front Line Employee (I primarily report to Management)</td> <td>.2815*</td> <td>.07701</td> <td>.001</td> <td>.0966</td> <td>.4664</td> </tr> <tr> <td rowspan="2">Management (I report to Senior Leadership)</td> <td>Senior Leadership</td> <td>-.0250</td> <td>.08114</td> <td>1.000</td> <td>-.2199</td> <td>.1698</td> </tr> <tr> <td>Front Line Employee (I primarily report to Management)</td> <td>.2565*</td> <td>.04926</td> <td>.000</td> <td>.1382</td> <td>.3747</td> </tr> <tr> <td rowspan="2">Front Line Employee (I primarily report to Management)</td> <td>Senior Leadership</td> <td>-.2815*</td> <td>.07701</td> <td>.001</td> <td>-.4664</td> <td>-.0966</td> </tr> <tr> <td>Management (I report to Senior Leadership)</td> <td>-.2565*</td> <td>.04926</td> <td>.000</td> <td>-.3747</td> <td>-.1382</td> </tr> </tbody> </table> <p>Based on observed means. The error term is Mean Square(Error) = .293. *. The mean difference is significant at the 0.05 level.</p>		(I) Which of the following best describes your role at your organization	(J) Which of the following best describes your role at your organization	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval		Lower Bound	Upper Bound	Senior Leadership	Management (I report to Senior Leadership)	.0250	.08114	1.000	-.1698	.2199	Front Line Employee (I primarily report to Management)	.2815*	.07701	.001	.0966	.4664	Management (I report to Senior Leadership)	Senior Leadership	-.0250	.08114	1.000	-.2199	.1698	Front Line Employee (I primarily report to Management)	.2565*	.04926	.000	.1382	.3747	Front Line Employee (I primarily report to Management)	Senior Leadership	-.2815*	.07701	.001	-.4664	-.0966	Management (I report to Senior Leadership)	-.2565*	.04926	.000	-.3747	-.1382	<ul style="list-style-type: none"> • Front line employees seem to have a lower attitude to quality than both senior leaders and management • the statistics confirm the significant differences between Senior leaders and both management and front line employees
(I) Which of the following best describes your role at your organization	(J) Which of the following best describes your role at your organization						Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval																																								
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When considering the global results in Table 6.15 the conclusions are different. These findings indicate that award-winning organisations are significantly different by position than all of the organisations (including non-winners). Looking at the global results, senior leadership has significantly higher attitudes than management and front line employees. The contrasting results suggest that a strategic approach to quality has an equalizing impact on the attitude to quality by position. The significant differences that were evident in the global results are no longer different when considering award winners only.

6.3.4 - Sub Null Hypothesis 1D: All attitudes towards quality are the same for award winning organisations by company

This section presents the results of the survey, analysing potential differences in attitude towards quality by award winning companies. If the findings indicate that the individual award winners have different attitudes towards quality, then conclusions can be drawn about the relationship and impact of a strategic approach to quality on employee happiness. The section will show that there are no significant differences between the attitudes to quality when you consider company.

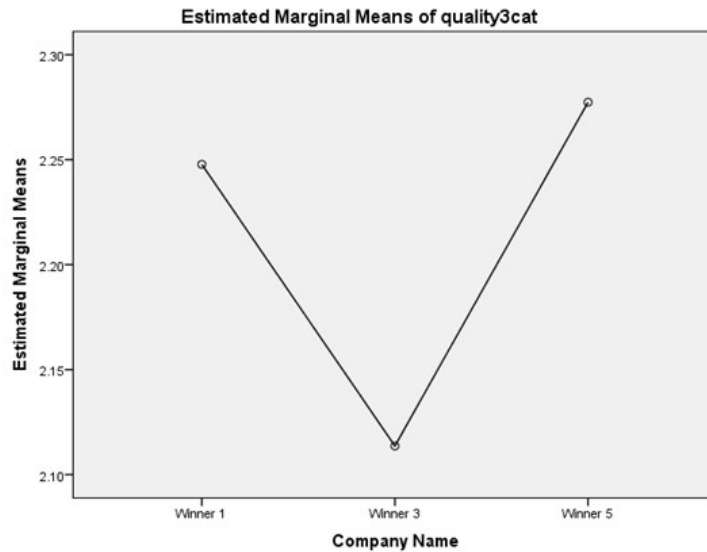
Table 6.16 provides a summary of all of the statistics and conclusions based on the analysis. The cross tabulation analysis and bar charts showed that one of the companies has lower than expected results. The chi-square test was significant and confirmed that including Winner 4, the differences were significant. The ANOVA analysis ($n > 30$) showed no differences between the award winners. The estimated marginal means showed that Winner 3 seemed to have different attitudes than the other winner but the Bonferroni analysis confirmed that these differences were not statistically significant.

Table 6.16 - Summary of Statistics and Analysis, Quality Company

Test	Chart or Table – Company for Award Winners	What it means																																																																																																																	
<p>Cross Tab Analysis & Bar Chart</p>	<p style="text-align: center;">quality3cat * Company Name Crosstabulation</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="2" rowspan="2"></th> <th colspan="5">Company Name</th> <th rowspan="2">Total</th> </tr> <tr> <th>Winner 1</th> <th>Winner 2</th> <th>Winner 3</th> <th>Winner 4</th> <th>Winner 5</th> </tr> </thead> <tbody> <tr> <td rowspan="3">quality3cat</td> <td>1.00</td> <td>Count</td> <td>4</td> <td>0</td> <td>3</td> <td>4</td> <td>6</td> <td>17</td> </tr> <tr> <td></td> <td>Expected Count</td> <td>6.1</td> <td>.3</td> <td>2.4</td> <td>.8</td> <td>7.4</td> <td>17.0</td> </tr> <tr> <td></td> <td>% within Company Name</td> <td>3.5%</td> <td>0.0%</td> <td>6.8%</td> <td>26.7%</td> <td>4.4%</td> <td>5.4%</td> </tr> <tr> <td rowspan="3">2.00</td> <td></td> <td>Count</td> <td>77</td> <td>4</td> <td>33</td> <td>10</td> <td>87</td> <td>211</td> </tr> <tr> <td></td> <td>Expected Count</td> <td>75.9</td> <td>3.4</td> <td>29.6</td> <td>10.1</td> <td>92.1</td> <td>211.0</td> </tr> <tr> <td></td> <td>% within Company Name</td> <td>68.1%</td> <td>80.0%</td> <td>75.0%</td> <td>66.7%</td> <td>63.5%</td> <td>67.2%</td> </tr> <tr> <td rowspan="3">3.00</td> <td></td> <td>Count</td> <td>32</td> <td>1</td> <td>8</td> <td>1</td> <td>44</td> <td>86</td> </tr> <tr> <td></td> <td>Expected Count</td> <td>30.9</td> <td>1.4</td> <td>12.1</td> <td>4.1</td> <td>37.5</td> <td>86.0</td> </tr> <tr> <td></td> <td>% within Company Name</td> <td>28.3%</td> <td>20.0%</td> <td>18.2%</td> <td>6.7%</td> <td>32.1%</td> <td>27.4%</td> </tr> <tr> <td rowspan="3">Total</td> <td></td> <td>Count</td> <td>113</td> <td>5</td> <td>44</td> <td>15</td> <td>137</td> <td>314</td> </tr> <tr> <td></td> <td>Expected Count</td> <td>113.0</td> <td>5.0</td> <td>44.0</td> <td>15.0</td> <td>137.0</td> <td>314.0</td> </tr> <tr> <td></td> <td>% within Company Name</td> <td>100.0%</td> <td>100.0%</td> <td>100.0%</td> <td>100.0%</td> <td>100.0%</td> <td>100.0%</td> </tr> </tbody> </table> <p style="text-align: center;">Bar Chart</p> <p>The bar chart displays the count of award winners for five companies (Winner 1 to Winner 5) across three quality categories (1.00, 2.00, 3.00). The Y-axis represents the 'Count' (0 to 100), and the X-axis represents 'quality3cat'. Winner 5 (yellow bars) shows the highest counts, particularly in the 2.00 and 3.00 categories. Winner 1 (blue bars) has a significant count in the 2.00 category. Winner 3 (tan bars) has counts in all three categories. Winner 2 (green bars) and Winner 4 (purple bars) have very low counts across all categories.</p>			Company Name					Total	Winner 1	Winner 2	Winner 3	Winner 4	Winner 5	quality3cat	1.00	Count	4	0	3	4	6	17		Expected Count	6.1	.3	2.4	.8	7.4	17.0		% within Company Name	3.5%	0.0%	6.8%	26.7%	4.4%	5.4%	2.00		Count	77	4	33	10	87	211		Expected Count	75.9	3.4	29.6	10.1	92.1	211.0		% within Company Name	68.1%	80.0%	75.0%	66.7%	63.5%	67.2%	3.00		Count	32	1	8	1	44	86		Expected Count	30.9	1.4	12.1	4.1	37.5	86.0		% within Company Name	28.3%	20.0%	18.2%	6.7%	32.1%	27.4%	Total		Count	113	5	44	15	137	314		Expected Count	113.0	5.0	44.0	15.0	137.0	314.0		% within Company Name	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	<ul style="list-style-type: none"> • Winner 4 was the only organisation out of the award winners to have a lower than expected number of results in the “above average” category and a higher number than expected in the “below average” category. • All of the other organisations had statistically expected results in each category suggesting that there is no significant difference between them.
				Company Name						Total																																																																																																									
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Chi-Square Tests	<p style="text-align: center;">Chi-Square Tests</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 40%;"></th> <th style="width: 15%;">Value</th> <th style="width: 10%;">df</th> <th style="width: 35%;">Asymp. Sig. (2-sided)</th> </tr> </thead> <tbody> <tr> <td>Pearson Chi-Square</td> <td>19.730^a</td> <td>8</td> <td>.011</td> </tr> <tr> <td>Likelihood Ratio</td> <td>15.135</td> <td>8</td> <td>.057</td> </tr> <tr> <td>Linear-by-Linear Association</td> <td>.205</td> <td>1</td> <td>.651</td> </tr> <tr> <td>N of Valid Cases</td> <td>314</td> <td></td> <td></td> </tr> </tbody> </table> <p>a. 6 cells (40.0%) have expected count less than 5. The minimum expected count is .27.</p>		Value	df	Asymp. Sig. (2-sided)	Pearson Chi-Square	19.730 ^a	8	.011	Likelihood Ratio	15.135	8	.057	Linear-by-Linear Association	.205	1	.651	N of Valid Cases	314			<ul style="list-style-type: none"> The chi-square was significant (at the 0.01 confidence level) which shows that the companies (including Winner 4) have significantly different attitudes towards quality. 																						
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ANOVA Analysis	<p style="text-align: center;">Tests of Between-Subjects Effects</p> <p>Dependent Variable: quality3cat</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 15%;">Source</th> <th style="width: 20%;">Type III Sum of Squares</th> <th style="width: 10%;">df</th> <th style="width: 15%;">Mean Square</th> <th style="width: 10%;">F</th> <th style="width: 30%;">Sig.</th> </tr> </thead> <tbody> <tr> <td>Corrected Model</td> <td>.900^a</td> <td>2</td> <td>.450</td> <td>1.659</td> <td>.192</td> </tr> <tr> <td>Intercept</td> <td>1133.694</td> <td>1</td> <td>1133.694</td> <td>4178.467</td> <td>.000</td> </tr> <tr> <td>Company</td> <td>.900</td> <td>2</td> <td>.450</td> <td>1.659</td> <td>.192</td> </tr> <tr> <td>Error</td> <td>78.954</td> <td>291</td> <td>.271</td> <td></td> <td></td> </tr> <tr> <td>Total</td> <td>1557.000</td> <td>294</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Corrected Total</td> <td>79.854</td> <td>293</td> <td></td> <td></td> <td></td> </tr> </tbody> </table> <p>a. R Squared = .011 (Adjusted R Squared = .004)</p>	Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Corrected Model	.900 ^a	2	.450	1.659	.192	Intercept	1133.694	1	1133.694	4178.467	.000	Company	.900	2	.450	1.659	.192	Error	78.954	291	.271			Total	1557.000	294				Corrected Total	79.854	293				<ul style="list-style-type: none"> Winner 2 and Winner 4 were excluded from the ANOVA analysis because there were too few data points in the database Results not significant, showing that there are no differences.
Source	Type III Sum of Squares	df	Mean Square	F	Sig.																																							
Corrected Model	.900 ^a	2	.450	1.659	.192																																							
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Estimated Marginal Means and Bonferroni Analysis



Multiple Comparisons

Dependent Variable: quality3cat

Bonferroni

(I) Company Name	(J) Company Name	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Winner 1	Winner 3	.1342	.09256	.445	-.0887	.3570
	Winner 5	-.0296	.06619	1.000	-.1890	.1298
Winner 3	Winner 1	-.1342	.09256	.445	-.3570	.0887
	Winner 5	-.1637	.09026	.212	-.3811	.0536
Winner 5	Winner 1	.0296	.06619	1.000	-.1298	.1890
	Winner 3	.1637	.09026	.212	-.0536	.3811

Based on observed means.

The error term is Mean Square(Error) = .271.

- The picture shows that Winner 3 has a lower attitude to quality than the other two winners.
- The analysis confirms that there are no significant differences between the winners.
- None of the differences are statistically significant.

This analysis leads to the acceptance of sub null hypothesis 1D because attitudes towards quality are the same for award winning organisations by company. There are no significant differences between the various award winning organisations attitudes towards quality.

This is a very interesting difference from the global results analysis that showed significant differences between all of the companies in the data set.

Table 6.17 – Global Results Including Non-Winners – Quality Attitude – Company

Estimated Marginal Means and Bonferroni Analysis					What it means	
Multiple Comparisons Dependent Variable: quality3cat Bonferroni						
(I) Company Name	(J) Company Name	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Winner 1	Non Winner 3	.3033 [*]	.09406	.020	.0260	.5807
	Non Winner 4	.6652 [*]	.06510	.000	.4732	.8572
	Winner 3	.1342	.08733	1.000	-.1234	.3917
	Non Winner 7	.3867 [*]	.07411	.000	.1681	.6052
	Winner 5	-.0296	.06245	1.000	-.2138	.1546
Non Winner 3	Winner 1	-.3033 [*]	.09406	.020	-.5807	-.0260
	Non Winner 4	.3618 [*]	.09386	.002	.0850	.6386
	Winner 3	-.1692	.11045	1.000	-.4949	.1565
	Non Winner 7	.0833	.10032	1.000	-.2125	.3792
	Winner 5	-.3329 [*]	.09204	.005	-.6044	-.0615
Non Winner 4	Winner 1	-.6652 [*]	.06510	.000	-.8572	-.4732
	Non Winner 3	-.3618 [*]	.09386	.002	-.6386	-.0850
	Winner 3	-.5310 [*]	.08712	.000	-.7879	-.2741
	Non Winner 7	-.2785 [*]	.07386	.003	-.4963	-.0607
	Winner 5	-.6948 [*]	.06215	.000	-.8781	-.5115
Winner 3	Winner 1	-.1342	.08733	1.000	-.3917	.1234
	Non Winner 3	.1692	.11045	1.000	-.1565	.4949
	Non Winner 4	.5310 [*]	.08712	.000	.2741	.7879
	Non Winner 7	.2525	.09404	.112	-.0248	.5299
	Winner 5	-.1637	.08516	.826	-.4149	.0874
Non Winner 7	Winner 1	-.3867 [*]	.07411	.000	-.6052	-.1681
	Non Winner 3	-.0833	.10032	1.000	-.3792	.2125
	Non Winner 4	.2785 [*]	.07386	.003	.0607	.4963
	Winner 3	-.2525	.09404	.112	-.5299	.0248
	Winner 5	-.4163 [*]	.07154	.000	-.6272	-.2053
Winner 5	Winner 1	.0296	.06245	1.000	-.1546	.2138
	Non Winner 3	.3329 [*]	.09204	.005	.0615	.6044
	Non Winner 4	.6948 [*]	.06215	.000	.5115	.8781
	Winner 3	.1637	.08516	.826	-.0874	.4149
	Non Winner 7	.4163 [*]	.07154	.000	.2053	.6272

Based on observed means.
 The error term is Mean Square(Error) = .242.
 *. The mean difference is significant at the 0.05 level.

- There appear to be differences between companies in the chart
- These significant differences are confirmed in the statistics.
- Award winners all have significantly higher attitudes to quality than non-winners

When considering the global results in Table 6.17 the conclusions are different. These findings indicate that award-winning organisations have significantly higher attitudes to quality than all of the non-winning organisations. The contrasting results suggest that a strategic approach to quality is having a positive impact on employee attitude to quality. The differences that were evident in the global results are no longer different when considering award winners only.

6.3.5 – Sub Null Hypothesis 1E: All attitudes towards quality are the same for award winning organisations by employment status

This section presents the results of the survey, analysing potential differences in attitude towards quality by position type. The majority of the employees for the award winners were full time employees. Based on the 9 people who were part time and temporary the statistics show that there are no significant differences between employment statuses.

Table 6.18 provides a summary of all of the statistics and conclusions based on the analysis. The cross tabulation analysis and bar charts showed that there are no unexpected results. The chi-square test was not significant and confirmed that there were no differences.

Table 6.18 - Summary of Statistics and Analysis, Quality Employment Status

Test	Chart or Table – Employment Status for Award Winners	What it means																																																																												
Cross Tab Analysis & Bar Chart	<p style="text-align: center;">quality3cat * Employment status Crosstabulation</p> <table border="1"> <thead> <tr> <th colspan="2"></th> <th colspan="3">Employment status</th> <th>Total</th> </tr> <tr> <th colspan="2"></th> <th>Full time</th> <th>Part time</th> <th>Temporary position</th> <th></th> </tr> </thead> <tbody> <tr> <td rowspan="3">1.00</td> <td>Count</td> <td>13</td> <td>1</td> <td>0</td> <td>14</td> </tr> <tr> <td>Expected Count</td> <td>13.6</td> <td>.1</td> <td>.3</td> <td>14.0</td> </tr> <tr> <td>% within quality3cat</td> <td>92.9%</td> <td>7.1%</td> <td>0.0%</td> <td>100.0%</td> </tr> <tr> <td rowspan="3">2.00</td> <td>Count</td> <td>198</td> <td>2</td> <td>4</td> <td>204</td> </tr> <tr> <td>Expected Count</td> <td>197.9</td> <td>2.0</td> <td>4.1</td> <td>204.0</td> </tr> <tr> <td>% within quality3cat</td> <td>97.1%</td> <td>1.0%</td> <td>2.0%</td> <td>100.0%</td> </tr> <tr> <td rowspan="3">3.00</td> <td>Count</td> <td>82</td> <td>0</td> <td>2</td> <td>84</td> </tr> <tr> <td>Expected Count</td> <td>81.5</td> <td>.8</td> <td>1.7</td> <td>84.0</td> </tr> <tr> <td>% within quality3cat</td> <td>97.6%</td> <td>0.0%</td> <td>2.4%</td> <td>100.0%</td> </tr> <tr> <td rowspan="3">Total</td> <td>Count</td> <td>293</td> <td>3</td> <td>6</td> <td>302</td> </tr> <tr> <td>Expected Count</td> <td>293.0</td> <td>3.0</td> <td>6.0</td> <td>302.0</td> </tr> <tr> <td>% within quality3cat</td> <td>97.0%</td> <td>1.0%</td> <td>2.0%</td> <td>100.0%</td> </tr> </tbody> </table> <p style="text-align: center;">Bar Chart</p> <p>The bar chart displays the distribution of award winners across three quality categories (1.00, 2.00, 3.00) and three employment statuses: Full time (blue), Part time (green), and Temporary position (yellow). The y-axis represents the count, ranging from 0 to 200. For quality3cat 1.00, there are 13 full-time, 1 part-time, and 0 temporary positions. For quality3cat 2.00, there are 198 full-time, 2 part-time, and 4 temporary positions. For quality3cat 3.00, there are 82 full-time, 0 part-time, and 2 temporary positions.</p>			Employment status			Total			Full time	Part time	Temporary position		1.00	Count	13	1	0	14	Expected Count	13.6	.1	.3	14.0	% within quality3cat	92.9%	7.1%	0.0%	100.0%	2.00	Count	198	2	4	204	Expected Count	197.9	2.0	4.1	204.0	% within quality3cat	97.1%	1.0%	2.0%	100.0%	3.00	Count	82	0	2	84	Expected Count	81.5	.8	1.7	84.0	% within quality3cat	97.6%	0.0%	2.4%	100.0%	Total	Count	293	3	6	302	Expected Count	293.0	3.0	6.0	302.0	% within quality3cat	97.0%	1.0%	2.0%	100.0%	<ul style="list-style-type: none"> • Expected results were not different than the actual results. • No unexpected differences between full time, part-time, or temporary positions.
		Employment status			Total																																																																									
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Chi-Square Tests	<p style="text-align: center;">Chi-Square Tests</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 40%;"></th> <th style="width: 20%;">Value</th> <th style="width: 10%;">df</th> <th style="width: 30%;">Asymp. Sig. (2-sided)</th> </tr> </thead> <tbody> <tr> <td>Pearson Chi-Square</td> <td>6.537^a</td> <td>4</td> <td>.162</td> </tr> <tr> <td>Likelihood Ratio</td> <td>4.540</td> <td>4</td> <td>.338</td> </tr> <tr> <td>Linear-by-Linear Association</td> <td>.032</td> <td>1</td> <td>.858</td> </tr> <tr> <td>N of Valid Cases</td> <td>302</td> <td></td> <td></td> </tr> </tbody> </table> <p>a. 6 cells (66.7%) have expected count less than 5. The minimum expected count is .14.</p>		Value	df	Asymp. Sig. (2-sided)	Pearson Chi-Square	6.537 ^a	4	.162	Likelihood Ratio	4.540	4	.338	Linear-by-Linear Association	.032	1	.858	N of Valid Cases	302			<ul style="list-style-type: none"> • The Chi Square tests are not significant. • There are no differences between full time and part time employee attitudes towards quality in award winning organisations.
	Value	df	Asymp. Sig. (2-sided)																			
Pearson Chi-Square	6.537 ^a	4	.162																			
Likelihood Ratio	4.540	4	.338																			
Linear-by-Linear Association	.032	1	.858																			
N of Valid Cases	302																					
ANOVA Analysis	No analysis because there were fewer than 30 people in two of the categories.																					
Estimated Marginal Means and Bonferroni Analysis	No analysis because there were fewer than 30 people in two of the categories.																					

No further analysis was performed on employment status for winners because there were too few results (less than 30) for all of the categories other than full time employees. Based on the analysis, sub null hypothesis 1E is accepted because there are no significant differences in attitude towards quality between the employment statuses within award winning companies.

Table 6.19 – Global Results Including Non-Winners – Quality Attitude – Employment Status

Estimated Marginal Means and Bonferroni Analysis						What it means				
Group Statistics						<ul style="list-style-type: none"> • The means appear different between full time and part time employees • The significant t-test statistic confirms the significant difference between full time and part time employees 				
	Employment status	N	Mean	Std. Deviation	Std. Error Mean					
quality3cat	Full time	488	2.0389	.55915	.02531					
	Part time	58	1.6379	.48480	.06366					
Independent Samples Test										
		Levene's Test for Equality of Variances		t-test for Equality of Means				95% Confidence Interval of the Difference		
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
quality3cat	Equal variances assumed	4.401	.036	5.232	544	.000	.40100	.07664	.25045	.55156
	Equal variances not assumed			5.954	76.226	.000	.40100	.06850	.26457	.53744

When considering the global results in Table 6.19 the conclusions are different. These findings indicate that award-winning organisations are significantly different by employment status than all of the organisations (including non-winners). Looking at the global results full time employees have significantly different attitudes than part time employees. The contrasting results suggest that a strategic approach to quality has an equalizing impact on the attitude to quality by employment status. The differences that were evident in the global results are no longer different when considering award winners only.

This section and supporting subsections showed that with the exception of tenure, each of the sub null hypotheses were accepted. A summary of conclusions is presented in Table 6.20.

Table 6.20 – Sub Null Hypothesis Analysis Summary

Sub Null Hypothesis	Null Accepted or Rejected?	Conclusion
1A: All attitudes towards quality are the same for award winning organisations by sector	Accepted	Private Sector is the same as Not For Profit
1B: All attitudes towards quality are the same for award winning organisations by tenure	Rejected	Long Term Employees have higher attitude to quality than medium term employees
1C: All attitudes towards quality are the same for award winning organisations by position	Accepted	No Significant differences
1D: All attitudes towards quality are the same for award winning organisations by company	Accepted	No Significant differences
1E: All attitudes towards quality are the same for award winning organisations by employment status	Accepted	No Significant differences

Analysis of the same attributes for the whole data set (not just award winners) showed many significant differences. A summary of these global results is available in Table 6.21. The implications of these results will be discussed further in Chapter Seven.

Table 6.21 - Summary of Quality Hypothesis Conclusion for All Companies Not Just Award Winners

Attribute	Conclusion
Sector	Private Sector has higher attitude than Public and Not For Profit
Award Winning Status	Award Winners have Higher attitude than Non-Winners
Tenure	No significant differences
Position	Front line employees have significantly lower attitudes than Leaders and Management
Company	Lots of differences between companies. Award winners generally higher than non-winners
Employment status	Full time employees have a significantly higher attitude to quality than part time.

6.4 - Differences between Award Winners and Non-Winners attitude to measures of happiness

The last section showed that with the exception of tenure there were no significant differences in attitude towards quality at award winners. The section uses the same statistical analysis to compare attitudes toward measures of happiness. The results show that employee attitudes towards measures of happiness have no significant differences when comparing the different attributes.

Null hypothesis 2 was tested to determine if attitudes towards employee happiness differ between award winners and non-winners. Each of the Sub Null Hypotheses was examined to determine significant differences using the approach in flow charts outlined in section 6.3 (Figure 6.9 and 6.10).

Null Hypothesis 2: Employee happiness results are the same within the award winning organisations

- Sub Null Hypothesis 2A: Employee happiness results for award winning organisations are the same by sector
- Sub Null Hypothesis 2B: Employee happiness results for award winning organisations are the same by tenure
- Sub Null Hypothesis 2C: Employee happiness results for award winning organisations are the same by position
- Sub Null Hypothesis 2D: Employee happiness results for award winning organisations are the same by company
- Sub Null Hypothesis 2E: Employee happiness results for award winning organisations are the same by employment status

6.4.1 – Sub Null Hypothesis 2A: Employee happiness results for award winning organisations are the same by sector

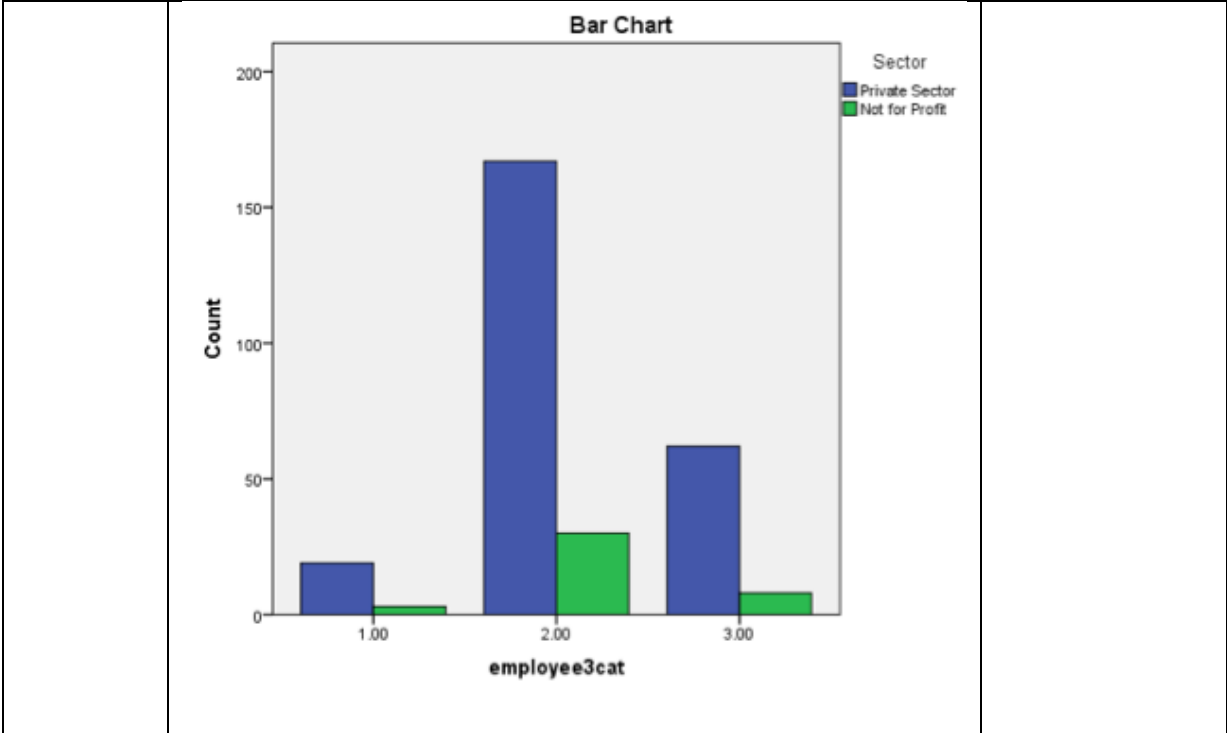
This section presents the results of the survey, analysing potential differences in attitude towards employee happiness by sector looking at award winners only. If the findings indicate that award-winning organisations are different by sector than non-winners, then conclusions can be drawn

about the relationship and impact of a strategic approach to quality on employee happiness. The section will show that attitudes towards employee happiness are the same for award winners regardless of sector.

Table 6.22 provides a summary of all of the statistics and conclusions based on the analysis. The cross tabulation analysis and bar charts showed no unexpected differences in the results. The chi-square test was not significant and confirmed there were no unexpected differences. The group mean statistics showed minor differences between the two categories. The t-test and Mann Whitney U analysis confirmed that the differences were not statistically significant.

Table 6.22 - Summary of Statistics and Analysis, Employee Happiness - Sector

Test	Chart or Table – Employee Happiness - Sector for Award Winners	What it means																																																																						
Cross Tab Analysis & Bar Chart	<p style="text-align: center;">employee3cat * Sector Cross tabulation</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="2"></th> <th colspan="2" style="text-align: center;">Sector</th> <th style="text-align: center;">Total</th> </tr> <tr> <th colspan="2"></th> <th style="text-align: center;">Private Sector</th> <th style="text-align: center;">Not for Profit</th> <th></th> </tr> </thead> <tbody> <tr> <td></td> <td style="text-align: center;">Count</td> <td style="text-align: center;">19</td> <td style="text-align: center;">3</td> <td style="text-align: center;">22</td> </tr> <tr> <td style="text-align: center;">1.00</td> <td style="text-align: center;">Expected Count</td> <td style="text-align: center;">18.9</td> <td style="text-align: center;">3.1</td> <td style="text-align: center;">22.0</td> </tr> <tr> <td></td> <td style="text-align: center;">% within Sector</td> <td style="text-align: center;">7.7%</td> <td style="text-align: center;">7.3%</td> <td style="text-align: center;">7.6%</td> </tr> <tr> <td></td> <td style="text-align: center;">Count</td> <td style="text-align: center;">167</td> <td style="text-align: center;">30</td> <td style="text-align: center;">197</td> </tr> <tr> <td style="text-align: center;">employee3cat 2.00</td> <td style="text-align: center;">Expected Count</td> <td style="text-align: center;">169.1</td> <td style="text-align: center;">27.9</td> <td style="text-align: center;">197.0</td> </tr> <tr> <td></td> <td style="text-align: center;">% within Sector</td> <td style="text-align: center;">67.3%</td> <td style="text-align: center;">73.2%</td> <td style="text-align: center;">68.2%</td> </tr> <tr> <td></td> <td style="text-align: center;">Count</td> <td style="text-align: center;">62</td> <td style="text-align: center;">8</td> <td style="text-align: center;">70</td> </tr> <tr> <td style="text-align: center;">3.00</td> <td style="text-align: center;">Expected Count</td> <td style="text-align: center;">60.1</td> <td style="text-align: center;">9.9</td> <td style="text-align: center;">70.0</td> </tr> <tr> <td></td> <td style="text-align: center;">% within Sector</td> <td style="text-align: center;">25.0%</td> <td style="text-align: center;">19.5%</td> <td style="text-align: center;">24.2%</td> </tr> <tr> <td></td> <td style="text-align: center;">Count</td> <td style="text-align: center;">248</td> <td style="text-align: center;">41</td> <td style="text-align: center;">289</td> </tr> <tr> <td style="text-align: center;">Total</td> <td style="text-align: center;">Expected Count</td> <td style="text-align: center;">248.0</td> <td style="text-align: center;">41.0</td> <td style="text-align: center;">289.0</td> </tr> <tr> <td></td> <td style="text-align: center;">% within Sector</td> <td style="text-align: center;">100.0%</td> <td style="text-align: center;">100.0%</td> <td style="text-align: center;">100.0%</td> </tr> </tbody> </table>			Sector		Total			Private Sector	Not for Profit			Count	19	3	22	1.00	Expected Count	18.9	3.1	22.0		% within Sector	7.7%	7.3%	7.6%		Count	167	30	197	employee3cat 2.00	Expected Count	169.1	27.9	197.0		% within Sector	67.3%	73.2%	68.2%		Count	62	8	70	3.00	Expected Count	60.1	9.9	70.0		% within Sector	25.0%	19.5%	24.2%		Count	248	41	289	Total	Expected Count	248.0	41.0	289.0		% within Sector	100.0%	100.0%	100.0%	<ul style="list-style-type: none"> • Pattern seems to be consistent with that of a random sample. • The expected distributions were similar to the actual distributions for not-for-profit sector and winners.
		Sector		Total																																																																				
		Private Sector	Not for Profit																																																																					
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Chi-Square Tests

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	.618 ^a	2	.734
Likelihood Ratio	.641	2	.726
Linear-by-Linear Association	.319	1	.572
N of Valid Cases	289		

a. 1 cells (16.7%) have expected count less than 5. The minimum expected count is 3.12.

- Chi-squared test of 0.618 is not significant
- This confirms that there are no differences between sector attitudes towards employee happiness when award winners are examined in isolation.

Group mean Statistics & Mean Rank

Group Statistics

	Sector	N	Mean	Std. Deviation	Std. Error Mean
employee3cat	Private Sector	248	2.1734	.54567	.03465
	Not for Profit	41	2.1220	.50966	.07960

- Indicates that there are no major differences in means between private sector

	<p style="text-align: center;">Ranks</p> <table border="1"> <thead> <tr> <th></th> <th>Sector</th> <th>N</th> <th>Mean Rank</th> <th>Sum of Ranks</th> </tr> </thead> <tbody> <tr> <td rowspan="3">employee3cat</td> <td>Private Sector</td> <td>248</td> <td>145.99</td> <td>36204.50</td> </tr> <tr> <td>Not for Profit</td> <td>41</td> <td>139.04</td> <td>5700.50</td> </tr> <tr> <td>Total</td> <td>289</td> <td></td> <td></td> </tr> </tbody> </table>		Sector	N	Mean Rank	Sum of Ranks	employee3cat	Private Sector	248	145.99	36204.50	Not for Profit	41	139.04	5700.50	Total	289			<p>and not-for-profit award winners</p> <ul style="list-style-type: none"> • Mean rank and sum of ranks once again indicating that there is not a big difference between award winners in either of the two sectors. 																															
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	Levene's Test for Equality of Variances		t-Test for Equality of Means					95% Confidence Interval of the Difference																																											
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Sub null hypothesis 2A is therefore accepted because attitudes towards employee happiness are the same for award winning organisations by sector.

Table 6.23 – Global Results Including Non-Winners – Happiness Attitude – Sector

Estimated Marginal Means and Bonferroni Analysis		What it means																																																
<p style="text-align: center;">Estimated Marginal Means of employee3cat</p> <p style="text-align: center;">Multiple Comparisons</p> <p>Dependent Variable: employee3cat Bonferroni</p> <table border="1"> <thead> <tr> <th rowspan="2">(I) Sector</th> <th rowspan="2">(J) Sector</th> <th rowspan="2">Mean Difference (I-J)</th> <th rowspan="2">Std. Error</th> <th rowspan="2">Sig.</th> <th colspan="2">95% Confidence Interval</th> </tr> <tr> <th>Lower Bound</th> <th>Upper Bound</th> </tr> </thead> <tbody> <tr> <td rowspan="2">Private Sector</td> <td>Public Sector</td> <td>.2003*</td> <td>.05788</td> <td>.002</td> <td>.0613</td> <td>.3392</td> </tr> <tr> <td>Not for Profit</td> <td>.3347*</td> <td>.05302</td> <td>.000</td> <td>.2074</td> <td>.4620</td> </tr> <tr> <td rowspan="2">Public Sector</td> <td>Private Sector</td> <td>-.2003*</td> <td>.05788</td> <td>.002</td> <td>-.3392</td> <td>-.0613</td> </tr> <tr> <td>Not for Profit</td> <td>.1344</td> <td>.06354</td> <td>.105</td> <td>-.0182</td> <td>.2869</td> </tr> <tr> <td rowspan="2">Not for Profit</td> <td>Private Sector</td> <td>-.3347*</td> <td>.05302</td> <td>.000</td> <td>-.4620</td> <td>-.2074</td> </tr> <tr> <td>Public Sector</td> <td>-.1344</td> <td>.06354</td> <td>.105</td> <td>-.2869</td> <td>.0182</td> </tr> </tbody> </table> <p>Based on observed means. The error term is Mean Square(Error) = .297. *. The mean difference is significant at the 0.05 level.</p>		(I) Sector	(J) Sector	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval		Lower Bound	Upper Bound	Private Sector	Public Sector	.2003*	.05788	.002	.0613	.3392	Not for Profit	.3347*	.05302	.000	.2074	.4620	Public Sector	Private Sector	-.2003*	.05788	.002	-.3392	-.0613	Not for Profit	.1344	.06354	.105	-.0182	.2869	Not for Profit	Private Sector	-.3347*	.05302	.000	-.4620	-.2074	Public Sector	-.1344	.06354	.105	-.2869	.0182	<ul style="list-style-type: none"> • Attitude towards happiness appear different in the chart • The statistics confirm significant differences between Private sector, not-for-profit, and public sector organisations.
(I) Sector	(J) Sector						Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval																																								
		Lower Bound	Upper Bound																																															
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	Not for Profit	.1344	.06354	.105	-.0182	.2869																																												
Not for Profit	Private Sector	-.3347*	.05302	.000	-.4620	-.2074																																												
	Public Sector	-.1344	.06354	.105	-.2869	.0182																																												

When considering the global results in Table 6.23 the conclusions are different. These findings indicate that attitudes towards happiness for award winning organisations are significantly different by sector than all of the organisations (including non-winners). Looking at the global results, private sector organisations have significantly higher attitudes than public and not-for-profit organisations. The contrasting results suggest that a strategic approach to quality has an

equalizing impact on employee happiness by sector. The differences that were evident in the global results are no longer different when considering award winners only.

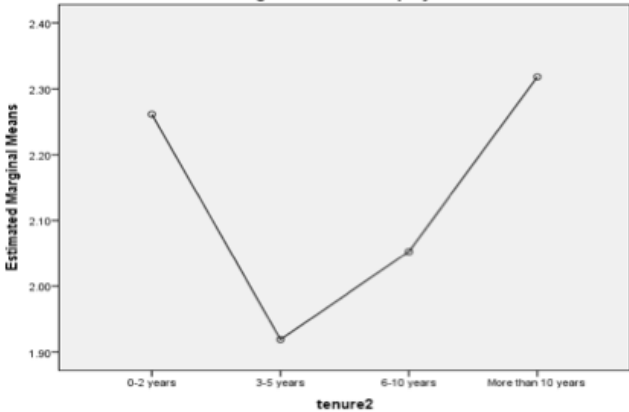
6.4.2 – Sub Null Hypothesis 2B: Employee happiness results for award winning organisations are the same by tenure

This section presents the results of the survey, analysing potential differences in attitude towards employee happiness by tenure looking at award winners only. If the findings indicate that award-winning organisations are different than non-winners, then conclusions can be drawn about the relationship and impact of a strategic approach to quality on employee happiness. The section will show that there are significant differences between the longer-term employees and the medium term employee's attitudes to employee happiness.

Table 6.24 provides a summary of all of the statistics and conclusions based on the analysis. The cross tabulation analysis and bar charts showed that there were some unexpected results. The significant chi-square test confirmed these differences statistically. The ANOVA analysis showed that there were differences between categories. The estimated marginal means and Bonferroni analysis showed that longer term employees (more than 10 years) and shorter-term employees (0-2 years) felt significantly different than medium term employees.

Table 6.24 - Summary of Statistics and Analysis, Happiness - Tenure

Test	Chart or Table – Tenure - Happiness for Award Winners	What it means																																																																																																								
<p>Cross Tab Analysis & Bar Chart</p>	<p style="text-align: center;">employee3cat * How long have you worked at your organization Crosstabulation</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="2" rowspan="2"></th> <th colspan="5">How long have you worked at your organization</th> <th rowspan="2">Total</th> </tr> <tr> <th>Less than 6 months</th> <th>6 months - 2 years</th> <th>3 - 5 years</th> <th>6-10 years</th> <th>More than 10 years</th> </tr> </thead> <tbody> <tr> <td rowspan="3">employee3cat</td> <td>1.00</td> <td>Count</td> <td>0</td> <td>2</td> <td>12</td> <td>5</td> <td>3</td> <td>22</td> </tr> <tr> <td></td> <td>Expected Count</td> <td>1.1</td> <td>3.9</td> <td>5.7</td> <td>2.9</td> <td>8.4</td> <td>22.0</td> </tr> <tr> <td></td> <td>% within How long have you worked at your organization</td> <td>0.0%</td> <td>3.9%</td> <td>16.2%</td> <td>13.2%</td> <td>2.7%</td> <td>7.7%</td> </tr> <tr> <td rowspan="3">2.00</td> <td>Count</td> <td>7</td> <td>37</td> <td>56</td> <td>26</td> <td>69</td> <td>195</td> </tr> <tr> <td>Expected Count</td> <td>9.5</td> <td>34.7</td> <td>50.3</td> <td>25.8</td> <td>74.7</td> <td>195.0</td> </tr> <tr> <td>% within How long have you worked at your organization</td> <td>50.0%</td> <td>72.5%</td> <td>75.7%</td> <td>68.4%</td> <td>62.7%</td> <td>67.9%</td> </tr> <tr> <td rowspan="3">3.00</td> <td>Count</td> <td>7</td> <td>12</td> <td>6</td> <td>7</td> <td>38</td> <td>70</td> </tr> <tr> <td>Expected Count</td> <td>3.4</td> <td>12.4</td> <td>18.0</td> <td>9.3</td> <td>26.8</td> <td>70.0</td> </tr> <tr> <td>% within How long have you worked at your organization</td> <td>50.0%</td> <td>23.5%</td> <td>8.1%</td> <td>18.4%</td> <td>34.5%</td> <td>24.4%</td> </tr> <tr> <td rowspan="3">Total</td> <td>Count</td> <td>14</td> <td>51</td> <td>74</td> <td>38</td> <td>110</td> <td>287</td> </tr> <tr> <td>Expected Count</td> <td>14.0</td> <td>51.0</td> <td>74.0</td> <td>38.0</td> <td>110.0</td> <td>287.0</td> </tr> <tr> <td>% within How long have you worked at your organization</td> <td>100.0%</td> <td>100.0%</td> <td>100.0%</td> <td>100.0%</td> <td>100.0%</td> <td>100.0%</td> </tr> </tbody> </table> <p style="text-align: center;">Bar Chart</p>			How long have you worked at your organization					Total	Less than 6 months	6 months - 2 years	3 - 5 years	6-10 years	More than 10 years	employee3cat	1.00	Count	0	2	12	5	3	22		Expected Count	1.1	3.9	5.7	2.9	8.4	22.0		% within How long have you worked at your organization	0.0%	3.9%	16.2%	13.2%	2.7%	7.7%	2.00	Count	7	37	56	26	69	195	Expected Count	9.5	34.7	50.3	25.8	74.7	195.0	% within How long have you worked at your organization	50.0%	72.5%	75.7%	68.4%	62.7%	67.9%	3.00	Count	7	12	6	7	38	70	Expected Count	3.4	12.4	18.0	9.3	26.8	70.0	% within How long have you worked at your organization	50.0%	23.5%	8.1%	18.4%	34.5%	24.4%	Total	Count	14	51	74	38	110	287	Expected Count	14.0	51.0	74.0	38.0	110.0	287.0	% within How long have you worked at your organization	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	<ul style="list-style-type: none"> • More than 10 years category seems unexpected • Indicating that longer-term employees have a higher attitude towards employee happiness than expected. • There are far fewer than expected results in the below average category. • There are very few results for the longest (more than 10 years) and shortest (less than 6 months) term employees in the below average category.
				How long have you worked at your organization						Total																																																																																																
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<p>Chi-Square Tests</p>	<p style="text-align: center;">Chi-Square Tests</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th>Value</th> <th>df</th> <th>Asymp. Sig. (2-sided)</th> </tr> </thead> <tbody> <tr> <td>Pearson Chi-Square</td> <td>33.004^a</td> <td>8</td> <td>.000</td> </tr> <tr> <td>Likelihood Ratio</td> <td>34.969</td> <td>8</td> <td>.000</td> </tr> <tr> <td>Linear-by-Linear Association</td> <td>2.348</td> <td>1</td> <td>.125</td> </tr> <tr> <td>N of Valid Cases</td> <td>287</td> <td></td> <td></td> </tr> </tbody> </table> <p>a. 4 cells (26.7%) have expected count less than 5. The minimum expected count is 1.07.</p>		Value	df	Asymp. Sig. (2-sided)	Pearson Chi-Square	33.004 ^a	8	.000	Likelihood Ratio	34.969	8	.000	Linear-by-Linear Association	2.348	1	.125	N of Valid Cases	287			<ul style="list-style-type: none"> • Significant differences in attitude are confirmed • Confirms that the differences in attitude towards employee happiness between the various tenures for award 																																																																																				
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(I) tenure2	(J) tenure2						Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval																																																																													
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		<p>6-10 year employees.</p> <ul style="list-style-type: none"> • It is also clear that 0-2 year employees are have significantly higher attitudes towards employee happiness than 3-5 year employees.
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The analysis has indicated that the sub null hypothesis 2B should be rejected. There are significant differences between the longer-term employee’s attitudes to employee happiness and the other employees. These differences could be explored in future research. The pattern in the Estimated Marginal Means graph has a similar u-shape to the findings for tenure and quality. These similarities could be explored in future research.

Table 6.25 – Global Results Including Non-Winners – Happiness Attitude – Tenure

Estimated Marginal Means and Bonferroni Analysis					What it means																																																																																																																																					
					<ul style="list-style-type: none"> • There appears to be differences in employee happiness by tenure • The statistics confirm that the differences are statistically significant. • Employees with less than 6 months are significantly happier than most other groups 																																																																																																																																					
<p style="text-align: center;">Multiple Comparisons</p> <p>Dependent Variable: employee3cat Bonferroni</p> <table border="1"> <thead> <tr> <th rowspan="2">(I) How long have you worked at your organization</th> <th rowspan="2">(J) How long have you worked at your organization</th> <th rowspan="2">Mean Difference (I-J)</th> <th rowspan="2">Std. Error</th> <th rowspan="2">Sig.</th> <th colspan="2">95% Confidence Interval</th> </tr> <tr> <th>Lower Bound</th> <th>Upper Bound</th> </tr> </thead> <tbody> <tr> <td rowspan="4">Less than 6 months</td> <td>6 months - 2 years</td> <td>.3207</td> <td>.10674</td> <td>.028</td> <td>.0199</td> <td>.6215</td> </tr> <tr> <td>3 - 5 years</td> <td>.4107*</td> <td>.10253</td> <td>.001</td> <td>.1218</td> <td>.6996</td> </tr> <tr> <td>6-10 years</td> <td>.3344*</td> <td>.10792</td> <td>.020</td> <td>.0303</td> <td>.6385</td> </tr> <tr> <td>More than 10 years</td> <td>.2267</td> <td>.09774</td> <td>.207</td> <td>-.0487</td> <td>.5021</td> </tr> <tr> <td rowspan="4">6 months - 2 years</td> <td>Less than 6 months</td> <td>-.3207</td> <td>.10674</td> <td>.028</td> <td>-.6215</td> <td>-.0199</td> </tr> <tr> <td>3 - 5 years</td> <td>.0900</td> <td>.07470</td> <td>1.000</td> <td>-.1205</td> <td>.3005</td> </tr> <tr> <td>6-10 years</td> <td>.0137</td> <td>.08195</td> <td>1.000</td> <td>-.2172</td> <td>.2446</td> </tr> <tr> <td>More than 10 years</td> <td>-.0940</td> <td>.06798</td> <td>1.000</td> <td>-.2856</td> <td>.0975</td> </tr> <tr> <td rowspan="4">3 - 5 years</td> <td>Less than 6 months</td> <td>-.4107</td> <td>.10253</td> <td>.001</td> <td>-.6996</td> <td>-.1218</td> </tr> <tr> <td>6 months - 2 years</td> <td>-.0900</td> <td>.07470</td> <td>1.000</td> <td>-.3005</td> <td>.1205</td> </tr> <tr> <td>6-10 years</td> <td>-.0763</td> <td>.07639</td> <td>1.000</td> <td>-.2915</td> <td>.1390</td> </tr> <tr> <td>More than 10 years</td> <td>-.1840*</td> <td>.06116</td> <td>.027</td> <td>-.3563</td> <td>-.0116</td> </tr> <tr> <td rowspan="4">6-10 years</td> <td>Less than 6 months</td> <td>-.3344</td> <td>.10792</td> <td>.020</td> <td>-.6385</td> <td>-.0303</td> </tr> <tr> <td>6 months - 2 years</td> <td>-.0137</td> <td>.08195</td> <td>1.000</td> <td>-.2446</td> <td>.2172</td> </tr> <tr> <td>3 - 5 years</td> <td>.0763</td> <td>.07639</td> <td>1.000</td> <td>-.1390</td> <td>.2915</td> </tr> <tr> <td>More than 10 years</td> <td>-.1077</td> <td>.06983</td> <td>1.000</td> <td>-.3045</td> <td>.0890</td> </tr> <tr> <td rowspan="4">More than 10 years</td> <td>Less than 6 months</td> <td>-.2267</td> <td>.09774</td> <td>.207</td> <td>-.5021</td> <td>.0487</td> </tr> <tr> <td>6 months - 2 years</td> <td>.0940</td> <td>.06798</td> <td>1.000</td> <td>-.0975</td> <td>.2856</td> </tr> <tr> <td>3 - 5 years</td> <td>.1840*</td> <td>.06116</td> <td>.027</td> <td>.0116</td> <td>.3563</td> </tr> <tr> <td>6-10 years</td> <td>.1077</td> <td>.06983</td> <td>1.000</td> <td>-.0890</td> <td>.3045</td> </tr> </tbody> </table> <p>Based on observed means. The error term is Mean Square(Error) = .310. *. The mean difference is significant at the 0.05 level.</p>							(I) How long have you worked at your organization	(J) How long have you worked at your organization	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval		Lower Bound	Upper Bound	Less than 6 months	6 months - 2 years	.3207	.10674	.028	.0199	.6215	3 - 5 years	.4107*	.10253	.001	.1218	.6996	6-10 years	.3344*	.10792	.020	.0303	.6385	More than 10 years	.2267	.09774	.207	-.0487	.5021	6 months - 2 years	Less than 6 months	-.3207	.10674	.028	-.6215	-.0199	3 - 5 years	.0900	.07470	1.000	-.1205	.3005	6-10 years	.0137	.08195	1.000	-.2172	.2446	More than 10 years	-.0940	.06798	1.000	-.2856	.0975	3 - 5 years	Less than 6 months	-.4107	.10253	.001	-.6996	-.1218	6 months - 2 years	-.0900	.07470	1.000	-.3005	.1205	6-10 years	-.0763	.07639	1.000	-.2915	.1390	More than 10 years	-.1840*	.06116	.027	-.3563	-.0116	6-10 years	Less than 6 months	-.3344	.10792	.020	-.6385	-.0303	6 months - 2 years	-.0137	.08195	1.000	-.2446	.2172	3 - 5 years	.0763	.07639	1.000	-.1390	.2915	More than 10 years	-.1077	.06983	1.000	-.3045	.0890	More than 10 years	Less than 6 months	-.2267	.09774	.207	-.5021	.0487	6 months - 2 years	.0940	.06798	1.000	-.0975	.2856	3 - 5 years	.1840*	.06116	.027	.0116	.3563	6-10 years	.1077	.06983	1.000
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When considering the global results in Table 6.25 the conclusions are slightly different. Similar to the award winners only, there are significant differences in employee happiness by tenure. The differences are that the happiness levels are lower for the global results than they are for

award winners only. The contrasting results suggest that a strategic approach to quality impacts employee happiness in a positive way for all tenures and in a larger significant way for the shortest-term employees (less than six months) and the longest-term employees (more than 10 years).

6.4.3 – Sub Null Hypothesis 2C: Employee happiness results for award winning organisations are the same by position

This section presents the results of the survey, analysing potential differences in attitude towards employee happiness by position looking at award winners only. If the findings indicate that award-winning organisations are different than non-winners, then conclusions can be drawn about the relationship and impact of a strategic approach to quality on employee happiness. The section will show that there are significant differences between the senior leadership and front line employees in terms of their attitude towards employee happiness.

Table 6.26 provides a summary of all of the statistics and conclusions based on the analysis. The cross tabulation analysis and bar charts showed some unexpected differences in the results. The chi-square test was significant and confirmed the differences were significant. The ANOVA analysis showed differences between the categories. The estimated marginal means showed that there seemed to be some differences and the Bonferroni analysis confirmed that these differences were statistically significant between front line employees and senior leadership.

Table 6.26 - Summary of Statistics and Analysis, Happiness - Position

Test	Chart or Table – Position for Happiness - Award Winners	What it means																																																																																												
<p>Cross Tab Analysis & Bar Chart</p>	<p style="text-align: center;">employee3cat * Which of the following best describes your role at your organization Crosstabulation</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="2" rowspan="2"></th> <th colspan="3">Which of the following best describes your role at your organization</th> <th rowspan="2">Total</th> </tr> <tr> <th>Senior Leadership</th> <th>Management (I report to Senior Leadership)</th> <th>Front Line Employee (I primarily report to Management)</th> </tr> </thead> <tbody> <tr> <td rowspan="3">employee3cat</td> <td>1.00</td> <td>Count</td> <td>1</td> <td>10</td> <td>11</td> <td>22</td> </tr> <tr> <td></td> <td>Expected Count</td> <td>2.8</td> <td>10.8</td> <td>8.4</td> <td>22.0</td> </tr> <tr> <td></td> <td>% within Which of the following best describes your role at your organization</td> <td>2.8%</td> <td>7.1%</td> <td>10.0%</td> <td>7.7%</td> </tr> <tr> <td rowspan="3">2.00</td> <td>Count</td> <td>19</td> <td>96</td> <td>80</td> <td>195</td> </tr> <tr> <td>Expected Count</td> <td>24.5</td> <td>95.8</td> <td>74.7</td> <td>195.0</td> </tr> <tr> <td>% within Which of the following best describes your role at your organization</td> <td>52.8%</td> <td>68.1%</td> <td>72.7%</td> <td>67.9%</td> </tr> <tr> <td rowspan="3">3.00</td> <td>Count</td> <td>16</td> <td>35</td> <td>19</td> <td>70</td> </tr> <tr> <td>Expected Count</td> <td>8.8</td> <td>34.4</td> <td>26.8</td> <td>70.0</td> </tr> <tr> <td>% within Which of the following best describes your role at your organization</td> <td>44.4%</td> <td>24.8%</td> <td>17.3%</td> <td>24.4%</td> </tr> <tr> <td rowspan="3">Total</td> <td>Count</td> <td>36</td> <td>141</td> <td>110</td> <td>287</td> </tr> <tr> <td>Expected Count</td> <td>36.0</td> <td>141.0</td> <td>110.0</td> <td>287.0</td> </tr> <tr> <td>% within Which of the following best describes your role at your organization</td> <td>100.0%</td> <td>100.0%</td> <td>100.0%</td> <td>100.0%</td> </tr> </tbody> </table> <p style="text-align: center;">Bar Chart</p> <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 10px;"> <caption>Bar Chart Data</caption> <thead> <tr> <th>employee3cat</th> <th>Senior Leadership</th> <th>Management (I report to Senior Leadership)</th> <th>Front Line Employee (I primarily report to Management)</th> </tr> </thead> <tbody> <tr> <td>1.00</td> <td>1</td> <td>10</td> <td>11</td> </tr> <tr> <td>2.00</td> <td>19</td> <td>96</td> <td>80</td> </tr> <tr> <td>3.00</td> <td>16</td> <td>35</td> <td>19</td> </tr> </tbody> </table>			Which of the following best describes your role at your organization			Total	Senior Leadership	Management (I report to Senior Leadership)	Front Line Employee (I primarily report to Management)	employee3cat	1.00	Count	1	10	11	22		Expected Count	2.8	10.8	8.4	22.0		% within Which of the following best describes your role at your organization	2.8%	7.1%	10.0%	7.7%	2.00	Count	19	96	80	195	Expected Count	24.5	95.8	74.7	195.0	% within Which of the following best describes your role at your organization	52.8%	68.1%	72.7%	67.9%	3.00	Count	16	35	19	70	Expected Count	8.8	34.4	26.8	70.0	% within Which of the following best describes your role at your organization	44.4%	24.8%	17.3%	24.4%	Total	Count	36	141	110	287	Expected Count	36.0	141.0	110.0	287.0	% within Which of the following best describes your role at your organization	100.0%	100.0%	100.0%	100.0%	employee3cat	Senior Leadership	Management (I report to Senior Leadership)	Front Line Employee (I primarily report to Management)	1.00	1	10	11	2.00	19	96	80	3.00	16	35	19	<ul style="list-style-type: none"> • Management results have very similar actual results to expected results. • The senior leadership group have a higher number of results in the “above average” category than expected and a lower number in the “below average category” than expected. • The front line employees groups have a higher number of results in the “below average” category than expected.
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Chi-Square Tests

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	11.786 ^a	4	.019
Likelihood Ratio	11.268	4	.024
Linear-by-Linear Association	10.075	1	.002
N of Valid Cases	287		

a. 1 cells (11.1%) have expected count less than 5. The minimum expected count is 2.76.

- Test of 11.786 is significant which confirms that there are significant differences between position

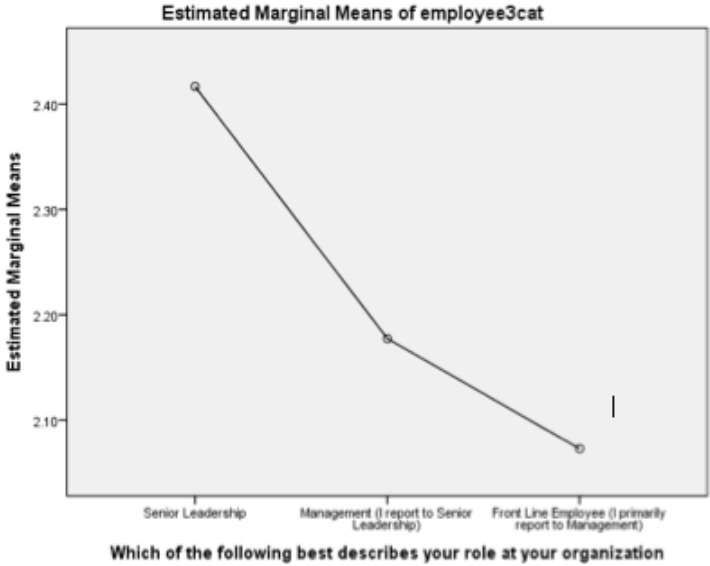
ANOVA Analysis

Tests of Between-Subjects Effects					
Dependent Variable: employee3cat					
Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	3.237 ^a	2	1.618	5.693	.004
Intercept	1011.010	1	1011.010	3556.385	.000
Position	3.237	2	1.618	5.693	.004
Error	80.736	284	.284		
Total	1432.000	287			
Corrected Total	83.972	286			

a. R Squared = .039 (Adjusted R Squared = .032)

- The variance is significant at the 0.01 confidence level.

Estimated Marginal Means and Bonferroni Analysis



- This means that at award winning organisations there are significant differences in the attitude towards employee happiness between senior leaders, middle managers, and front line employees.
- Confirms that there are significant differences

Multiple Comparisons						
Dependent Variable: employee3cat						
Bonferroni						
(I) Which of the following best describes your role at your organization	(J) Which of the following best describes your role at your organization	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Senior Leadership	Management (I report to Senior Leadership)	.2394	.09956	.051	-.0004	.4791
	Front Line Employee (I primarily report to Management)	.3439*	.10238	.003	.0974	.5905
Management (I report to Senior Leadership)	Senior Leadership	-.2394	.09956	.051	-.4791	.0004
	Front Line Employee (I primarily report to Management)	.1046	.06783	.373	-.0588	.2679
Front Line Employee (I primarily report to Management)	Senior Leadership	-.3439*	.10238	.003	-.5905	-.0974
	Management (I report to Senior Leadership)	-.1046	.06783	.373	-.2679	.0588

Based on observed means.
The error term is Mean Square(Error) = .284.
*. The mean difference is significant at the 0.05 level.

between senior leadership and front line employees.

This analysis has confirmed the rejection of sub null hypothesis 2C because attitudes towards employee happiness are different between positions for award winning organisations. This difference would be an interesting area for future research.

Table 6.27 – Global Results Including Non-Winners – Happiness Attitude – Position

Estimated Marginal Means and Bonferroni Analysis		What it means																																																
<p style="text-align: center;">Estimated Marginal Means of employee3cat</p> <p style="text-align: center;">Which of the following best describes your role at your organization</p> <p style="text-align: center;">Multiple Comparisons</p> <p>Dependent Variable: employee3cat Bonferroni</p> <table border="1"> <thead> <tr> <th rowspan="2">(I) Which of the following best describes your role at your organization</th> <th rowspan="2">(J) Which of the following best describes your role at your organization</th> <th rowspan="2">Mean Difference (I-J)</th> <th rowspan="2">Std. Error</th> <th rowspan="2">Sig.</th> <th colspan="2">95% Confidence Interval</th> </tr> <tr> <th>Lower Bound</th> <th>Upper Bound</th> </tr> </thead> <tbody> <tr> <td rowspan="2">Senior Leadership</td> <td>Management (I report to Senior Leadership)</td> <td>.2103[*]</td> <td>.08224</td> <td>.032</td> <td>.0129</td> <td>.4078</td> </tr> <tr> <td>Front Line Employee (I primarily report to Management)</td> <td>.4164[*]</td> <td>.07805</td> <td>.000</td> <td>.2290</td> <td>.6038</td> </tr> <tr> <td rowspan="2">Management (I report to Senior Leadership)</td> <td>Senior Leadership</td> <td>-.2103[*]</td> <td>.08224</td> <td>.032</td> <td>-.4078</td> <td>-.0129</td> </tr> <tr> <td>Front Line Employee (I primarily report to Management)</td> <td>.2061[*]</td> <td>.04992</td> <td>.000</td> <td>.0862</td> <td>.3259</td> </tr> <tr> <td rowspan="2">Front Line Employee (I primarily report to Management)</td> <td>Senior Leadership</td> <td>-.4164[*]</td> <td>.07805</td> <td>.000</td> <td>-.6038</td> <td>-.2290</td> </tr> <tr> <td>Management (I report to Senior Leadership)</td> <td>-.2061[*]</td> <td>.04992</td> <td>.000</td> <td>-.3259</td> <td>-.0862</td> </tr> </tbody> </table> <p>Based on observed means. The error term is Mean Square(Error) = .301. *. The mean difference is significant at the 0.05 level.</p>		(I) Which of the following best describes your role at your organization	(J) Which of the following best describes your role at your organization	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval		Lower Bound	Upper Bound	Senior Leadership	Management (I report to Senior Leadership)	.2103 [*]	.08224	.032	.0129	.4078	Front Line Employee (I primarily report to Management)	.4164 [*]	.07805	.000	.2290	.6038	Management (I report to Senior Leadership)	Senior Leadership	-.2103 [*]	.08224	.032	-.4078	-.0129	Front Line Employee (I primarily report to Management)	.2061 [*]	.04992	.000	.0862	.3259	Front Line Employee (I primarily report to Management)	Senior Leadership	-.4164 [*]	.07805	.000	-.6038	-.2290	Management (I report to Senior Leadership)	-.2061 [*]	.04992	.000	-.3259	-.0862	<ul style="list-style-type: none"> • Attitude to happiness appear different looking at the chart • the statistics confirm significant differences • Each position is significantly different than the other positions
(I) Which of the following best describes your role at your organization	(J) Which of the following best describes your role at your organization						Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval																																								
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	Management (I report to Senior Leadership)	-.2061 [*]	.04992	.000	-.3259	-.0862																																												

When considering the global results in Table 6.27 the conclusions are different. In award winners there were only differences in attitude towards employee happiness between Senior Leadership and Front Line employees. Looking at the global results, Senior Leadership has significantly higher attitudes than both Management and Front Line employees. The contrasting results suggest that a strategic approach to quality has an equalizing impact on the attitude to employee happiness by position. Some of the significant differences that were evident in the

global results are no longer different when considering award winners only. In addition all levels of happiness were higher at award winning organisation compared with non-winning organisations.

6.4.4 – Sub Null Hypothesis 2D: Employee happiness results for award winning organisations are the same by company

This section presents the results of the survey, analysing potential differences in attitude towards employee happiness by award winning companies. If the findings indicate that the individual award winners have different attitudes towards quality, then conclusions can be drawn about the relationship and impact of a strategic approach to quality on employee happiness. The section will show that there are no significant differences between the attitudes to employee happiness when you consider company.

Table 6.28 provides a summary of all of the statistics and conclusions based on the analysis. The cross tabulation analysis and bar charts showed that one of the companies has lower than expected results. The chi-square test was not significant and therefore showed that differences were not significant. The ANOVA analysis ($n > 30$) showed no differences between the award winners. The estimated marginal means showed that Winner 2 and 3 seemed to have lower attitudes than Winner 5 but the Bonferroni analysis confirmed that these differences were not statistically significant.

Table 6.28 - Summary of Statistics and Analysis, Happiness - Company

Test	Chart or Table – Happiness - Company for Award Winners	What it means																																																																																																																																			
Cross Tab Analysis & Bar Chart	<p style="text-align: center;">employee3cat * Company Name Crosstabulation</p> <table border="1"> <thead> <tr> <th colspan="2"></th> <th colspan="5">Company Name</th> <th></th> </tr> <tr> <th colspan="2"></th> <th>Winner 1</th> <th>Winner 2</th> <th>Winner 3</th> <th>Winner 4</th> <th>Winner 5</th> <th>Total</th> </tr> </thead> <tbody> <tr> <td rowspan="3">employee3cat</td> <td>1.00</td> <td>Count</td> <td>11</td> <td>0</td> <td>3</td> <td>4</td> <td>8</td> <td>26</td> </tr> <tr> <td></td> <td>Expected Count</td> <td>9.7</td> <td>.4</td> <td>3.5</td> <td>1.3</td> <td>11.1</td> <td>26.0</td> </tr> <tr> <td></td> <td>% within Company Name</td> <td>9.7%</td> <td>0.0%</td> <td>7.3%</td> <td>26.7%</td> <td>6.2%</td> <td>8.6%</td> </tr> <tr> <td rowspan="3">2.00</td> <td>Count</td> <td>75</td> <td>5</td> <td>30</td> <td>11</td> <td>87</td> <td>208</td> </tr> <tr> <td>Expected Count</td> <td>77.3</td> <td>3.4</td> <td>28.1</td> <td>10.3</td> <td>88.9</td> <td>208.0</td> </tr> <tr> <td>% within Company Name</td> <td>66.4%</td> <td>100.0%</td> <td>73.2%</td> <td>73.3%</td> <td>66.9%</td> <td>68.4%</td> </tr> <tr> <td rowspan="3">3.00</td> <td>Count</td> <td>27</td> <td>0</td> <td>8</td> <td>0</td> <td>35</td> <td>70</td> </tr> <tr> <td>Expected Count</td> <td>26.0</td> <td>1.2</td> <td>9.4</td> <td>3.5</td> <td>29.9</td> <td>70.0</td> </tr> <tr> <td>% within Company Name</td> <td>23.9%</td> <td>0.0%</td> <td>19.5%</td> <td>0.0%</td> <td>26.9%</td> <td>23.0%</td> </tr> <tr> <td rowspan="3">Total</td> <td>Count</td> <td>113</td> <td>5</td> <td>41</td> <td>15</td> <td>130</td> <td>304</td> </tr> <tr> <td>Expected Count</td> <td>113.0</td> <td>5.0</td> <td>41.0</td> <td>15.0</td> <td>130.0</td> <td>304.0</td> </tr> <tr> <td>% within Company Name</td> <td>100.0%</td> <td>100.0%</td> <td>100.0%</td> <td>100.0%</td> <td>100.0%</td> <td>100.0%</td> </tr> </tbody> </table> <p>It must be noted that due to the low response rate discussed in chapter 5 the validity and representativeness of the sample for Winner 4 were questionable.</p> <p style="text-align: center;">Bar Chart</p> <table border="1"> <caption>Data for Bar Chart</caption> <thead> <tr> <th>employee3cat</th> <th>Winner 1</th> <th>Winner 2</th> <th>Winner 3</th> <th>Winner 4</th> <th>Winner 5</th> </tr> </thead> <tbody> <tr> <td>1.00</td> <td>11</td> <td>0</td> <td>3</td> <td>4</td> <td>8</td> </tr> <tr> <td>2.00</td> <td>75</td> <td>5</td> <td>30</td> <td>11</td> <td>87</td> </tr> <tr> <td>3.00</td> <td>27</td> <td>0</td> <td>8</td> <td>0</td> <td>35</td> </tr> </tbody> </table>			Company Name								Winner 1	Winner 2	Winner 3	Winner 4	Winner 5	Total	employee3cat	1.00	Count	11	0	3	4	8	26		Expected Count	9.7	.4	3.5	1.3	11.1	26.0		% within Company Name	9.7%	0.0%	7.3%	26.7%	6.2%	8.6%	2.00	Count	75	5	30	11	87	208	Expected Count	77.3	3.4	28.1	10.3	88.9	208.0	% within Company Name	66.4%	100.0%	73.2%	73.3%	66.9%	68.4%	3.00	Count	27	0	8	0	35	70	Expected Count	26.0	1.2	9.4	3.5	29.9	70.0	% within Company Name	23.9%	0.0%	19.5%	0.0%	26.9%	23.0%	Total	Count	113	5	41	15	130	304	Expected Count	113.0	5.0	41.0	15.0	130.0	304.0	% within Company Name	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	employee3cat	Winner 1	Winner 2	Winner 3	Winner 4	Winner 5	1.00	11	0	3	4	8	2.00	75	5	30	11	87	3.00	27	0	8	0	35	<ul style="list-style-type: none"> Winner 4 was the only organisation out of the award winners to have a lower than expected number of results in the “above average” category and a higher number than expected in the “below average” category. All of the other organisations had statistically expected results in each category suggesting that there is no significant difference between them.
		Company Name																																																																																																																																			
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Chi-Square Tests	<p style="text-align: center;">Chi-Square Tests</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 40%;"></th> <th style="width: 15%;">Value</th> <th style="width: 10%;">df</th> <th style="width: 35%;">Asymp. Sig. (2-sided)</th> </tr> </thead> <tbody> <tr> <td>Pearson Chi-Square</td> <td>14.063^a</td> <td>8</td> <td>.080</td> </tr> <tr> <td>Likelihood Ratio</td> <td>16.968</td> <td>8</td> <td>.030</td> </tr> <tr> <td>Linear-by-Linear Association</td> <td>.119</td> <td>1</td> <td>.730</td> </tr> <tr> <td>N of Valid Cases</td> <td>304</td> <td></td> <td></td> </tr> </tbody> </table> <p>a. 6 cells (40.0%) have expected count less than 5. The minimum expected count is .43.</p>		Value	df	Asymp. Sig. (2-sided)	Pearson Chi-Square	14.063 ^a	8	.080	Likelihood Ratio	16.968	8	.030	Linear-by-Linear Association	.119	1	.730	N of Valid Cases	304			<ul style="list-style-type: none"> The chi-square of 14.063 was not significant (at 0.08 confidence level), which means the companies do not have significantly different attitudes towards employee happiness. 																						
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ANOVA Analysis	<p style="text-align: center;">Tests of Between-Subjects Effects</p> <p>Dependent Variable: employee3cat</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 15%;">Source</th> <th style="width: 15%;">Type III Sum of Squares</th> <th style="width: 10%;">df</th> <th style="width: 15%;">Mean Square</th> <th style="width: 10%;">F</th> <th style="width: 35%;">Sig.</th> </tr> </thead> <tbody> <tr> <td>Corrected Model</td> <td>.370^a</td> <td>2</td> <td>.185</td> <td>.623</td> <td>.537</td> </tr> <tr> <td>Intercept</td> <td>1023.082</td> <td>1</td> <td>1023.082</td> <td>3442.243</td> <td>.000</td> </tr> <tr> <td>Company</td> <td>.370</td> <td>2</td> <td>.185</td> <td>.623</td> <td>.537</td> </tr> <tr> <td>Error</td> <td>83.517</td> <td>281</td> <td>.297</td> <td></td> <td></td> </tr> <tr> <td>Total</td> <td>1420.000</td> <td>284</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Corrected Total</td> <td>83.887</td> <td>283</td> <td></td> <td></td> <td></td> </tr> </tbody> </table> <p>a. R Squared = .004 (Adjusted R Squared = -.003)</p>	Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Corrected Model	.370 ^a	2	.185	.623	.537	Intercept	1023.082	1	1023.082	3442.243	.000	Company	.370	2	.185	.623	.537	Error	83.517	281	.297			Total	1420.000	284				Corrected Total	83.887	283				<ul style="list-style-type: none"> Winner 2 and Winner 4 were excluded from the ANOVA analysis because there were too few data points in the database Results not significant showing that there are no differences.
Source	Type III Sum of Squares	df	Mean Square	F	Sig.																																							
Corrected Model	.370 ^a	2	.185	.623	.537																																							
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Corrected Total	83.887	283																																										

Estimated Marginal Means and Bonferroni Analysis



Multiple Comparisons

Dependent Variable: employee3cat
Bonferroni

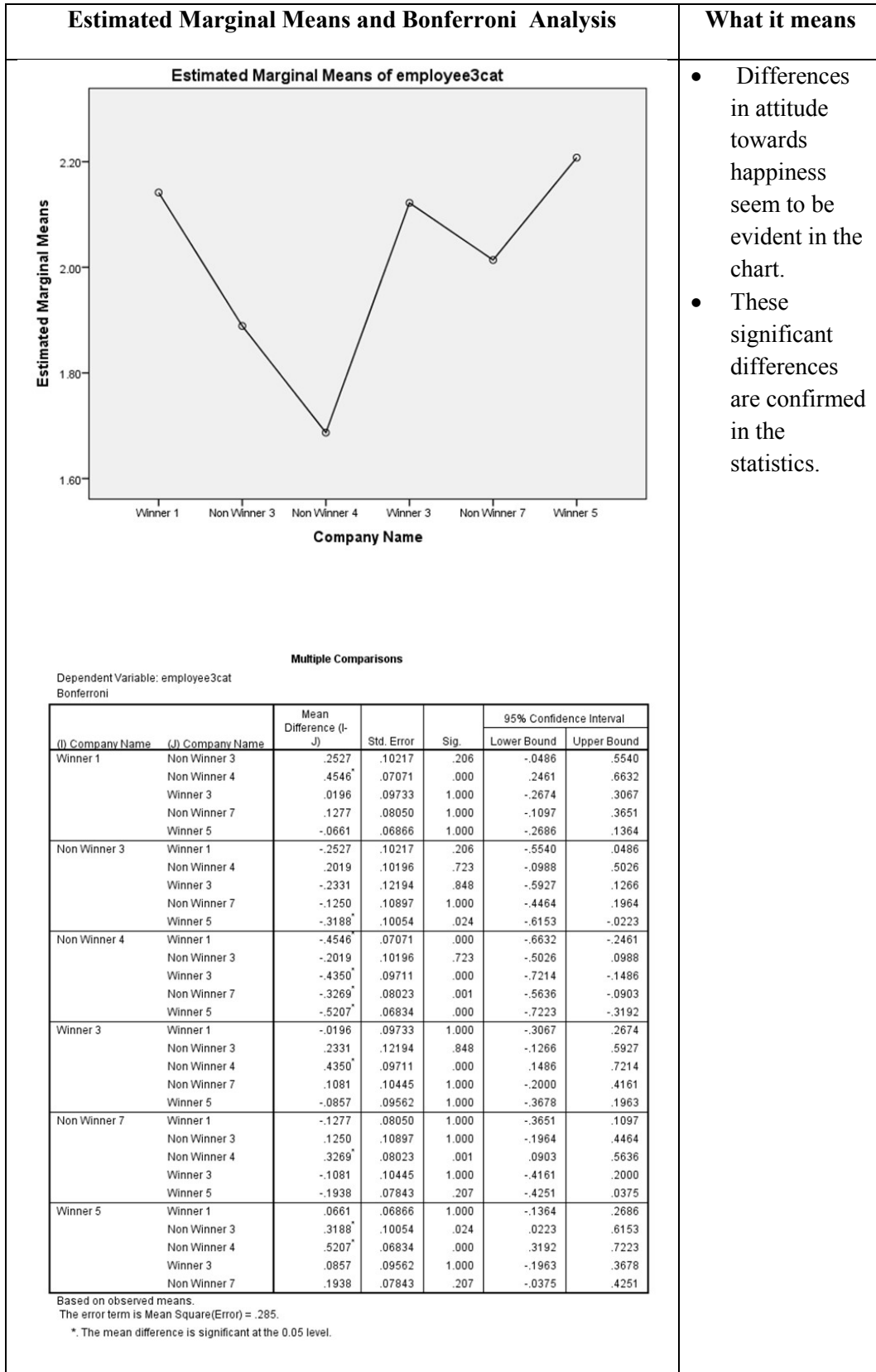
(I) Company Name	(J) Company Name	Mean Difference (I- J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Winner 1	Winner 3	.0196	.09939	1.000	-.2197	.2590
	Winner 5	-.0661	.07012	1.000	-.2350	.1028
Winner 3	Winner 1	-.0196	.09939	1.000	-.2590	.2197
	Winner 5	-.0857	.09765	1.000	-.3209	.1494
Winner 5	Winner 1	.0661	.07012	1.000	-.1028	.2350
	Winner 3	.0857	.09765	1.000	-.1494	.3209

Based on observed means.
The error term is Mean Square(Error) = .297.

- The picture shows that Winner 3 has a lower attitude to happiness than the other two winners.
- For the separate companies (n>30), there are no significant differences (at the 0.05 confidence level) in the attitude towards Employee happiness.

This analysis leads to the acceptance of sub null hypothesis 2D because attitudes towards employee happiness are the same for award winning organisations by company.

Table 6.29 – Global Results Including Non-Winners – Happiness Attitude – Company



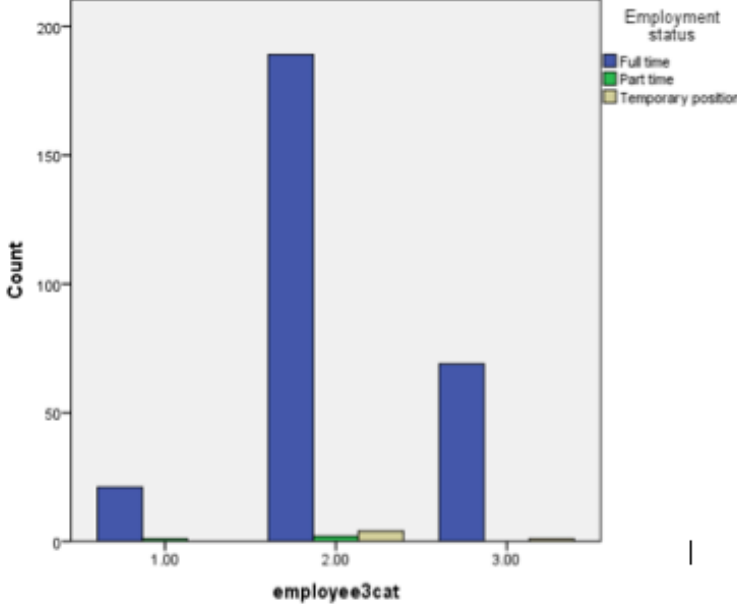
When considering the global results in Table 6.29 the conclusions are different. These findings indicate that award-winning organisations are significantly different by company than all of the organisations (including non-winners). Looking at the global results, some organisations have significantly higher attitudes to happiness than other organisations. The contrasting results suggest that a strategic approach to quality has an equalizing impact on the attitude to happiness by company. The differences that were evident in the global results are no longer different when considering award winners only.

6.4.5 - Sub Null Hypothesis 2E: Employee happiness results for award winning organisations are the same by employment status

This section presents the results of the survey, analysing potential differences in attitude towards employee happiness by position type. The majority of the employees for the award winners were full time employees. Based on the 8 people who were part time and temporary the statistics show that there are no significant differences between employment statuses.

Table 6.30 provides a summary of all of the statistics and conclusions based on the analysis. The cross tabulation analysis and bar charts showed that there were no unexpected results. The chi-square test was not significant and confirmed no differences.

Table 6.30 - Summary of Statistics and Analysis, Happiness Employment Status

Test	Chart or Table – Happiness - Employment Status for Award Winners	What it means																																																																																					
Cross Tab Analysis & Bar Chart	<p style="text-align: center;">employee3cat * Employment status Crosstabulation</p> <table border="1"> <thead> <tr> <th colspan="2" rowspan="2"></th> <th colspan="3">Employment status</th> <th rowspan="2">Total</th> </tr> <tr> <th>Full time</th> <th>Part time</th> <th>Temporary position</th> </tr> </thead> <tbody> <tr> <td rowspan="3">employee3cat</td> <td>1.00</td> <td>Count</td> <td>21</td> <td>1</td> <td>0</td> <td>22</td> </tr> <tr> <td></td> <td>Expected Count</td> <td>21.4</td> <td>.2</td> <td>.4</td> <td>22.0</td> </tr> <tr> <td></td> <td>% within Employment status</td> <td>7.5%</td> <td>33.3%</td> <td>0.0%</td> <td>7.7%</td> </tr> <tr> <td rowspan="3">2.00</td> <td></td> <td>Count</td> <td>189</td> <td>2</td> <td>4</td> <td>195</td> </tr> <tr> <td></td> <td>Expected Count</td> <td>189.6</td> <td>2.0</td> <td>3.4</td> <td>195.0</td> </tr> <tr> <td></td> <td>% within Employment status</td> <td>67.7%</td> <td>66.7%</td> <td>80.0%</td> <td>67.9%</td> </tr> <tr> <td rowspan="3">3.00</td> <td></td> <td>Count</td> <td>69</td> <td>0</td> <td>1</td> <td>70</td> </tr> <tr> <td></td> <td>Expected Count</td> <td>68.0</td> <td>.7</td> <td>1.2</td> <td>70.0</td> </tr> <tr> <td></td> <td>% within Employment status</td> <td>24.7%</td> <td>0.0%</td> <td>20.0%</td> <td>24.4%</td> </tr> <tr> <td rowspan="3">Total</td> <td></td> <td>Count</td> <td>279</td> <td>3</td> <td>5</td> <td>287</td> </tr> <tr> <td></td> <td>Expected Count</td> <td>279.0</td> <td>3.0</td> <td>5.0</td> <td>287.0</td> </tr> <tr> <td></td> <td>% within Employment status</td> <td>100.0%</td> <td>100.0%</td> <td>100.0%</td> <td>100.0%</td> </tr> </tbody> </table> <p style="text-align: center;">Bar Chart</p> 			Employment status			Total	Full time	Part time	Temporary position	employee3cat	1.00	Count	21	1	0	22		Expected Count	21.4	.2	.4	22.0		% within Employment status	7.5%	33.3%	0.0%	7.7%	2.00		Count	189	2	4	195		Expected Count	189.6	2.0	3.4	195.0		% within Employment status	67.7%	66.7%	80.0%	67.9%	3.00		Count	69	0	1	70		Expected Count	68.0	.7	1.2	70.0		% within Employment status	24.7%	0.0%	20.0%	24.4%	Total		Count	279	3	5	287		Expected Count	279.0	3.0	5.0	287.0		% within Employment status	100.0%	100.0%	100.0%	100.0%	<ul style="list-style-type: none"> Expected results were not different than the actual results.
				Employment status				Total																																																																															
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Chi-Square Tests	<p style="text-align: center;">Chi-Square Tests</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th></th> <th>Value</th> <th>df</th> <th>Asymp. Sig. (2-sided)</th> </tr> </thead> <tbody> <tr> <td>Pearson Chi-Square</td> <td>3.863^a</td> <td>4</td> <td>.425</td> </tr> <tr> <td>Likelihood Ratio</td> <td>3.795</td> <td>4</td> <td>.434</td> </tr> <tr> <td>Linear-by-Linear Association</td> <td>.210</td> <td>1</td> <td>.647</td> </tr> <tr> <td>N of Valid Cases</td> <td>287</td> <td></td> <td></td> </tr> </tbody> </table> <p>a. 6 cells (66.7%) have expected count less than 5. The minimum expected count is .23.</p>		Value	df	Asymp. Sig. (2-sided)	Pearson Chi-Square	3.863 ^a	4	.425	Likelihood Ratio	3.795	4	.434	Linear-by-Linear Association	.210	1	.647	N of Valid Cases	287			<ul style="list-style-type: none"> • The Chi Square test is not significant. • There are no differences between full time and part time employee attitudes towards employee happiness in award winning organisations. •
	Value	df	Asymp. Sig. (2-sided)																			
Pearson Chi-Square	3.863 ^a	4	.425																			
Likelihood Ratio	3.795	4	.434																			
Linear-by-Linear Association	.210	1	.647																			
N of Valid Cases	287																					
ANOVA Analysis	No analysis because there were fewer than 30 people in two of the categories.																					
Estimated Marginal Means and Bonferroni Analysis	No analysis because there were fewer than 30 people in two of the categories.																					

Based on the analysis, sub null hypothesis 2E is accepted because there are no significant differences in attitude towards employee happiness between the employment statuses within award-winning companies.

Table 6.31 – Global Results Including Non-Winners – Happiness Attitude – Employment Status

Group statistics and T-test Analysis						What it means				
Group Statistics										
	Employment status	N	Mean	Std. Deviation	Std. Error Mean	<ul style="list-style-type: none"> • There appear to be differences in attitude to happiness in the group statistics. • The t-test confirms the differences are significant. • Full time employees have a higher attitude to happiness than part time employees. 				
employee3cat	Full time	488	2.0205	.56560	.02560					
	Part time	58	1.7759	.53124	.06976					
Independent Samples Test										
		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
employee3cat	Equal variances assumed	2.370	.124	3.133	544	.002	.24463	.07607	.09127	-.39799
	Equal variances not assumed			3.292	73.238	.002	.24463	.07431	.09655	-.39271

When considering the global results in Table 6.31 the conclusions are different. These findings indicate that award-winning organisations are significantly different by employment status than all of the organisations (including non-winners). Looking at the global results full time employees have significantly different attitudes to happiness than part time employees. The contrasting results suggest that a strategic approach to quality has an equalizing impact on the attitude to happiness by employment status. The differences that were evident in the global results are no longer different when considering award winners only.

This section and supporting sub-sections show that with the exception of tenure and position, each of the sub null hypotheses were accepted (Table 6.32). Analysis of the same attributes for

the whole data set (not just award winners) showed many significant differences (Table 6.33).

The implications of these results will be discussed further in Chapter Seven.

Table 6.32 - Summary of Award Winner Hypothesis Conclusion

Sub Null Hypothesis	Null Accepted or Rejected?	Conclusion
2A: Employee happiness results for award winning organisations are the same by sector	Accepted	No Significant differences
2B: Employee happiness results for award winning organisations are the same by tenure	Rejected	Long-term employees have a higher attitude to employee happiness than the other employees.
2C: Employee happiness results for award winning organisations are the same by position	Rejected	Senior leadership have a higher attitude towards employee happiness than front line employees.
2D: Employee happiness results for award winning organisations are the same by company	Accepted	No Significant differences
2E: Employee happiness results for award winning organisations are the same by employment status	Accepted	No Significant differences

Table 6.33 - Summary of Employee Happiness Hypothesis Conclusion for All Companies

Sub Null Hypothesis	Conclusion
Sector	Private Sector is higher than Public and Not For Profit
Award winning status	Award Winners have Higher attitude than Non-Winners
Tenure	Less than 6 months is higher than most other categories. More than 10 years is higher than 3-5 years.
Position	Significant differences between every variable. Senior Leaders are higher than middle and front line.
Company	Lots of differences between companies. Award winners generally higher than non-winners
Employment status	Full time employees have a significantly higher attitude than part time.

This chapter outlined the specific results of the surveys and focus groups. The significant relationship between a focus on strategic quality and employee happiness was highlighted. Both the positive and negative impacts of an organisation's approach to strategic quality on employees were discussed highlighting how organisations with a strategic approach to quality (award winners) have significantly different attitudes towards the quality and employee happiness than the global population. This indicated that employees within award winning organisations are much more similar in their attitude towards quality and happiness regardless of sector, position, company, tenure, and employment status. All award winners have similar and consistently higher attitudes to quality and employee happiness. The next chapter will discuss and explain the implications of the findings in the context of literature. The findings will be related back to the relevant literature and theory and practical applications will be discussed.

Chapter Seven – Discussion

The last chapter presented the data findings and specific results of the surveys and focus groups. Throughout chapters two, three and six, all of the research questions were answered with specific reference to the relevant literature and data. This chapter provides a commentary and discussion of these results. The discussion is organised from the specific to the general. The implications of the findings are explained in the context of the literature. The theoretical framework is also repositioned in light of the specific results. Included in the implications is a discussion of the practical application of the results.

7.1 - Implications of the Findings

This section answers the research questions and concisely summarizes the principal implications of the findings. All of the research questions presented below will be answered and supported with results. The answers will be explained and interpreted in the context of the literature.

- 1) What constitutes ‘a strategic approach to quality’? (Chapter 2)
- 2) What constitutes ‘employee happiness’? (Chapter 3)
- 3) Is there a relationship between a strategic approach to quality management and employee happiness? (Chapter 6)
- 4) What is the specific impact of a strategic approach to quality on employee engagement, satisfaction and morale? (Chapter 6)
- 5) Are employee happiness and quality results higher at organisations with a strategic approach to quality? (Chapter 6)

7.1.1 – Defining a Strategic Approach to Quality

A strategic approach to quality was defined in Chapter 2 as when quality approaches move beyond incremental operational improvements to those that influence the strategy process for the organisation. Specifically, a strategic approach to quality is multifaceted and includes a strategic focus on leadership, planning, customer, people, process management, supplier/partner,

organisational performance, measurement, analysis, knowledge management, innovation/quality/improvement, leadership through involvement, factual approach to decision making, primary focus on the customers, continuous learning and people involvement, prevention based process management, cooperation and teamwork, fulfilling obligations to all stakeholders and society, results, creating value, and continuous improvement and breakthrough thinking.

This definition was derived from academic theorists (Deming, 1986; Juran, 1980; Crosby 1980), international awards criteria (Excellence Canada, 2000; SAI Global, 2004; NIST, 2009; EFQM, 2010) and literature comparing strategic quality with organisational performance (Saraph et al., 1989; Kearney, 1992; Dale and Cooper, 1994; Dean and Bowen, 1994; Flynn et al., 1994; Waldman, 1994; Wilkinson et al., 1994; Powell, 1995; Ahire et al., 1996; Black and Porter, 1996; Zeitz et al., 1997; Mintzberg, 1998; Samson and Terziovski, 1999; Scholtes, 1999; Yusof and Aspinwall, 1999; Eskildsen and Dahlgaard, 2000; Davies et al. 2001; Pannirselvam and Ferguson, 2001; Kanji, 2002; Soltani, 2005; Soltani and Wilkinson, 2010).

7.1.1.1 – Implications of the Definition of a Strategic Approach to Quality

This definition was critical to this thesis because the literature didn't have a consistent or universal definition of a strategic approach to quality. Much of the literature as described in chapter two associated the term total quality management or TQM with the greater subject of a strategic approach to quality (Ritter, 1991; Hyde, 1992; Kanji et al., 1992; Harber et al., 1993; Chenhall, 1997; Hendricks and Singhal, 1997; Kivimaki et al., 1997; Choi and Eboch, 1998; Easton and Jarrell, 1998; Forza and Glippini, 1998; Morenzo-Luzon and Peris, 1998; Samson and Terziovski, 1999; Vinzant and Vinzant, 1999; Curkovic et al., 2000; Tan et al., 2000;

Douglas and Judge, 2001; Mehra et al., 2001; Kayis et al., 2003; Karia et al., 2006). A universal definition of a strategic approach to quality gives clarity to the subject being addressed. It takes the subject beyond the term TQM, to a modern, useful, definition that can be used in future research related to a strategic approach to quality.

A strategic approach to quality has surfaced more frequently in academic literature since the primary work on the literature review was completed in late 2012 (Alidrisi and Mohamed, 2012; O'Heron and Jarman, 2014; Mosadeghrad, 2014). These and other researchers use similar underpinnings to inform their definitions of strategic quality including both soft behavioural aspects of management with the harder management tools and techniques (Alidrisi and Mohamed, 2012). Strategic quality is when continuous quality improvement is included in strategy formulation, strategy implementation, and strategy evaluation (Mosadeghrad, 2014).

There continues to be a primary focus on using the terms total quality management or TQM in association with a strategic approach to quality. At least 853 academic papers were published in 2014 and 174 already in 2015 using TQM as the underlying definition for a strategic approach to quality for example: (Narimani et al, 2014; Ebrahimi et al, 2014; Hakami Nasab et al, 2014; Calvo-Mora et al, 2015; Dubey, 2015). The definition of a strategic approach to quality outlined in this thesis can help researchers move beyond TQM into a more holistic view of strategic quality informed by quality theorists, international quality awards, and literature comparing strategic quality with organisational performance.

7.1.2 – Defining Employee Happiness

As outlined in chapter three, this thesis defines measures of employee happiness from the personal cognitive level (satisfaction) the group level (morale) and the personal affect level

(engagement). Employee happiness is when employees are working together with positive satisfaction, engagement, and morale at the personal and collective levels. This definition of employee happiness takes a broader approach than the majority of happiness at work research that usually focuses on job satisfaction only. Taking a broader approach to defining the construct measure provides a better ability to understand complex elements and has more explanatory power than narrower traits.

7.1.2.1 – Implications of the Definition of Employee Happiness

There continues to be a scarcity of research related to employee happiness. A happy workforce is a much under-researched phenomenon (Jenkins and Delbridge, 2014). One of the problems continues to be the difficulty in defining happiness at work. Some researchers (Robertson and Cooper, 2011) have linked the terms employee happiness with psychological well-being. They define psychological well-being as the “affective and purposive psychological state that people experience while they are at work (Robertson and Cooper, 2011 p.54).” Consistent with the definition used for this research, there is a clear distinction between employee happiness and job satisfaction. Job satisfaction is seen to be a ‘narrower construct’, which refers to whether people are satisfied with the job itself (Robertson and Cooper, 2011 p.34). Happiness at work is influenced by broader factors, which may include the values and reputation of the organisation, the opportunity for integrating work and non-work and the degree of communication within organisations (Robertson and Cooper, 2011). Once again there is the consistent notion that happiness at work is an umbrella concept that includes a number of constructs at the person level to aggregate attitudes at the unit level (Indhira and Shani, 2014). These factors are in line with how this research defines the collective elements of satisfaction, engagement, and morale.

Since “with rare exceptions, happiness is not a term that has been extensively used in academic research on employee experiences in organisations (Fisher, 2010, p385),” the definition outlined in this thesis provides an example of how this concept can be used and measured. Future researchers can use this definition to help move beyond the traditional measures of job satisfaction into a more holistic view of employee happiness that includes satisfaction, engagement, and morale at the personal and collective levels.

7.1.3 – Relationship between a Strategic Approach to Quality and Employee Happiness

Chapter six, section 6.1 showed that there is a significant correlation between strategic quality and all three elements of employee happiness. The results show that there is a clear relationship between a strategic approach to quality and employee happiness with an overall correlation of 0.780. The strongest relationship was between strategic quality and morale with a significant correlation of 0.758. Engagement and satisfaction also had strong, significant correlations at 0.734 and 0.691 respectively. The focus group members also confirmed the relationship between strategic quality and employee happiness. There was general consensus among the focus group participants that in their experience they have noticed strong relationships between happy employees (high engagement, morale, and satisfaction) and the implementation of a strategic quality approach.

These results are consistent with other studies investigating the relationships between quality management and organisational performance (Anderson et al. 1995; Grandzol and Gershon, 1997; Choi and Eboch, 1998; Forza and Glippini, 1998; O’Shaughnessy, 1998; Rungtusanatham et al., 1998; Das et al., 2000; Ahire and Ho et al., 2001) and measures of employee happiness (Ritter, 1991; Wilkinson et al., 1994; Ahire et al., 1996, Dow et al., 1999; Samson and Terziovski,

1999; Wilson and Collier, 2000; Pannirselvam and Ferguson, 2001; Kayis et al., 2003; Karia et al., 2006; Psychogios et al., 2009) detailed in the literature review.

More recent studies pertaining to elements of employee happiness have also found similar relationships (Alsughayir, 2014; Mosadeghrad, 2014; Al-Ettayem and Al-Zu'bi, 2015). In line with the conclusions in this thesis, Alsughayir (2014) found significant relationships between job satisfaction and TQM practices. Similarly, a positive relationship between TQM practices and non-financial organisational performance was found in the Jordanian banking sector (Al-Ettayem and Al-Zu'bi, 2015). Practices such as visionary leadership, education, training, empowerment, and teamwork were related to employees' job satisfaction (Mosadeghrad, 2014). Although these results don't expand to the definition of employee happiness used in this research, the findings are consistent.

7.1.3.1 – Implications of this Relationship

These relationship results highlight the strong connection between a strategic approach to quality and all three elements of employee happiness. Most previous research focused on one of the elements. This broader relationship analysis provides a deeper insight into how the specific elements of a strategic approach to quality (leadership, planning, customer, people, process management, supplier/partner, organisational performance, measurement, analysis, knowledge management, innovation/quality/improvement, leadership through involvement, factual approach to decision making, primary focus on the customers, continuous learning and people involvement, prevention based process management, cooperation and teamwork, fulfilling obligations to all stakeholders and society, results, creating value, and continuous improvement and breakthrough thinking) link with engagement, satisfaction, and morale.

Knowledge of these significant relationships can help close the primary gap that was identified in chapter two. Relationships between a strategic approach to quality and happiness as they are defined in this thesis are almost non-existent. As outlined in the literature review there are some studies that link elements of each (Ritter, 1991; Wilkinson et al., 1994; Ahire et al., 1996, Dow et al., 1999; Samson and Terziiovki, 1999; Wilson and Collier, 2000; Pannirselvam and Ferguson, 2001; Kayis et al., 2003; Karia et al., 2006; Psychogios et al., 2009). However, there are still relatively few studies that investigate the effect of quality on employee happiness. Alsughayir (2014 p. 169) points out for example “While extensive research has been done on total quality management (TQM) practices, few studies have investigated their effect on employee job satisfaction.” This research contributes some much-needed knowledge to this gap in the literature.

7.1.4 – Impact of a Strategic Approach to Quality on Employee Happiness

Chapter six outlined the impact of a strategic approach to quality on employee happiness from three distinct perspectives. The first was the negative impact on the employee, the second was the positive impact on the employee, and the third was the general impact on the organisation. The results showed that with high levels of leadership commitment, there can be a very positive impact of a strategic approach to quality on both employees and the organisation as a whole.

The negative impacts were mainly around the perception of increased workload, and the general fear of change from the status quo. These negative impacts were consistent with some other research outlined in the literature review (Kearney, 1992; Keiningham et al., 1994; Wilkinson et al., 1994; Lam, 1995; Lam, 1996; Ittner and Larcker, 1996; Handfield et al., 1998; Stewart et al., 2010). The way to overcome or reduce these negative impacts was to increase trust, outline

leadership commitment and accountability, and to implement a staged communication strategy. These strategies to overcome the negative impacts are supported by some recent research on this topic (Mosadeghrad, 2014; Alsughayir 2014). Understanding these potential negative impacts is important for organisations and employees who are considering a large-scale implementation of a strategic approach to quality.

The positive impacts of a strategic approach to quality on employees included financial/performance recognition, growth and development, enhanced career path, sense of belonging, and the ability to make a difference. These results were consistent with other studies comparing the impact of a strategic impact on quality on employees (Ritter, 1991; Wilkinson et al., 1994; Ahire et al., 1996, Dow et al., 1999; Samson and Terziovski, 1999; Wilson and Collier, 2000; Pannirselvam and Ferguson, 2001; Kayis et al., 2003; Karia et al., 2006; Psychogios et al., 2009, Mosadeghrad, 2014). Employees working at organisations with a higher focus on strategic quality had more opportunities for formal and informal recognition in the form of both financial and performance recognition. Organisations with a strategic approach to quality had a higher level of focus on continuous learning and continuous improvement and as a result employees were more likely to grow and develop and move forward more quickly on their chosen career path. With higher levels of engagement, employees tend to stay at their organisations longer and had a greater sense of belonging. Similarly with higher levels of happiness, employees were more resilient in tough times and felt that their efforts were really making a difference for their organisations. This is consistent with recent research noting that TQM has a significant positive effect on employee satisfaction (Alsughayir, 2014) and with research on the advantages of happiness (Lyubomirsky et al., 2005) that shows that happiness leads to better secure jobs, greater levels of resilience, superior productivity, less burnout, and less turnover.

The benefits to the organisation included improved performance in the area of customer satisfaction, financials/bottom line, and process management. Also, the organisation can be recognized for their efforts and see benefits of recognition and improved reputation. These impact results are in contrast to several studies that suggest that the choice to implement a strategic approach to quality can have a negative impact on employees and is not worth the effort (Kearney, 1992; Keiningham et al., 1994; Wilkinson et al., 1994; Lam, 1995; Lam, 1996; Ittner and Larcker, 1996; Handfield et al., 1998; Stewart et al., 2010). The results in this thesis refute some of these findings and show that the effort required for implementing a strategic approach to quality included a clear benefit to the organisation beyond higher levels of employee happiness. These results are consistent with literature on the benefits of employee happiness. Amabile and Kramer (2011), say that people perform better when they are happier. People are more productive and creative when they have more positive emotions (Amabile and Kramer, 2011). Also customer perceptions of service quality are greatly affected by service employee engagement (Menguc et al., 2013). Others say that employee engagement is positively associated with customer satisfaction, customer loyalty, productivity, and profitability, and negatively associated with employee turnover (Harter et al., 2002). There is also evidence that employee happiness leads to superior productivity, less turnover, better performance, and greater sales (Lyubomirsky et al., 2005). The impact results in this thesis can help organisations understand that the implementation of a strategic approach to quality is worth the effort in terms of the benefits to employee happiness and the organisation as a whole.

7.1.4.1 – Implications of the Impact of a Strategic Approach to Quality on Employee Happiness

The findings provide answers to employees, management, and labour unions that need to understand the impact a strategic approach to quality will have on them. Understanding the positive impact that this approach to quality has on employees may guide decisions by leadership teams to implement such an approach within their organisations. Implementing a strategic approach to quality should not only have a positive impact on employee happiness, it should also impact company performance in terms of improvement in the areas of customer satisfaction, financials/bottom line, and process management (see section 6.2). Also, the organisation can be recognized for their efforts and see benefits of recognition and improved reputation.

Policy makers can use the findings to set the agenda for closing Canada's productivity gap. The success of Canadian industry in competing in the global economy has continuously declined since the 1970s (Conference Board of Canada, 2011). Productivity, competition for global investment, and a failure to innovate at the same rate as other countries has led to this position. To address performance issues including productivity and employee morale, some organisations have adopted a strategic approach to quality management. Knowledge of this research could influence policy maker decisions to simplify the process for implementing a strategic approach to quality. Providing Canadian organisations with more access to information on the value of a strategic approach to quality may enable more Canadian organisations to realize the benefits associated with strategic quality, potentially reversing the current gap in productivity. Policy-makers will be provided with an insight into how strategies may be developed that support the implementation of quality or government funded training programs for organisations in Canada.

7.1.4.2 – Revisiting the Theoretical Framework in light of the Findings

The theoretical framework that was tested within this thesis was presented in Figure 3.2. The literature review led to the shaping of the theoretical framework. The literature review also highlighted gaps in the research that were addressed by this study. The theoretical framework implied directional causality starting with a strategic approach to quality that influences employee happiness. Given the results of the surveys and focus group discussions on impact of quality and causation, the theoretical framework was adjusted to reflect the iterative nature of the relationship. It was seen that positive results from a strategic quality focus lead to happier employees and happier employees then contribute more to the strategic quality focus.

Figure 7.1 – Revised Theoretical Framework – Depicting Two Way Relationship

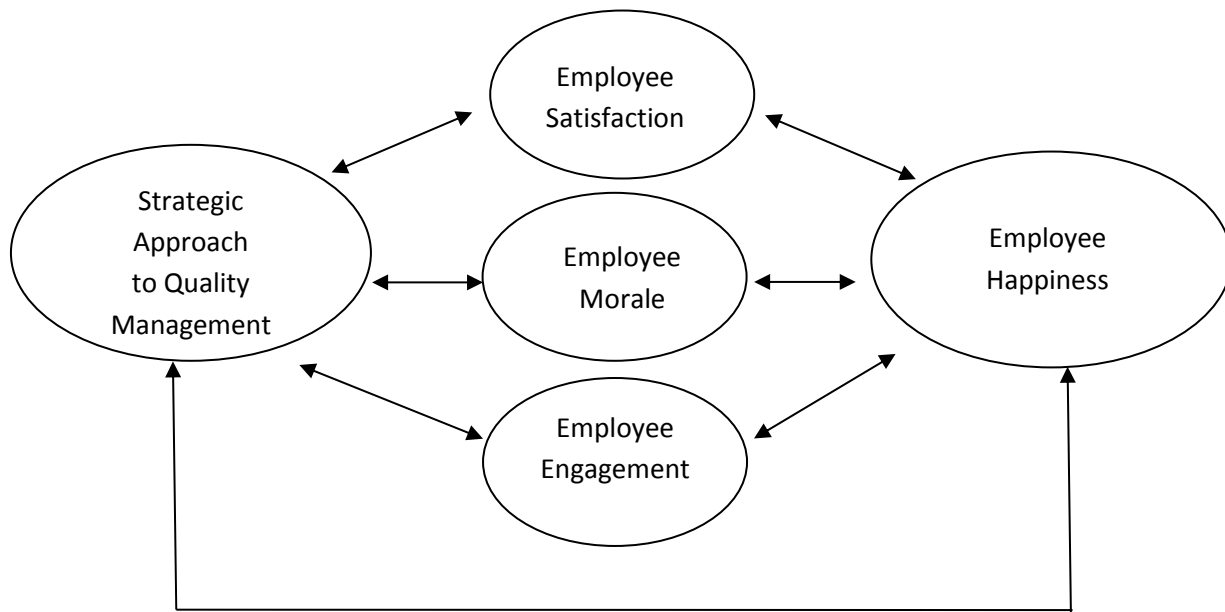


Figure 7.1 depicts the revised theoretical framework with double-headed arrows because happier employees also have an impact on the organisations ability to implement the strategic approach to quality. The framework shows that a strategic approach to quality management has a clear relationship with measures of employee satisfaction, employee morale, and employee

engagement, which relates to overall employee happiness. The results showed that the approach that an organisation takes to quality will have an impact on employee satisfaction (cognitive), employee engagement (affective), and employee morale (group level). The effect of these three elements will collectively shape the employees overall happiness. Drawing on the focus group discussion on causation it is noted that levels of employee happiness also have an impact on the organisations ability to implement a strategic approach to quality. Further research could be conducted to understand the specific cause and effect relationships between these two constructs. The conclusion of this research is that there is a virtuous relationship between the two where positive improvement in one can have a positive improvement in the other.

7.1.5 – Is Employee happiness higher at organisations with strategic quality

It was seen in chapter six (sections 6.3 and 6.4) that employees at award winning organisations had a significantly higher attitude towards both quality and employee happiness. The results show that people are significantly and consistently happier (higher morale, satisfaction, and engagement) at organisations with at strategic approach to quality (award winners). It was also seen that regardless of attributes, the award winning organisations tended to be more similar in their levels of happiness. This was in contrast to when the award winners were not separated from the entire data set. The assumption regarding demographic attributes was that given that the workforce of any organisation is not demographically homogeneous, one expects employee satisfaction to differ across sub-groups (Fosam et al., 1998). This was true for the entire data set where people in different demographic groups (tenure, position, sector, company, employment status) had significantly different levels of employee happiness. This was not the case however when considering award winners in isolation. The organisations with a strategic approach to quality (award winners) had very different results in that people in different groups were not

significantly different (tenure, position, sector, company, employment status). People who work at organisations with a strategic approach to quality were similarly positive and consistent regardless of tenure, position, sector, company, and employment status. The results indicate that a strategic approach to quality becomes an attitude equaliser when it comes to employee happiness. Levels of satisfaction, engagement, and morale were all similarly high across the various demographics.

7.1.5.1 – Implications of the High levels of Employee Happiness

The results indicate that for award winners (those with a strategic approach to quality) the various groups are much more similar to each other. Not only are they similar but also they are similarly positive in their attitudes towards quality and the employee measures of satisfaction, engagement, and morale. This result is in contrast to the assumption regarding demographic attributes that the workforce will generally feel differently about these measures across different groups (Fosam et al., 1998).

Satisfaction, engagement, and employee morale research into employment status, tenure, sector, and position show that these demographic attributes make a difference in the results. For example employment status tends to make a difference to employee attitudes to satisfaction (Conway and Briner, 2002). Some research shows that part-time workers are less satisfied (Miller and Terborg, 1979), and others claim that part-time workers are more satisfied than full-time workers (Fenton O’Creevy, 1995; Sinclair et al., 1999). Also tenure seems to differ in terms of satisfaction. Some studies have said that tenure is high in the early stages of a career then falls and then climbs again towards the end of a career (Hunt and Saul, 1975; Lee and Wilbur, 1985). Sector also seems to generally differ in terms of attitudes to measures of

happiness. Smith and Nock (1980) found intrinsic and extrinsic differences between public and private sector organisations in terms of their employee satisfaction. Other studies had similar conclusions that public and private sector organisations were different (Schneider and Vaught, 1993; Wang et al., 2012). Finally an individual's position in the organisation impacts their measures of happiness. For example Kawada and Otsuka (2011) that higher stress positions had significantly lower levels of satisfaction.

Since the results of this thesis indicate that a strategic approach to quality can help equalize measures of employee happiness, organisations can dedicate resources to strategic quality to help reduce differences in attitude. In the context of the theoretical framework in Figure 7.1, organisations can adopt a strategic approach to quality to improve the levels of employee happiness. These improved levels of employee happiness can then facilitate the implementation of the strategic approach to quality.

Higher levels of employee happiness (engagement, morale, and satisfaction) can then lead to benefits for the organisation in the form of more customer loyalty (Salanova et al., 2005; Gonring, 2008), employee retention (Demourouti et al., 2001; Sonnentag, 2003), employee productivity (Kahn, 1990; Appelbaum et al., 2000; Judge et al., 2001; Frenkel, 2003, Sonnentag, 2003; Weakliem and Frenkel, 2006; Macey and Schneider, 2008), manager self-efficacy (Luthans and Peterson, 2002), organisational performance (Harter, 2000; Harter et al., 2002), bottom line profit (Macey and Schneider, 2008; Graen, 2008), and successful organisational change (Graen, 2008). For employees, the benefits include a sense of worth (Kahn, 1990; Cartwright and Holmes, 2006) and health and well-being (Kahn, 1990; Rothbard, 2001; Mauno et al., 2007). These tangible benefits of employee measures of happiness may encourage

organisations to pursue strategies that support the implementation of a strategic approach to quality. The impact results of this thesis noted in section 7.1.4 contribute to the literature above with similar conclusions in the context of a strategic approach to quality and employee happiness.

This chapter provided a commentary and discussion of the thesis results. The implications of the findings were explained in the context of the literature. The theoretical framework was also repositioned in light of the specific results. Included in the implications was a discussion of the practical application of the results. The next chapter will reflect on research limitations and suggest opportunities for further research.

Chapter Eight - Conclusion

The previous chapter provided a commentary and discussion of all of the research questions. The implications of the findings were explained in the context of the literature. The theoretical framework was also repositioned in light of the specific results. Drawing on the findings and discussion, chapter eight reflects on research limitations, highlighting how the findings will contribute to knowledge, and suggests opportunities for further research.

This thesis provides evidence that an organisation that takes a strategic approach to quality management has a positive impact on the employee behaviour of that organisation. The research has found significant connections between an organisation's level of strategic quality management and employee happiness in terms of morale, engagement, and satisfaction.

The first four chapters of this thesis set the foundation of the research. The introduction sets the context of the research. The literature review chapters two and three defined both a strategic approach to quality and employee happiness as stated in the literature. Strategic quality was arrived at from three perspectives. The first is from the contributions of quality theorists, the second is from the perspective of international awards criteria, and the third was from the perspective of academic studies comparing quality with organisational performance. Quality and employee constructs are outlined and justified based on the literature. A theoretical framework is presented that is derived from the literature review.

The fourth chapter provided a justification for the positivist methodological position that shapes the ontological and epistemological assumptions that guide the methods chosen by the researcher. After the paradigm justification, chapter four describes the research methods in detail. The

research uses both survey and focus group methods to arrive at its conclusions. This mixed methods approach added to the validity and reliability of the results. The results of both the survey and focus groups were analysed using a systematic process aimed at improving reliability and generalisability. Chapter four ends with a detailed justification of the survey instrument based on the literature for both a strategic approach to quality and employee measures of morale, satisfaction, and engagement.

Chapter five shows all of the descriptive and frequency data analysis. The data constructs are tested and based on these results the chosen appropriate statistical tests are outlined and justified. Chapter six of the thesis provides a detailed description of all the issues and findings. Each of the hypotheses and sub-hypotheses outlined in the introduction are either accepted or rejected based on this analysis. The first section shows the correlation between a strategic approach to quality and the elements of employee happiness. The next section provides a robust review of the leadership focus group that uncovered the impact of strategic quality on employees. The last two sections illustrate how employees are significantly happier (higher morale, satisfaction, and engagement) at organisations that have a strategic focus on quality (award winners).

8.1 - Limitations of the research/reflection

Upon reflection, there are a few limitations of the research that will be improved on in future iterations of this research. The limitations were primarily related to method choices. Having more data (more organisations participating and more focus groups conducted) would have made the conclusions even stronger.

Since the survey was the primary data collection method, it only allowed for certain types of analysis. If time and cost were not factors in completing this research, the researcher would have

liked to follow up with each of the target organisations and conducted multiple interviews and focus groups with all levels of staff. This research reduced the impacts of this limitation by conducting the senior leadership focus group. This focus group complimented the survey data analysis with deep and rich descriptions of the impact of quality on employees. Another way that this limitation was reduced was with follow up conversations between the researcher and the site contact. For example, with Winner 4, the low response rate was a topic of deep discussion and attempts were made to improve the response rate before removing the results from the data analysis.

Another limitation was the lack of normally distributed data. The population and sample sizes for this research were well within the accepted levels for valid research. However, the data constructs were not normally distributed. This lack of normal distribution limited the statistical analysis to tests that were valid non-normal groups or for groups with greater than 30 responses. If the data was normally distributed it would have allowed for multiple regression analysis and structural equation modeling that would have helped to better understand causation between quality and employee happiness. This research reduced the impacts of this limitation by conducting the senior leadership focus group to better understand causation. Also, non-parametric tests were used when necessary to understand the differences in means.

8.2 - Contributions to Knowledge

Understanding the relationships between a strategic approach to quality and employee happiness helps companies, policy makers, and academia. Companies can use the conclusions to decide on the value of a quality management system as it relates to employees. The findings provide answers to employees, management, and labour unions that need to understand the impact that a

strategic approach to quality will have on them. Knowing the positive impact that quality has on employees will guide decisions by leadership teams to implement quality within their organisations. This implementation should not only impact employee happiness, it should also impact company performance in terms of improved performance in the area of customer satisfaction, financials/bottom line, and process management. Also, the organisation can be recognized for their efforts and see benefits of recognition and improved reputation.

8.2.1 – Primary Contribution – Academic Literature on the Link between A Strategic Approach to Quality and Employee Happiness

This research helps academia because it fills some of the gaps in the literature. There are two gaps in the existing research on the benefits of a strategic quality approach. The biggest gap in the existing research is what impact the implementation of a strategic quality approach has on the employees (satisfaction, engagement, and morale). This research expands on the work that has already been done with a particular focus on Canadian organisations (Ritter, 1991; Cruise O' Brien and Voss, 1992; Hendricks and Singhal, 1996; Kivimaki et al., 1997; Wilson and Collier, 2000; Curkovic et al., 2000).

8.2.2 – Secondary Contribution – Academic Literature on Strategic Quality in a Canadian Context

The second contribution to the literature that this research makes is the focus on Canadian organisations. There is very little research about a strategic approach to quality that is focused on Canadian companies. Most of the research related to strategic quality has been done using data from American, Asian, Australian, and European organisations. This research uses data from exclusively Canadian organisations. This is the only research (to the knowledge of the researcher) that uses original Canada Awards for Excellence recipient results to arrive at

conclusions. Thousands of studies have been conducted using Malcolm Baldrige, EFQM, Deming Prize, and Australian Business Excellence award winners. This is the first to use Canada Awards for Excellence results to arrive at significant conclusions.

8.2.3 – Usefulness for Practitioners and Policy Makers

A third contribution to knowledge of this research is that companies and practitioners can use the conclusions to decide on the value of a strategic approach to quality as it relates to employees. The findings provide answers to employees, management, and labour unions that need to understand the impact a strategic approach to quality will have on them. Understanding the positive impact that this approach to quality has on employees may guide decisions by leadership teams to implement such an approach within their organisations. Implementing a strategic approach to quality should not only have a positive impact on employee happiness, it should also impact company performance in terms of improvement in the areas of customer satisfaction, financials/bottom line, and process management (see section 6.2). Also, the organisation can be recognized for their efforts and see benefits of recognition and improved reputation.

Policy makers can use the findings to set the agenda for closing Canada's productivity gap. Knowledge of this research could influence policy maker decisions to simplify the process for implementing a strategic approach to quality. If Canadian organisations had more access to information about the value of a strategic approach to quality, there would be more Canadian organisations realizing the benefits associated with strategic quality. If there were more organisations implementing strategic quality there could be a reversal in the current gap in productivity. Ideas that could be explored by policy makers are strategies to provide incentives to implement quality or government funded training programs for organisations in Canada.

8.3 - Opportunities for further research

Several opportunities for further research exist. Similar research could be done in a different context. Different countries, different measures and a deeper study of causation and position would contribute to the current literature.

8.3.1 - Countries

The same research could be conducted with organisations from other countries. This would show if there are significant differences in attitude towards quality and employee happiness between countries. Understanding where Canadian organisations measure up against the international context would contribute greatly to the quality management literature.

8.3.2 - Measures

Conducting more research using the newly validated quality construct could contribute to quality management research. Understanding how a strategic quality approach impacts other important organisational measures in a Canadian context would fill gaps in the existing literature. These measures could be related to customer, performance, product quality, and supplier/partner performance. For example:

- Customer measures: satisfaction, experience, loyalty etc.
- Performance Measures: stock price, profit, revenue, return on assets, market share, growth in sales etc.
- Process Performance: Lead Time, cycle Time, time in queue, process satisfaction etc.
- Product Quality measures: Fit for use, meeting specifications, product satisfaction, etc.
- Supplier Partner measures: supplier relationship, supplier longevity, etc.

8.3.3 - Position

The results of this research showed some very interesting results regarding the significant differences between senior leaders, middle managers, and front line employee attitudes towards quality and employee happiness. These results could be analyzed further to understand the reasons for these significant differences. If organisations understood the reasons for these differences they could help set better strategies to overcome the problems associated with them. Position seemed to be the most different in terms of attitudes to quality and employee happiness but a deeper understanding of tenure, sector, and employment status could also provide very interesting conclusions.

8.3.4 - Causation

This research focuses on the relationship between the factors and the impact of those relationships. Linking back to the findings, there was a strong correlation between quality and measures of employee happiness. Further work could look at strengthening the conclusions by delving more in depth to see if this is a causal link and if so, in which direction. This would build on the results that were uncovered during the senior leadership focus group. Understanding the causal link between these factors would help organisations set strategy and resources appropriately to benefit from the results. The original theoretical framework suggested that a strategic approach to quality caused higher levels of employee satisfaction, engagement, and morale, leading to higher employee happiness. The findings of this research resulted in an adjustment of the theoretical framework to reflect the iterative nature of the relationship. Further research could discover what elements of a strategic approach to quality have more of a causal influence on employee happiness.

8.4 - Final Comments

This research explored the relationship between a strategic approach to quality management in Canadian organisations and employee happiness. The research provides evidence that organisations taking a strategic approach to quality have a positive impact on the employees of that organisation. The research has found significant connections between an organisations level of strategic quality and the levels of employee happiness in terms of morale, engagement, and satisfaction. The findings indicate that the impact of implementing quality is positive and result in benefits for both the organisation as a whole and the individual employee. Significant differences exist between Canada Award for Excellence winners and non-winners. Canada Award for Excellence winners have higher levels of employee happiness than non-winners. These higher levels of employee happiness exist throughout the organisation and are the same regardless of demographic attribute.

This conclusion highlighted how the findings will contribute to knowledge, reflected on the research limitations, and suggested opportunities for further research. The research showed that a strategic approach to quality has a clear positive impact on employee happiness. The impact of implementing quality is positive and results in benefits for both the organisation as a whole and the individual employee. When considering all of the organisations, there are significant differences between the various groups' (award winning status, company, sector, tenure, position, employment status) attitudes towards employee happiness and quality. When the award winners are analysed in isolation there are less differences between the various groups. Overall there is

clear evidence that employees are happier (higher employee morale, engagement, and satisfaction) at organisations with a strategic approach to quality (award winners).

Appendix

Appendix 1 - Full Survey

The full question set is below:

Section 1: Strategic Commitment to Quality

The following questions are about your organisations strategic commitment to quality. Answer the questions using the 7 point scale where 1 means strongly disagree and 7 means strongly agree. If you can't answer the question or don't happen to know a response select the "Don't Know" option.

1) Employees understand the overall aim or mission of the organisation

Strongly Disagree Strongly Agree Don't Know
1 2 3 4 5 6 7

2) Senior Leaders provide clear direction for the future

Strongly Disagree Strongly Agree Don't Know
1 2 3 4 5 6 7

3) Senior Leaders demonstrate a commitment to continuous improvement

Strongly Disagree Strongly Agree Don't Know
1 2 3 4 5 6 7

4) I see strong evidence of effective leadership from senior leaders

Strongly Disagree Strongly Agree Don't Know
1 2 3 4 5 6 7

5) We have a comprehensive and structured planning process which regularly sets short and long term goals

Strongly Disagree Strongly Agree Don't Know
1 2 3 4 5 6 7

6) We incorporate Customer/client input into the planning process

Strongly Disagree Strongly Agree Don't Know
1 2 3 4 5 6 7

7) We incorporate employee input into the planning process

Strongly Disagree Strongly Agree Don't Know

1 2 3 4 5 6 7

8) We all work together to meet or exceed our internal / external customers / clients needs.

Strongly Disagree Strongly Agree Don't Know

1 2 3 4 5 6 7

9) We regularly measure our customer/client satisfaction.

Strongly Disagree Strongly Agree Don't Know

1 2 3 4 5 6 7

10) We incorporate customer/client feedback into our product and/or services improvement

Strongly Disagree Strongly Agree Don't Know

1 2 3 4 5 6 7

11) We regularly measure our employee satisfaction

Strongly Disagree Strongly Agree Don't Know

1 2 3 4 5 6 7

12) My ideas for improvement are encouraged

Strongly Disagree Strongly Agree Don't Know

1 2 3 4 5 6 7

13) We are recognized appropriately (formally or informally) for good work

Strongly Disagree Strongly Agree Don't Know

1 2 3 4 5 6 7

14) We document important processes

Strongly Disagree Strongly Agree Don't Know

1 2 3 4 5 6 7

15) I follow our processes / policies to ensure our work is of the highest quality

Strongly Disagree Strongly Agree Don't Know

1 2 3 4 5 6 7

16) We monitor important processes

Strongly Disagree Strongly Agree Don't Know

1 2 3 4 5 6 7

17) We analyze important processes to determine opportunities for continuous improvement

Strongly Disagree Strongly Agree Don't Know

1 2 3 4 5 6 7

18) Our suppliers and or partners work closely with us to improve important processes

Strongly Disagree Strongly Agree Don't Know

1 2 3 4 5 6 7

19) In general, our customers / clients think we are a great organisation

Strongly Disagree Strongly Agree Don't Know

1 2 3 4 5 6 7

20) In general, our employees think we are a great organisation

Strongly Disagree Strongly Agree Don't Know

1 2 3 4 5 6 7

21) In general, our processes are working well

Strongly Disagree Strongly Agree Don't Know

1 2 3 4 5 6 7

22) In general, our suppliers and or partners think we are a great organisation

Strongly Disagree Strongly Agree Don't Know

1 2 3 4 5 6 7

23) In general, we are meeting our financial performance goals as an organisation

Strongly Disagree Strongly Agree Don't Know

1 2 3 4 5 6 7

24) We have well established methods to share knowledge about our important processes

Strongly Disagree Strongly Agree Don't Know

1 2 3 4 5 6 7

25) The organisation encourages employees to find completely new ways to get our work done effectively.

Strongly Disagree Strongly Agree Don't Know

1 2 3 4 5 6 7

26) Senior Leaders are actively involved in direction of continuous quality improvement

Strongly Disagree Strongly Agree Don't Know

1 2 3 4 5 6 7

27) Whenever possible, we use facts / data to guide the decisions we make in this organisation.

Strongly Disagree Strongly Agree Don't Know

1 2 3 4 5 6 7

28) Our primary focus is to meet or exceed the customers / client needs

Strongly Disagree Strongly Agree Don't Know

1 2 3 4 5 6 7

29) The organisation encourages all employees to develop to their full potential

Strongly Disagree Strongly Agree Don't Know

1 2 3 4 5 6 7

30) I regularly make suggestions that will help us improve the quality of the work we do.

Strongly Disagree Strongly Agree Don't Know

1 2 3 4 5 6 7

31) We look for ways to prevent errors / problems rather than making corrections later.

Strongly Disagree Strongly Agree Don't Know

1 2 3 4 5 6 7

32) We create positive relationships (both inside and outside our organisation) through co-operation and teamwork.

Strongly Disagree Strongly Agree Don't Know

1 2 3 4 5 6 7

33) The co-operation / teamwork in this organisation inspire me to do my best work every day

Strongly Disagree Strongly Agree Don't Know

1 2 3 4 5 6 7

34) This is a socially and environmentally responsible organisation.

Strongly Disagree Strongly Agree Don't Know
1 2 3 4 5 6 7

35) We focus on creating value for our customers/clients

Strongly Disagree Strongly Agree Don't Know
1 2 3 4 5 6 7

36) We are all focused on continuously improving how we do our work.

Strongly Disagree Strongly Agree Don't Know
1 2 3 4 5 6 7

37) I do my part to make sure we constantly improve how we do our work.

Strongly Disagree Strongly Agree Don't Know
1 2 3 4 5 6 7

Section 2: Impact on Employee Happiness

The following questions are about your personal satisfaction at work. Answer the questions using the 7 point scale where 1 means very dissatisfied and 7 means very satisfied. If you can't answer the question or don't happen to know a response select the "Don't Know" option.

38) Think of your job in general. All in all, how do you feel about it most of the time?

Very Dissatisfied Very Satisfied Don't Know
1 2 3 4 5 6 7

39) How do you feel about the work you do most of the time?

Very Dissatisfied Very Satisfied Don't Know
1 2 3 4 5 6 7

40) How do you feel about the pay you get now?

Very Dissatisfied Very Satisfied Don't Know
1 2 3 4 5 6 7

41) How do you feel about the opportunities you have for promotion now?

Very Dissatisfied Very Satisfied Don't Know

1 2 3 4 5 6 7

42) How do you feel about the kind of supervision you get on your job?

Very Dissatisfied Very Satisfied Don't Know

1 2 3 4 5 6 7

43) How do you feel about the majority of people with whom you work with?

Very Dissatisfied Very Satisfied Don't Know

1 2 3 4 5 6 7

44) My work allows me to use a variety of skills

Very Dissatisfied Very Satisfied Don't Know

1 2 3 4 5 6 7

45) My work allows me to complete whole tasks

Very Dissatisfied Very Satisfied Don't Know

1 2 3 4 5 6 7

46) My work has an important impact on the lives of others, either within the organisation or the world at large

Very Dissatisfied Very Satisfied Don't Know

1 2 3 4 5 6 7

47) I have freedom and independence to determine how my work will be carried out

Very Dissatisfied Very Satisfied Don't Know

1 2 3 4 5 6 7

48) I regularly get feedback about the effectiveness of my efforts, either directly from the work itself or from others

Very Dissatisfied Very Satisfied Don't Know

1 2 3 4 5 6 7

The following questions are about your engagement and morale at work. Answer the questions using the 7 point scale where 1 means strongly disagree and 7 means strongly agree. If you can't answer the question or don't happen to know a response select the "Don't Know" option.

49) I would, without hesitation, recommend this organisation to a friend seeking employment

Strongly Disagree Strongly Agree Don't Know

1 2 3 4 5 6 7

50) Given the opportunity, I tell others great things about working here

Strongly Disagree Strongly Agree Don't Know

1 2 3 4 5 6 7

51) It would take a lot to get me to leave this organisation

Strongly Disagree Strongly Agree Don't Know

1 2 3 4 5 6 7

52) I rarely think about leaving this organisation to work somewhere else

Strongly Disagree Strongly Agree Don't Know

1 2 3 4 5 6 7

53) This organisation inspires me to do my best work every day

Strongly Disagree Strongly Agree Don't Know

1 2 3 4 5 6 7

54) This organisation motivates me to contribute more than is normally required to complete my work

Strongly Disagree Strongly Agree Don't Know

1 2 3 4 5 6 7

55) I feel that my opinion matters to the organisation

Strongly Disagree Strongly Agree Don't Know

1 2 3 4 5 6 7

56) Morale is good here

Strongly Disagree Strongly Agree Don't Know

1 2 3 4 5 6 7

57) I work reasonable hours

Strongly Disagree Strongly Agree Don't Know

1 2 3 4 5 6 7

58) I take time for breaks and lunch

Strongly Disagree Strongly Agree Don't Know

1 2 3 4 5 6 7

59) I feel valued

Strongly Disagree Strongly Agree Don't Know

1 2 3 4 5 6 7

60) I feel that I'm being treated fairly

Strongly Disagree Strongly Agree Don't Know

1 2 3 4 5 6 7

61) I like working here

Strongly Disagree Strongly Agree Don't Know

1 2 3 4 5 6 7

Section 3: Attributes

The following questions are to help us analyze the data. Answer the questions using the appropriate response selection.

62) Which of the following best describes your role at your organisation:

- Senior Leadership,
- Management (I report to Senior Leadership),
- Front Line Employee (I primarily report to Management)

63) Which of the following Quality Tools/techniques does your organisation use? (Choose as many as you wish)

- Communities of Practice
- Failure Mode and Effects Analysis (FMEA)
- Process Mapping
- Value Stream Mapping
- ISO 9000
- Internal or external benchmarking
- Control chart
- Balanced Scorecard
- Five S's

- Pareto Chart
- Histogram
- TQM (Total Quality Management)
- Quality Circles
- Six Sigma
- Scatter Diagram
- "In-house" method
- Lean
- Excellence Canada/NQI (National Quality Institute)
- Root Cause Analysis
- Other Please enter an 'other' value for this selection.

64) How long have you worked at your organisation?

- Less than 6 months,
- 6 months – 2 years,
- 3-5 years,
- 6-10 years,
- More than 10 years.

65) Employment status

- Full time
- Part time
- Temporary position
- Other

66) Has your organisation ever won a Canada Award for Excellence?

- Yes
- No
- Don't Know

Appendix 2 - Literature related to Survey Tool

2.1A - Deming's 14 Points Related to Survey Questions

Deming's 14 Points (Deming, 1986)	Related Questions in the Survey Tool
<ol style="list-style-type: none"> 1) Create constancy of purpose 2) Adopt the new philosophy 3) Cease dependence on inspection 4) Base decisions on quality as well as price 5) Improve constantly and forever 6) Institute training 7) Institute leadership 8) Drive out fear 9) Break down barriers between departments 10) Eliminate slogans. 11) Eliminate management by objectives. 12) Remove barriers to pride of workmanship. 13) Institute education and self-improvement. 14) Top management commitment 	<p>Survey Questions 1, 2, 3, 4, 14, 15, 16, 17, 26, 29, 30, 31, 32, 33, 36, 37</p>

2.1b - Juran's Trilogy Related to Survey Questions

Juran's Trilogy (Juran, 1986)	Related Questions in the Survey Tool
<ol style="list-style-type: none"> 1) Quality Planning <ol style="list-style-type: none"> a. Setting Goals b. Customer and need identification c. Product and process design 2) Quality Control <ol style="list-style-type: none"> a. Measure performance b. Compare performance to target c. Close gaps 3) Quality improvement <ol style="list-style-type: none"> a. Achieve higher targets b. Provide training c. Continuous improvement 	<p>Survey Questions 1, 2, 3, 4, 5, 6, 7, 14, 15, 16, 17, 24, 26, 27, 29, 30, 31, 32, 33, 36, 37</p>

2.1C - Crosby's 14 Steps

Crosby's 14 steps (Crosby, 1980)	Related Questions in the Survey Tool
<ol style="list-style-type: none"> 1) Management commitment 2) Quality Improvement team 3) Quality measurements 4) Cost of quality 5) Quality awareness 6) Corrective action 7) Zero defect planning 8) Supervisor training 9) Zero defects day 10) Goal setting 11) Error cause removal 12) Recognition 13) Quality councils 14) Do it over again 	<p>Survey Questions 1, 2, 3, 4, 5, 14, 15, 16, 17, 24, 26, 27, 29, 30, 31, 36, 37</p>

2.1D - Summary of Several Quality Theorists Concepts

Deming (Adapted from Deming, 1982; Deming, 1986)	Juran (Adapted from Juran, 1980)	Crosby (Adapted from Crosby, 1980)
<ul style="list-style-type: none"> • Leadership/Leadership Commitment • Process Management • Leadership Through involvement • Continuous Learning, training and people involvement • Prevention Based process management • Cooperation and Teamwork • Continuous improvement 	<ul style="list-style-type: none"> • Leadership/Leadership Commitment • Planning • Process Management • Measurement and Analysis • Leadership Through involvement • Factual Approach to decision making • Continuous Learning, training and people involvement • Prevention Based process management • Cooperation and Teamwork • Continuous improvement 	<ul style="list-style-type: none"> • Leadership/Leadership Commitment • Planning • Process Management • Measurement and Analysis • Leadership Through involvement • Factual Approach to decision making • Continuous Learning, training and people involvement • Prevention Based process management • Continuous improvement

These author's approaches have been instrumental in the design of sections of the survey which is detailed in Chapter 4 section 4.6.6		
Survey Questions 1, 2, 3, 4, 14, 15, 16, 17, 26, 29, 30, 31, 32, 33, 36, 37	Survey Questions 1, 2, 3, 4, 5, 6, 7, 14, 15, 16, 17, 24, 26, 27, 29, 30, 31, 32, 33, 36, 37	Survey Questions 1, 2, 3, 4, 5, 14, 15, 16, 17, 24, 26, 27, 29, 30, 31, 36, 37

2.1E - Comparison of Critical Factors of TQM

Saraph et al. (1989)	Flynn et al. (1994)	Ahire et al.(1996)	Waldman (1994)	Powell (1995)	Black and Porter (1996)	Samson and Terziovski (1999)	Zeitz et al.(1997)
Top management leadership	Top management support	Top management commitment	Upper management commitment	Executive commitment and adopting philosophy	Strategic quality management and corporate quality culture	Leadership	Management support Use of data
Quality data and reporting	Quality information	Internal quality information usage	Striving continually to improve employee capabilities and work processes	Measurement and zero defects mentality	Quality improvement measurement system and communication of improvement information	People management Customer Focus	Supplier relationships
Process management	Process management Product design	Design quality management Employee training	involvement	Process improvement and flexible manufacturing	Operational quality planning	Strategic Planning	Employee improvements
Product/service design Training	Workforce management Supplier involvement	Supplier quality management and supplier performance	a focus on quality	Training Closer to suppliers Employee empowerment	External interface management Supplier partnerships	Information and analysis Process Management	Customers Supervision
Supplier quality management	Employee involvement Customer involvement	Employee Suggestions	attempts to involve external suppliers and customers	Employee empowerment	People and customer management	Performance	
Role of the quality department	Customer focus	Employee empowerment	use of scientific and problem solving techniques;	Closer to customer Benchmarking	Customer satisfaction orientation		
Employee relations		SPC usage Benchmarking	leadership practices oriented towards values and vision				
quality culture			quality culture				
Questions in the survey that are related to these factors 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 24, 26, 27, 29, 30, 35	Questions in the survey that are related to these factors 1, 2, 3, 4, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 24, 26, 27, 28, 29, 30, 35	Questions in the survey that are related to these factors 1, 2, 3, 4, 11, 12, 13, 18, 24, 25, 26, 27, 29, 30, 35, 36, 37	Questions in the survey that are related to these factors 1, 2, 3, 4, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 25, 26, 27, 28, 29, 30, 31, 32, 33, 36, 37	Questions in the survey that are related to these factors 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 14, 15, 16, 17, 18, 24, 28, 29, 30, 36, 37	Questions in the survey that are related to these factors 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 18, 24, 25, 27, 28, 29, 30, 36, 37	Questions in the survey that are related to these factors 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 19, 20, 21, 22, 23, 24, 28	Questions in the survey that are related to these factors 1, 2, 3, 4, 8, 9, 10, 11, 12, 13, 18, 24, 25, 26, 27, 28, 36, 37

2.1F - Elements of Strategic Quality Linked to Survey

Dean and Bowen, 1994	Eskildsen and Dahlgaard, 2000	Davies, 2008	Pannirselvam and Ferguson, 2001	Soltani and Wilkinson, 2010	Wilson and Collier 2000	Soltani, 2005	Ravichandran and Rai, 1999
Leadership Process Management Leadership through involvement Cooperation and teamwork Customer Focus Continuous Improvement	Leadership People Focus Process Management Supplier Partner Focus Leadership through involvement Cooperation and teamwork	Planning - Strategic Planning People Focus – Performance Management Process Management – Alignment with other systems Cooperation and teamwork People involvement	Leadership People Focus Process Management Cooperation and teamwork	Leadership People Focus People Involvement Prevention based process management	Planning Customer Focus People Focus	Leadership Prevention based process management	Planning Supplier Focus
Questions in the survey that are related to these factors 1, 2, 3, 4, 8, 9, 10, 14, 15, 16, 17, 18, 26, 32, 33, 36, 37	Questions in the survey that are related to these factors 1, 2, 3, 4, 11, 12, 13, 14, 15, 16, 17, 18, 26, 32, 33	Questions in the survey that are related to these factors 5, 6, 7, 11, 12, 13, 14, 15, 16, 17, 29, 30, 32, 33	Questions in the survey that are related to these factors 1, 2, 3, 4, 11, 12, 13, 14, 15, 16, 17, 32, 33	Questions in the survey that are related to these factors 1, 2, 3, 4, 11, 12, 13, 30, 31	Questions in the survey that are related to these factors 5, 6, 7, 8, 9, 10, 11, 12, 13	Questions in the survey that are related to these factors 1, 2, 3, 4, 31	Questions in the survey that are related to these factors 5, 6, 7, 18

2.1G - Elements of Strategic Quality Linked to Survey

Wilkinson et al., 1994	Dow et al., 1999	Anderson et al. 1994	Curkovic et al. 2000	Kearney, 1992	Mintzberg, 1998	Dale and Cooper, 1994	Scholtes, 1999
Leadership Prevention based process management	Planning Supplier Focus	People Focus Process Management	Process Management Supplier Focus	Leadership	Leadership	Leadership	Leadership
Questions in the survey that are related to these factors 1, 2, 3, 4, 31	Questions in the survey that are related to these factors 5, 6, 7, 18	Questions in the survey that are related to these factors 5, 6, 7, 14, 15, 16, 17	Questions in the survey that are related to these factors 14, 15, 16, 17, 18	Questions in the survey that are related to these factors 1, 2, 3, 4	Questions in the survey that are related to these factors 1, 2, 3, 4, 11, 12, 13, 14, 15, 16, 17, 32, 33	Questions in the survey that are related to these factors 1, 2, 3, 4	Questions in the survey that are related to these factors 1, 2, 3, 4

2.1H - Elements of Strategic Quality Linked to Survey

Yusof and Aspinwall, 1999	Quazi et al. 1998	Davies et al. 2001	Kanji, 2002	Porter and Parker, 1993	Larson and Sinha, 1995	Ahmad and Schroeder, 2002	Mukherjee and Lapre, 1998	(Westlund, 2001)
Leadership	Planning	Leadership	Leadership	Planning	Customer Focus	People Focus	People Focus	Fulfilling obligations to all stakeholders and society
Questions in the survey that are related to these factors 1, 2, 3, 4	Questions in the survey that are related to these factors 5, 6, 7	Questions in the survey that are related to these factors 1, 2, 3, 4	Questions in the survey that are related to these factors 1, 2, 3, 4	Questions in the survey that are related to these factors 5, 6, 7	Questions in the survey that are related to these factors 8, 9, 10	Questions in the survey that are related to these factors 11, 12, 13	Questions in the survey that are related to these factors 11, 12, 13	Questions in the survey that are related to these factors 34

Appendix 3 - Summary of Literature Linking Quality with Performance

Elements of a strategic approach to quality management	Performance Improvement
Employee Fulfillment	Customer Satisfaction (Anderson et al. 1995)
Customer Focus	Product/service quality (Grandzol and Gershon, 1997)
TQM Practices (management of process quality, human resources management, strategic quality planning, and information and analysis)	Customer Satisfaction (Choi and Eboch 1998; Forza and Glippini , 1998)
Continuous improvement	Customer Satisfaction (Rungtusanatham et al., 1998)
Customer focus	Market share increase, and Return on Assets. (Das et al., 2000).
Executive commitment, an open organisation, and employee empowerment,	Financial performance made up of sales, growth, profitability, and revenue growth. (Powell 1995)
Effective TQM programs	Market returns, operating income, sales, sales/employees, sales/assets, cost/sales, capital expenditure/assets, number of employees, and assets. Hendricks and Singhal (1997)
Senior management involvement and recognition,	Net profit as a percentage of sales, Return On Assets, and sales growth. (Adam et al., 1997)
TQM practices	Growth in sales, return on sales, return on assets, and growth in overall profitability. (Chenhall, 1997)
Continuous improvement	Financial performance as defined by Return On Investment, market share, capital investment ratio, and product/service quality. (Grandzol and Gershon, 1997)
Adoption of TQM	Financial performance as defined by net income/sales, net income/assets, operating income/sales, operating income/assets, net income and operating income per employee, sales per employee, total inventory to sales and cost of goods sold, and cumulative daily stock returns. (Easton and Jarrell, 1998)
Process management and information management,	Financial performance as defined by market share, market share growth, Return On Investment and Return On Investment growth, Return On Sales and Return On Sales growth, and customer satisfaction. (Wilson and Collier, 2000)

TQM practices	Financial performance as defined by growth in earnings, growth in revenue, changes in market share, Return On Assets, and long run level of profitability. (Douglas and Judge, 2001)
High top management commitment	Have higher quality products. (Ahire and O'Shaughnessy, 1998)
Customer focus, supplier quality management, and empowerment	Product quality (Ahire and O'Shaughnessy, 1998)
Employee relations and training	Product quality (Ho et al., 2001)
Awards winning	Positive impact on stock price (Hendricks and Singhal, 1996)
leadership, human resource management, customer focus	morale and productivity (Dow et al., 1999)
Commitment to quality management	Improvement in employee morale (Wilkinson et al., 1994)
TQM strategies	Employee relations, operating procedures, customer satisfaction and financial performance (Ritter, 1991)
TQM practices	Strong positive relationship between TQM practices and employee satisfaction (Kayis et al., 2003)
TQM practices	Positive effect on employees' work-related attitudes including job satisfaction. (Karia et al., 2006)
Leadership, people management, and customer focus	Morale and Productivity (Samson and Terziiovki, 1999)
Leadership	Human Resources (Pannirselvam and Ferguson, 2001)
Significant positive relationships between leadership, people management, policy and strategy, and alliances and resources.	Eskildsen and Dahlgaard (2000)
Leadership must clearly establish and maintain the focus on stakeholders, give priority to long term strategic planning, ensure an appropriate structure and system for continuous improvement, motivate individuals and teams, and monitor success.	Davies et al. (2001)
long-term partnerships with suppliers and customers	higher financial performance (Ittner and Larcker (1996)
TQM lead to improvements in customer satisfaction, complaints and teamwork.	Wilkinson et. al. (1994)

product design, process management	positive relationship between empowerment, commitment and training (Ahire et al., 1996)
Reliance on detection, reactive strategies and hard aspects of TQM resulted as opposed to prevention, proactive strategies and soft people-based issues leads to unfavourable results.	Soltani and Wilkinson (2010)

Appendix 4 - Senior leadership reflection questions

December 5, 2012

Link between Excellence and Employee Satisfaction/Engagement/Morale

Reflection Questions

- 1) How does your organisation define employee satisfaction
- 2) How does your organisation define employee morale
- 3) How does your organisation define employee engagement
- 4) How does your organisation measure Employee satisfaction/Engagement/Morale
- 5) How does your organisation measure progress on your organisations excellence journey
- 6) What is the link between your excellence journey and your employee satisfaction/morale/engagement
- 7) What is the return on excellence in terms of your employees
- 8) What is the return to the organisation of engaged/satisfied/high morale employees?
- 9) How are your employees better off as a result of your excellence efforts
- 10) What are some of the negative impacts of your excellence journey on employees?

Pre-meeting Reflection Questions

- 1) How does your organisation define employee satisfaction
- 2) How does your organisation define employee morale
- 3) How does your organisation define employee engagement
- 4) How does your organisation measure Employee satisfaction/Engagement/Morale
- 5) How does your organisation measure progress on your organisations excellence journey
- 6) What is the link between your excellence journey and your employee satisfaction/morale/engagement
- 7) What is the return on excellence in terms of your employees
- 8) What is the return to the organisation of engaged/satisfied/high morale employees?
- 9) How are your employees better off as a result of your excellence efforts
- 10) What are some of the negative impacts of your excellence journey on employees?

Appendix 5 - Survey with references

Strategic Quality Questions

Drivers	Question	Literature Reference
Leadership	<ol style="list-style-type: none"> 1. Employees understand the overall aim or mission of the organisation 2. Senior Leaders provide clear direction for the future 3. Senior Leaders demonstrate a commitment to continuous improvement 4. I see strong evidence of effective leadership from senior leaders 	(Crosby, 1980; Juran, 1980; Deming, 1982; Deming, 1986; Saraph et al., 1989; Kearney, 1992; Dale and Cooper, 1994; Dean and Bowen, 1994; Flynn et al., 1994; Waldman, 1994; Wilkinson et al., 1994; Powell, 1995; Ahire et al., 1996; Black and Porter, 1996; Zeitz et al., 1997; Mintzberg, 1998; Samson and Terziovski, 1999; Scholtes, 1999; Yusof and Aspinwall, 1999; Eskildsen and Dahlgaard, 2000; Excellence Canada, 2000; Davies et al. 2001; Pannirselvam and Ferguson, 2001; Kanji, 2002; SAI Global, 2004; Soltani, 2005; NIST, 2009; EFQM, 2010; Soltani and Wilkinson, 2010)
Planning	<ol style="list-style-type: none"> 5. We have a comprehensive and structured planning process which regularly sets short and long term goals 6. We incorporate Customer/client input into the planning process 7. We incorporate employee input into the planning process 	(Crosby, 1980; Juran, 1986; Saraph et al., 1989; Porter and Parker, 1993; Powell, 1995; Black and Porter, 1996; Quazi et al. 1998; Dow et al., 1999; Samson and Terziovski, 1999; Ravichandran and Rai, 1999; Excellence Canada, 2000; Wilson and Collier 2000; SAI Global, 2004; Davies, 2008; NIST, 2009; EFQM, 2010)
Customer Focus	<ol style="list-style-type: none"> 8. We all work together to meet or exceed our internal / external customers / client needs. 	(Saraph et al., 1989; Dean and Bowen, 1994; Flynn et al., 1994; Waldman, 1994;

	<p>9. We regularly measure our customer/client satisfaction.</p> <p>10. We incorporate customer/client feedback into our product and/or services improvement</p>	<p>Larson and Sinha, 1995; Powell, 1995; Black and Porter, 1996; Zeitz et al., 1997; Samson and Terziovski, 1999; Excellence Canada, 2000; Wilson and Collier 2000; SAI Global, 2004; NIST, 2009; EFQM, 2010)</p>
<p>People Focus</p>	<p>11. We regularly measure our employee satisfaction</p> <p>12. My ideas for improvement are encouraged</p> <p>13. We are recognized appropriately (formally or informally) for good work</p>	<p>(Saraph et al., 1989; Anderson et al. 1994; Flynn et al., 1994; Waldman, 1994; Ahire et al., 1996; Black and Porter, 1996; Zeitz et al., 1997; Mukherjee and Lapre, 1998; Samson and Terziovski, 1999; Eskildsen and Dahlgaard, 2000; Excellence Canada, 2000; Wilson and Collier 2000; Pannirselvam and Ferguson, 2001; Ahmad and Schroeder, 2002; SAI Global, 2004; Davies, 2008; NIST, 2009; EFQM, 2010; Soltani and Wilkinson, 2010)</p>
<p>Process Management</p>	<p>14. We document important processes</p> <p>15. I follow our processes / policies to ensure our work is of the highest quality</p> <p>16. We monitor important processes</p> <p>17. We analyze important processes to determine opportunities for continuous improvement</p>	<p>(Crosby, 1980; Juran, 1980; Deming, 1982; Deming, 1986; Saraph et al., 1989; Feigenbaum, 1991; Anderson et al. 1994; Dean and Bowen, 1994; Flynn et al., 1994; Waldman, 1994; Powell, 1995; Samson and Terziovski, 1999; Eskildsen and Dahlgaard, 2000; Excellence Canada, 2000; Curkovic et al. 2000; Pannirselvam and Ferguson, 2001; Davies, 2008; NIST, 2009; EFQM, 2010)</p>

Supplier Partner Focus	18. Our suppliers and or partners work closely with us to improve important processes	(Saraph et al., 1989; Flynn et al., 1994; Waldman, 1994; Powell, 1995; Ahire et al., 1996; Black and Porter, 1996; Zeitz et al., 1997; Dow et al., 1999; Ravichandran and Rai, 1999; Curkovic et al. 2000; Eskildsen and Dahlgaard, 2000; Excellence Canada, 2000; EFQM, 2010)
Organisational Performance	19. In general, our customers / clients think we are a great organisation 20. In general, our employees think we are a great organisation 21. In general, our processes are working well 22. In general, our suppliers and or partners think we are a great organisation 23. In general, we are meeting our financial performance goals as an organisation	(Samson and Terziovski, 1999; Excellence Canada, 2000; SAI Global, 2004; NIST, 2009; EFQM, 2010)
Measurement, Analysis, and knowledge Management	24. We have well established methods to share knowledge about our important processes	(Crosby, 1980; Juran, 1986; Saraph et al., 1989; Flynn et al., 1994; Powell, 1995; Ahire et al., 1996; Black and Porter, 1996; Zeitz et al., 1997; Samson and Terziovski, 1999; SAI Global, 2004; NIST, 2009)
Innovation, Quality and Improvement	25. The organisation encourages employees to find completely new ways to get our work done effectively.	(Waldman, 1994; Ahire et al., 1996; Black and Porter, 1996; Zeitz et al., 1997; Excellence Canada, 2000; SAI Global, 2004)
Leadership through involvement	26. Senior Leaders are actively involved in direction of continuous quality improvement	(Crosby, 1980; Juran, 1980; Deming, 1982; Deming, 1986; Saraph et al., 1989; Dean and Bowen, 1994;

		Flynn et al., 1994; Waldman, 1994; Ahire et al., 1996; Zeitz et al., 1997; Excellence Canada, 2000; Eskildsen and Dahlgaard, 2000; SAI Global, 2004; NIST, 2009; EFQM, 2010)
Factual approach to decision making	27. Whenever possible, we use facts / data to guide the decisions we make in this organisation.	(Crosby, 1980; Juran, 1986; Saraph et al., 1989; Flynn et al., 1994; Waldman, 1994; Ahire et al., 1996; Black and Porter, 1996; Zeitz et al., 1997; Excellence Canada, 2000; SAI Global, 2004; NIST, 2009; EFQM, 2010)
Primary focus on the customers	28. Our primary focus is to meet or exceed the customers / client needs	(Dean and Bowen, 1994; Flynn et al., 1994; Waldman, 1994; Powell, 1995; Black and Porter, 1996; Zeitz et al., 1997; Samson and Terziovski, 1999; Excellence Canada, 2000; Wilson and Collier 2000; SAI Global, 2004; NIST, 2009; EFQM, 2010)
Continuous learning and people involvement	29. The organisation encourages all employees to develop to their full potential 30. I regularly make suggestions that will help us improve the quality of the work we do.	(Crosby, 1980; Juran, 1980; Deming, 1982; Deming, 1986; Saraph et al., 1989; Flynn et al., 1994; Waldman, 1994; Powell, 1995; Ahire et al., 1996; Black and Porter, 1996; Excellence Canada, 2000; SAI Global, 2004; Davies, 2008; NIST, 2009; EFQM, 2010; Soltani and Wilkinson, 2010)
Prevention based process management	31. We look for ways to prevent errors / problems rather than making corrections later.	(Crosby, 1980; Juran, 1980; Deming, 1982; Deming, 1986; Waldman, 1994; Excellence Canada, 2000; NIST, 2009; Soltani and

		Wilkinson, 2010)
Cooperation and teamwork (including partnerships)	<p>32. We create positive relationships (both inside and outside our organisation) through co-operation and teamwork.</p> <p>33. The co-operation / teamwork in this organisation inspire me to do my best work every day</p>	(Deming, 1982; Deming, 1986; Dean and Bowen, 1994; Waldman, 1994; Excellence Canada, 2000; Eskildsen and Dahlgaard, 2000; Pannirselvam and Ferguson, 2001; Davies, 2008; NIST, 2009)
Fulfilling obligations to all stakeholders and society	34. This is a socially and environmentally responsible organisation.	(Excellence Canada, 2000; Westlund, 2001; SAI Global, 2004; NIST, 2009; EFQM, 2010)
Focus on Results and Creating value	35. We focus on creating value for our customers/clients	(Saraph et al., 1989; Flynn et al., 1994; Ahire et al., 1996; SAI Global, 2004; NIST, 2009; EFQM, 2010)
Continuous improvement and breakthrough thinking	<p>36. We are all focused on continuously improving how we do our work.</p> <p>37. I do my part to make sure we constantly improve how we do our work.</p>	(Crosby, 1980; Deming, 1982; Deming, 1986; Juran, 1986; Dean and Bowen, 1994; Waldman, 1994; Powell, 1995; Ahire et al., 1996; Black and Porter, 1996; Zeitz et al., 1997; Excellence Canada, 2000; SAI Global, 2004; NIST, 2009; EFQM, 2010)

Employee Happiness Questions - Element of Employee satisfaction

Question	
<p>38) Think of your job in general. All in all, how do you feel about it most of the time?</p> <p>39) How do you feel about the work you do most of the time?</p> <p>40) How do you feel about the pay you get now?</p> <p>41) How do you feel about the opportunities you have for promotion now?</p> <p>42) How do you feel about the kind of supervision you get on your job?</p> <p>43) How do you feel about the majority of people with whom you work with?</p> <p>44) My work allows me to use a variety of skills</p> <p>45) My work allows me to complete whole tasks</p> <p>46) My work has an important impact on the lives of others, either within the organisation or the world at large</p> <p>47) I have freedom and independence to determine how my work will be carried out</p> <p>48) I regularly get feedback about the effectiveness of my efforts, either directly from the work itself or from others</p>	<p>Employee Satisfaction:</p> <p>Construct Adapted from:</p> <ul style="list-style-type: none"> • Smith et al. (1969) • Hackman and Oldham (1975) • Hoppock (1935) • Locke (1976)

Employee Happiness Questions - Employee Morale and Engagement

<p>49) I would, without hesitation, recommend this organisation to a friend seeking employment</p> <p>50) Given the opportunity, I tell others great things about working here</p> <p>51) It would take a lot to get me to leave this organisation</p> <p>52) I rarely think about leaving this organisation to work somewhere else</p> <p>53) This organisation inspires me to do my best work every day</p> <p>54) This organisation motivates me to contribute more than is normally required to complete my work</p> <p>55) I feel that my opinion matters to the organisation</p> <p>56) Morale is good here</p> <p>57) I work reasonable hours</p> <p>58) I take time for breaks and lunch</p> <p>59) I feel valued</p> <p>60) I feel that I'm being treated fairly</p> <p>61) I like working here</p>	<p>Employee Morale and Engagement</p> <p>Construct Adapted from:</p> <ul style="list-style-type: none"> • Mowday et al. (1979), • Meyer and Allen (1991) • Macey and Schneider (2008) • Lodahl and Kejner (1965) • Baehr and Renck, (1958) • Johnsrud
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	<p>(1996)</p> <ul style="list-style-type: none">• Cook et al. (1981)• Schneider and Bowen, (1985)• Johnson, (1996)• Ryan et al. (1996)• Griffith, (2001)• (Schneider and Bowen, 1985)• (Johnson, 1996)• (Ryan et al. 1996)• (Griffith, 2001)
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Employee Attribute Questions

Position	<p>1) Which of the following best describes your role at your organisation:</p> <ul style="list-style-type: none"> - Senior Leadership, - Management (I report to Senior Leadership), - Front Line Employee (I primarily report to Management) 	<p>(Lee and Wilbur, 1985, Bedeian et al, 1992; Guimaraes and Igbaria, 1992; Bilgic, 1998; Lim and Teo, 1998; Samson and Terziovski, 1999; Sureshchandar et al., 2003)</p>
Tenure	<p>2) How long have you worked at your organisation?</p> <ul style="list-style-type: none"> - Less than 6 months, - 6 months – 2 years, - 3-5 years, - 6-10 years, - More 10+ years. 	
Employment Status	<p>3) Employment status</p> <ul style="list-style-type: none"> - Full time - Part time - Temporary position - Other 	
Award winning status	<p>4) Has your organisation ever won a Canada Award for Excellence?</p> <ul style="list-style-type: none"> - Yes - No - Don't Know 	

New Question:

Which of the following Quality Tools/techniques does your organisation use? (Choose as many as you wish)

- *Communities of Practice*
- *Failure Mode and Effects Analysis (FMEA)*

- *Process Mapping*
- *Value Stream Mapping*
- *ISO 9000*
- *Internal or external benchmarking*
- *Control chart*
- *Balanced Scorecard*
- *Five S's*
- *Pareto Chart*
- *Histogram*
- *TQM (Total Quality Management)*
- *Quality Circles*
- *Six Sigma*
- *Scatter Diagram*
- *"In-house" method*
- *Lean*
- *Excellence Canada/NQI (National Quality Institute)*
- *Root Cause Analysis*
- *Other Please enter an 'other' value for this selection.*

Appendix 6 - Methodological Summary

Paper Methodological summary			
Author(s)	Paper	Methodology	Methods
General Auditing Office (1990)	Management Practices: US Companies Improve Performance through Quality Efforts.	Positivist	Survey, and follow up interviews
Cruise O' Brien and Voss (1992)	'In Search of Quality: An Assessment of 42 British Organisations Using the Baldrige Criteria'	Interpretivist	In depth assessments
Whyte and Witcher (1992)	The Adoption of Total Quality Management in Northern England	Positivist	Survey
Lawler et al. (1992)	Employee Involvement and Total Quality Management	Positivist	Survey
Binney (1992)	Making Quality Work: Lessons from Europe's Leading Companies.	Interpretivist	Case Study and interviews (50 companies)
Kearney (1992)	'Total Quality: Time to Take off the Rose Tinted Spectacles'	Positivist	Survey
Institute of Personnel Management (1993)	Quality: People Management Matters.	Positivist	Survey
Boje and Winsor (1993)	The Resurrection of Taylorism: Total Quality Management's Hidden Agenda.	Postmodern	Storytelling the hidden agenda of TQM
Wilson and Durant (1994)	Evaluating TQM: The Case for a Theory Driven Approach	Interpretivist	Literature review
Flynn et al. (1995)	The Impact of Quality Management Practices on Performance and Competitive Advantage	Positivist	Surveys, path analysis
Lawler et al. (1995)	Creating High Performance Organisations: Employee Involvement and Total Quality Management	Positivist	Survey
Lam (1995)	The impact of total quality management on front-line supervisors and their work	Positivist	Survey
Powell (1995)	Total Quality Management as Competitive Advantage: A Review and Empirical Study	Positivist	Survey, statistical correlation
Rust et al. (1995)	Return on quality (ROQ): Making service quality financially accountable	Positivist	Data analysis, hypothesis testing
Anderson et al. (1995)	A Path Analytic Model of a Theory of Quality Management Underlying the Deming Management Method: Preliminary Empirical Findings	Positivist	Surveys, Path analysis
Hendricks and Singhad (1996)	Quality Awards and the Market Value of the Firm: An Empirical Investigation	Positivist	Studied events with statistical

			test
Lam (1996)	Total quality management and its impact on middle managers and front-line workers	Positivist	Survey
Boje et al. (1997)	Restoring reengineering	Postmodern	Storytelling
Chenhall (1997)	Reliance on manufacturing performance measures, total quality management and organisational performance	Positivist	Survey, Regression, ANOVA
Forker (1997)	Factors affecting supplier quality performance	Positivist	Surveys
Adam et al. (1997)	An international study of quality improvement approach and firm performance	Positivist	Survey, Regression
Grandzol and Gershon (1997)	Which TQM practices really matter: an empirical investigation	Positivist	Surveys, Structural equation modeling
Ittner and Larcker (1996)	Measuring the impact of quality initiatives on firm financial performance	Positivist	Survey
Hendricks and Singhad (1997)	Does Implementing an Effective TQM Program Actually Improve Operating Performance?	Positivist	Studied events with statistical test
Kivimaki et al. (1997)	Does the implementation of total quality management change the wellbeing and work-related attitudes of health care personnel?	Positivist	Surveys, Measures, Advanced statistics
Ahire and O'Shaughnessy (1998)	The role of top management commitment in quality management: an empirical analysis of the auto parts industry	Positivist	Survey, Regression, t-tests
Easton and Jarrell (1998)	The Effects of Total Quality Management on Corporate Performance: An Empirical Investigation	Positivist	Interviews, Wilcoxon rank sum test, Wilcoxon signed-rank test
Handfield et al. (1998)	Quality-driven change and its effects on financial performance	Positivist	Survey
Forza and Flippini (1998)	TQM impact on quality conformance and customer satisfaction: A causal model	Positivist	Surveys, Structural equation modeling
Choi and Eboch (1998)	The TQM Paradox: Relations among TQM practices, plant performance, and customer satisfaction	Positivist	Survey, Structural Equation modeling
Rungtusanatham et al. (1998)	A replication study of a theory of quality management underlying the Deming management method: insights from an Italian context	Positivist	Survey, Structural Equation modelling

Pannirselvam et al. (1998)	Validation of the Arizona Governor's Quality Award criteria: a test of the Baldrige criteria	Positivist	Score analysis, statistical correlation.
Henderson et al. (1999)	Energizing the business- creating business excellence in a service based electrical utility	Interpretivist	Case study
Samson and Terziovski (1999)	The relationship between total quality management practices and operational performance	Positivist	Surveys, multiple regression analysis
Das et al. (2000)	A Contingent View of Quality Management--The Impact of International Competition on Quality	Positivist	Survey, Structural equation modeling
Curkovic et al. (2000)	Validating the Malcolm Baldrige National Quality Award Framework through structural equation modelling	Positivist	interviews from managers, Surveys, Structural Equation modelling
Leonard and McAdam (2001)	Grounded theory methodology and practitioner reflexivity in TQM research	Interpretivist	Grounded Theory, Case Study
Ho et al. (2001)	Total quality management: an empirical test for mediation effect.	Positivist	Survey, regression analysis
Downs and Eastman (2001)	Images of quality: deconstructing the quest for excellence	Postmodern	Film analysis
Douglas and Judge (2001)	Total Quality Management Implementation and Competitive Advantage: The Role of Structural Control and Exploration	Positivist	Survey, Regression analysis
Hendricks and Singhad (2001)	The Long-Run Stock Price Performance of Firms with Effective TQM Programs	Positivist	Studied events with statistical test
Coughlan and Coughlan (2002)	Action research for operations management	Interpretivist	Action research. Participative research
Kaynak (2003)	The relationship between total quality management practices and their effects on firm performance	Positivist	Surveys, advanced statistics. Structural Equation Modelling
Leonard and McAdam (2002)	The corporate strategic-operational divide and TQM	Interpretivist	Grounded Theory Case Study
Kayis et al. (2003)	A comparative analysis of cultural, conceptual and practical constraints on quality management implementations--	Positivist	Survey

	findings from Australian and Korean banking industries		
Sureshchandar et al. (2003)	The influence of total quality service age on quality and operational performance	Positivist	Advanced statistics survey analysis
Combe and Botschen (2004)	Strategy paradigms for the management of quality: dealing with complexity	Interpretivist	Case study. Paradigm review
Douglas and Fredendall (2004)	Evaluating the Deming Management Model of Total Quality in Services	Positivist	Structural Equation modeling
Svensson and Wood (2005)	Corporate ethics in TQM: management versus employee expectations and perceptions	Interpretivist	In depth interviews longitudinal study
Kaynak and Hartley (2005)	Exploring quality management practices and high tech firm performance	Positivist	Survey
Karia and Asaari (2006)	The effects of total quality management practices on employees' work-related attitudes	Positivist	Survey
Wilson and Collier (2000)	An Empirical Investigation of the Malcolm Baldrige National Quality Award Causal Model	Positivist	Survey, Structural equation modeling.
Boyer and Swink (2008)	Empirical Elephants – Why Multiple Methods are essential to quality research in Operations and Supply Chain Management	Interpretivist	Literature Review
McAdam et al. (2008)	A grounded theory research approach to building and testing TQM theory in operations management	Interpretivist	Grounded Theory Case Study
Oakland and Tanner (2008)	The relationship between Business Excellence and Performance – An empirical study using Kanji's Leadership Excellence Model	Positivist (actually state that they are taking a positivist approach)	Survey exploring relationships
Freieseleben (2009)	The quest for Quality as guided evolution	Positivist	Direct comparison of Quality improvement to Natural Science
Psychogios et al. (2009)	Getting to the heart of the debate: TQM and middle manager autonomy.	Positivist	Survey
Soltani and Wilkinson (2010)	Stuck in the middle with you. The effects of incongruency of senior and middle manager' orientations on TQM programmes	Interpretivist	Case Study and semi structured interviews
Jayamaha et al. (2009)	A study of the validity of three major business excellence models in the Asia	Positivist	Score analysis, structural

	Pacific region		equation modeling
Fry et al. (2010)	Proactive coaching for employee development and improved business results	Interpretivist	Case Study
Coelho and Vilares (2010)	Measuring the return of quality investments	Positivist	Advanced statistics
Kim et al. (2010)	European Foundation for Quality Management Business Excellence model – An integrative review and research agenda	Positivist	Literature review
Kristianto et al. (2012)	Adopting TQM Approaches to achieve customer satisfaction	Positivist	Survey
Lam et al. (2012)	A structural equation model of TQM, market orientation and service quality	Positivist	Survey, Structural Equation modelling

Appendix 7 - Additional Descriptive Analysis

Table a7.1 – Descriptive analysis of Quality Construct Variable

Descriptives			Statistic	Std. Error
Quality	Mean		5.6070	.04143
	95% Confidence Interval for Mean	Lower Bound	5.5257	
		Upper Bound	5.6884	
	5% Trimmed Mean		5.6763	
	Median		5.7838	
	Variance		1.013	
	Std. Deviation		1.00627	
	Minimum		1.97	
	Maximum		7.00	
	Range		5.03	
	Interquartile Range		1.30	
	Skewness		-.940	.101
	Kurtosis		.705	.201

Table a7.2 - Descriptive analysis of Employee Construct Variable

Descriptives			Statistic	Std. Error
Employee	Mean		5.5521	.04288
	95% Confidence Interval for Mean	Lower Bound	5.4679	
		Upper Bound	5.6364	
	5% Trimmed Mean		5.6235	
	Median		5.7500	
	Variance		1.067	
	Std. Deviation		1.03277	
	Minimum		1.29	
	Maximum		7.00	
	Range		5.71	
	Interquartile Range		1.29	
	Skewness		-1.042	.101
	Kurtosis		1.021	.203

Table a7.3 - Descriptive analysis of Satisfaction Construct Variable

Descriptives			Statistic	Std. Error
Satisfaction	Mean		5.6105	.03880
	95% Confidence Interval for Mean	Lower Bound	5.5343	
		Upper Bound	5.6867	
	5% Trimmed Mean		5.6718	
	Median		5.8182	
	Variance		.873	
	Std. Deviation		.93450	
	Minimum		1.45	
	Maximum		7.00	
	Range		5.55	
	Interquartile Range		1.18	
	Skewness		-1.074	.101
	Kurtosis		1.605	.203

Table a7.4 - Descriptive analysis of Engagement Construct Variable

Descriptives			Statistic	Std. Error
Engagement	Mean		5.6399	.05411
	95% Confidence Interval for Mean	Lower Bound	5.5337	
		Upper Bound	5.7462	
	5% Trimmed Mean		5.7588	
	Median		6.0000	
	Variance		1.689	
	Std. Deviation		1.29968	
	Minimum		1.00	
	Maximum		7.00	
	Range		6.00	
	Interquartile Range		1.67	
	Skewness		-1.244	.102
	Kurtosis		1.258	.203

Table a7.5 - Descriptive analysis of Morale Construct Variable

Descriptives			Statistic	Std. Error
Morale1	Mean		5.3881	.05093
	95% Confidence Interval for	Lower Bound	5.2880	
	Mean	Upper Bound	5.4881	
	5% Trimmed Mean		5.4754	
	Median		5.5714	
	Variance		1.499	
	Std. Deviation		1.22442	
	Minimum		1.00	
	Maximum		7.00	
	Range		6.00	
	Interquartile Range		1.57	
	Skewness		-.956	.102
	Kurtosis		.680	.203

Table a7.6 – Three Category Quality Measure Descriptives

Descriptives			Statistic	Std. Error
quality3cat	Mean		2.0017	.02295
	95% Confidence Interval for	Lower Bound	1.9566	
	Mean	Upper Bound	2.0468	
	5% Trimmed Mean		2.0019	
	Median		2.0000	
	Variance		.311	
	Std. Deviation		.55740	
	Minimum		1.00	
	Maximum		3.00	
	Range		2.00	
	Interquartile Range		.00	
	Skewness		.001	.101
	Kurtosis		.236	.201

Table a7.7 Descriptives of new variables

Descriptives			Statistic	Std. Error
sat3cat	Mean		2.0225	.02266
	95% Confidence Interval for Mean	Lower Bound	1.9780	
		Upper Bound	2.0670	
	5% Trimmed Mean		2.0250	
	Median		2.0000	
	Variance		.296	
	Std. Deviation		.54440	
	Minimum		1.00	
	Maximum		3.00	
	Range		2.00	
	Interquartile Range		.00	
	Skewness		.016	.102
	Kurtosis		.387	.203
eng3cat	Mean		1.9931	.02391
	95% Confidence Interval for Mean	Lower Bound	1.9461	
		Upper Bound	2.0400	
	5% Trimmed Mean		1.9923	
	Median		2.0000	
	Variance		.330	
	Std. Deviation		.57429	
	Minimum		1.00	
	Maximum		3.00	
	Range		2.00	
	Interquartile Range		.00	
	Skewness		.000	.102
	Kurtosis		.048	.203
mor3cat	Mean		2.0035	.02340
	95% Confidence Interval for Mean	Lower Bound	1.9575	
		Upper Bound	2.0494	
	5% Trimmed Mean		2.0039	
	Median		2.0000	
	Variance		.316	
	Std. Deviation		.56210	
	Minimum		1.00	
	Maximum		3.00	
	Range		2.00	
	Interquartile Range		.00	
	Skewness		.001	.102
	Kurtosis		.182	.203
employee3cat	Mean		2.0052	.02346
	95% Confidence Interval for Mean	Lower Bound	1.9591	
		Upper Bound	2.0513	
	5% Trimmed Mean		2.0058	
	Median		2.0000	
	Variance		.318	
	Std. Deviation		.56363	
	Minimum		1.00	
	Maximum		3.00	
	Range		2.00	
	Interquartile Range		.00	
	Skewness		.001	.102
	Kurtosis		.165	.203

Table a7.8 – Quality Construct Item-total statistics.

Quality Construct - Item-Total Statistics		
	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Employees understand the overall aim or mission of the organisation	.560	.978
Senior Leaders provide clear direction for the future	.775	.977
Senior Leaders demonstrate a commitment to continuous improvement	.733	.977
I see strong evidence of effective leadership from senior leaders	.779	.977
We have a comprehensive and structured planning process which regularly sets short and long term goals	.730	.977
We incorporate Customer/client input into the planning process	.679	.977
We incorporate employee input into the planning process	.741	.977
We all work together to meet or exceed our internal / external customers / client needs.	.811	.977
We regularly measure our customer/client satisfaction.	.671	.977
We incorporate customer/client feedback into our product and/or services improvement	.737	.977
We regularly measure our employee satisfaction	.700	.977
My ideas for improvement are encouraged	.774	.977
We are recognized appropriately (formally or informally) for good work	.705	.977
We document important processes	.731	.977
I follow our processes / policies to ensure our work is of the highest quality	.688	.977
We monitor important processes	.685	.977
We analyze important processes to determine opportunities for continuous improvement	.793	.977
Our suppliers and or partners work closely with us to improve important processes	.708	.977
In general, our customers / clients think we are a great organisation	.758	.977
In general, our employees think we are a great organisation	.756	.977

In general, our processes are working well	.788	.977
In general, our suppliers and or partners think we are a great organisation	.778	.977
In general, we are meeting our financial performance goals as an organisation	.598	.977
We have well established methods to share knowledge about our important processes	.768	.977
The organisation encourages employees to find completely new ways to get our work done effectively.	.760	.977
Senior Leaders are actively involved in direction of continuous quality improvement	.801	.977
Whenever possible, we use facts / data to guide the decisions we make in this organisation	.793	.977
Our primary focus is to meet or exceed the customers / client needs	.724	.977
The organisation encourages all employees to develop to their full potential	.776	.977
I regularly make suggestions that will help us improve the quality of the work we do.	.522	.978
We look for ways to prevent errors / problems rather than making corrections later.	.728	.977
We create positive relationships (both inside and outside our organisation) through co-operation and teamwork.	.781	.977
The co-operation / teamwork in this organisation inspire me to do my best work every day	.758	.977
This is a socially and environmentally responsible organisation	.754	.977
We focus on creating value for our customers/clients	.759	.977
We are all focused on continuously improving how we do our work	.808	.977
I do my part to make sure we constantly improve how we do our work	.652	.977

Table a7.9 – Employee Happiness Item-Total Statistics

Employee Happiness - Item-Total Statistics

	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Think of your job in general. All in all, how do you feel about it most of the time?	.783	.957
How do you feel about the work you do most of the time?	.692	.958
How do you feel about the pay you get now?	.542	.959
How do you feel about the opportunities you have for promotion now?	.698	.958
How do you feel about the kind of supervision you get on your job?	.676	.958
How do you feel about the majority of people with whom you work with?	.538	.959
My work allows me to use a variety of skills	.624	.958
My work allows me to complete whole tasks	.599	.958
My work has an important impact on the lives of others, either within the organisation or the world at large	.489	.959
I have freedom and independence to determine how my work will be carried out	.638	.958
I regularly get feedback about the effectiveness of my efforts, either directly from the work itself or from others	.673	.958
I would, without hesitation, recommend this organisation to a friend seeking employment	.797	.957
Given the opportunity, I tell others great things about working here	.813	.956
It would take a lot to get me to leave this organisation	.790	.956
I rarely think about leaving this organisation to work somewhere else	.761	.957
This organisation inspires me to do my best work every day	.839	.956
This organisation motivates me to contribute more than is normally required to complete my work	.824	.956
I feel that my opinion matters to the organisation	.810	.956
Morale is good here	.769	.957
I work reasonable hours	.476	.960
I take time for breaks and lunch	.466	.961
I feel valued	.830	.956
I feel that I'm being treated fairly	.803	.956
I like working here	.865	.956

Table a7.10 - Satisfaction Measures Item-Total Statistics

Satisfaction Measures - Item-Total Statistics		
	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Think of your job in general. All in all, how do you feel about it most of the time?	.776	.881
How do you feel about the work you do most of the time?	.738	.884
How do you feel about the pay you get now?	.523	.897
How do you feel about the opportunities you have for promotion now?	.654	.890
How do you feel about the kind of supervision you get on your job?	.628	.889
How do you feel about the majority of people with whom you work with?	.486	.896
My work allows me to use a variety of skills	.708	.885
My work allows me to complete whole tasks	.640	.888
My work has an important impact on the lives of others, either within the organisation or the world at large	.569	.892
I have freedom and independence to determine how my work will be carried out	.662	.887
I regularly get feedback about the effectiveness of my efforts, either directly from the work itself or from others	.658	.887

Table a7.11 – Engagement Measure Item-Total Statistics

Engagement Measure Item-Total Statistics		
	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
I would, without hesitation, recommend this organisation to a friend seeking employment	.818	.928
Given the opportunity, I tell others great things about working here	.832	.926
It would take a lot to get me to leave this organisation	.846	.924
I rarely think about leaving this organisation to work somewhere else	.791	.933
This organisation inspires me to do my best work every day	.842	.924
This organisation motivates me to contribute more than is normally required to complete my work	.814	.927

Table a7.12 – Morale Measure Item-Total Statistics.

Morale Item-Total Statistics		
	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
I feel that my opinion matters to the organisation	.731	.868
Morale is good here	.749	.867
I work reasonable hours	.491	.896
I take time for breaks and lunch	.537	.900
I feel valued	.815	.858
I feel that I'm being treated fairly	.820	.859
I like working here	.770	.868

Table a7.13 - Coding Summary with count

CODES-PRIMARY-DOCUMENTS-TABLE

Code-Filter: All [18]

PD-Filter: All [3]

Quotation-Filter: All [272]

	P 1:	TOTALS:
return on excellence	71	71
return for the organisation	50	50
engagement	37	37
definition	36	36
employees better off	36	36
link between excellence and happiness	30	30
negative impact	28	28
cause	24	24
solution ideas	19	19
generational differences	16	16
metrics	15	15
morale	15	15
satisfaction	13	13
star performers	13	13
empowerment	5	5
leadership	5	5
multi cultural	4	4
happiness	3	3
TOTALS:	420	420

Table a7.14 – Significant Word Count from Focus Group Transcript (More than 20 occurrences)

WORDS	Length	P 1	P 2	P 3	Total Count
engagement	10	40	4	26	70
people	6	37	2	17	56
satisfaction	12	20	13	12	45
can	3	27	4	11	42
was	3	40	0	1	41
with	4	31	3	7	41
get	3	27	0	13	40
more	4	23	3	13	39
things	6	30	2	7	39
excellence	10	17	8	13	38
employees	9	15	4	16	35
engaged	7	22	1	12	35
want	4	29	0	6	35
employee	8	11	8	10	29
impact	6	15	5	9	29
organisation	12	20	3	6	29
job	3	7	14	7	28
just	4	23	1	4	28
our	3	26	0	2	28
going	5	19	1	7	27
really	6	22	0	5	27
other	5	18	2	6	26
work	4	14	2	10	26
some	4	22	0	2	24
very	4	18	0	6	24
§	1	0	0	23	23
them	4	13	0	10	23
up	2	18	0	5	23
will	4	16	1	6	23
being	5	16	2	4	22
quality	7	13	4	5	22
question	8	20	0	2	22
where	5	15	0	7	22
when	4	14	0	7	21

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