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**Emotional Intelligence and Transformational Leadership in the NZ and  
UK Construction Industry**

**A Thesis presented in partial fulfilment of the requirements for the  
degree of**

**Master of Science**

**In**

**Construction Management**

**At Massey University, New Zealand**

**Emily Potter**

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## **Dedication**

In memory of Margaret Bailey

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## **Abstract**

Productivity and project performance is paramount within the construction industry. Low levels of productivity and performance has been attributed to poor leadership of construction project managers. The Chartered Institute of Building (CIOB) highlighted the need for influential leaders to respond to the evolving social, economic and environmental constraints of the construction industry.

Previous research in other sectors, has shown that transformational leaders can contribute to positive project outcomes from their teams. Despite the link, little research has been conducted in respect of this leadership style within the construction industry. The purpose of this study was to investigate the relationship between the transformational leadership style and emotional intelligence, for construction project managers in NZ and the UK. To achieve this aim, three key objectives were to; 1) identify the most prevalent leadership style adopted by construction project managers; 2) identify the average emotional intelligence of construction project managers working in NZ and the UK; 3) determine if there is a significant correlation between the construction project managers emotional intelligence and transformational leadership style adopted.

An online questionnaire was administered to construction project managers who were recruited from the project managers practicing in NZ (N=38) and the UK (N=34). The findings revealed that the most prevalent leadership style for construction project managers was transformational leadership. Over two thirds (73%) of participants self-reported this leadership style. These results are important as they confirm the current situation in terms of leadership style, identify the potential scope for improvement and act as a point of comparison for future leadership improvements to be calculated. The average emotional intelligence (EI) score for participants was 78 with a range between 60 and 95. This quantification provides a benchmark against which others can be measured. The results confirmed a significant positive relationship between a construction project managers' emotional intelligence and the likelihood that they would employ a

transformational leadership style. It also established that the project managers' ability to effectively use their emotions with their project team was the main element responsible for transformational leadership to come into effect. There were no significant differences found between the UK and NZ samples. These combined results are important, as they will assist with the identification and selection of those with high emotional intelligence, most suited to the challenging and demanding role of the construction project manager.

Based on the findings, a number of practical implications for the construction industry have been made, including suitable methods for identification, recruitment and training of project managers. These recommendations have the potential to improve leadership and the associated project performance in the construction industry at a time of much needed change.

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## List of Acronyms

Bar-On EQi:	.....	Reuven Bar-On Emotional Quotient Intelligence Test
CIOB:	.....	Chartered Institute of Building
CPM:	.....	Construction Project Manager
CR:	.....	Contingent Reward
EI:	.....	Emotional Intelligence
IC:	.....	Individualised Consideration
II:	.....	Idealised Influence
IIA:	.....	Idealised Influence Attributes
IIB:	.....	Idealised Influence Behaviour
IM:	.....	Inspired Motivation
IQ:	.....	Intelligence Quotient
IS:	.....	Intellectual Stimulation
LFL:	.....	Laissez-Faire Leadership
MBEA:	.....	Management By Exception (Attributes)
MBEP:	.....	Management By Exception (Behaviour)
MLQ:	.....	Multifactor Leadership Questionnaire
MLQ 5X:	.....	Multifactor Leadership Questionnaire Short Form
NZ:	.....	New Zealand
PAL:	.....	Passive Avoidant Leadership
PALs:	.....	Passive Avoidant Leaders
PM:	.....	Project Manager
RICS:	.....	Royal Institute of Chartered Surveyors
TL:	.....	Transformational Leadership

TLI: ..... Transformational Leadership Inventory  
TLQ: ..... Transformational Leadership Questionnaire  
TLs: ..... Transformational Leaders  
TRL: ..... Transactional Leadership  
TRLs: ..... Transactional Leaders  
UK: ..... United Kingdom  
WLEIS: ..... Wong and Law Emotional Intelligence Scale

# CHAPTER 1: INTRODUCTION

## 1.1 BACKGROUND

Effective leadership skills in the construction industry are necessary to capture and focus the efforts of construction teams, in order to achieve good project performance and success (Bass, 1990). While there are a number of definitions available as to what constitutes the term leadership; A definition largely accepted by researchers and theorists alike is explained by Chemers (1997) as: *“a process of social influence, in which one person is able to enlist the aid and support of others in the accomplishment of a common task.”*

The role of the Construction Project Manager (CPM) has a significant leadership function. The role is considered vital in achieving the desired organisational and project outcomes (Styhre & Josephson, 2006). The CPM is expected to co-ordinate work and communicate with the construction team throughout design and construction, from inception through to completion of the project. These leaders are often required to liaise with the project design team, owners and a number of parties including higher level managers, team members, suppliers and subcontractors alike (Harris, McCaffer, & Edum-Fotwe, 2001; PMBOK, 2008). Furthermore, members who make up a typical construction project team tend to be from a wide variety of social, economic and educational backgrounds, thus, the CPM's role is key to bringing together an often diverse group, in order to successfully manage the projects (Raiden, Dainty, & Neale, 2004).

Project managers were selected as the subject profession in this study due to their importance in achieving project success in the construction environment through their leadership role. This leadership capability is critical to achieving optimum success at project levels (Naoum, 2001). This view is echoed by the findings of the Egan Report (1998), which explains that the construction industry needs to recognise and invest in it's people in order to improve.



Leadership has been the focus of empirical research in an attempt to determine what makes a successful leader and to identify the most suitable individuals to carry out these crucial roles. The way in which individuals behave and interact in their leadership endeavour, has been categorised into a variety of different styles such as transformational, transactional and laissez-faire leadership. Amongst these styles, transformational leadership (TL) has emerged as one which is preferred within an organisational setting (Barling, 2014); due to the beneficial outcomes associated in comparison to other styles such as laissez-faire leadership. A transformational leader provides positive expectations, while focusing on care and development of the team. At the same time they are able to inspire, empower and stimulate team members to exceed normal levels of performance (Brown & Moshavi, 2005; Humphrey, 2002). TL is applied through relationships and social interactions. According to Barling, *et al.* (1996) transformational leaders (TLs) gain power from their team members through respect, trust and loyalty. TLs have also been found to utilise their emotional skills to enhance a team members' performance beyond their own expectations, through emotional motivation (Brown & Moshavi, 2005; Humphrey, 2002). The beneficial outcomes of TL have been identified through several empirical studies conducted in the workplace. These include team cohesion, team members commitment, individual progression, organisational behaviour and success (Barling *et al.*, 1996; Dvir, Eden, Avolio, & Shamir, 2002; Gumusluoglu & Ilsev, 2009; Jung, Chow, & Wu, 2003; Keller, 1992; Kissi, Dainty, & Tuuli, 2013; MacKenzie, Podsakoff, & Rich, 2001; Podsakoff, MacKenzie, Moorman, & Fetter, 1990; Sarros, Cooper, & Santora, 2008). These benefits have been found at all levels of the organisational hierarchical structures (Antonakis & Atwater, 2002; Dvir *et al.*, 2002; Jung *et al.*, 2003; Styhre & Josephson, 2006; Yammarino, Dionne, Schriesheim, & Dansereau, 2008).

The review of previous leadership research, presents a strong case for further investigation of TL in the construction industry, due to the far reaching associated benefits (Antonakis & Atwater, 2002; Barling *et al.*, 1996; Dvir *et al.*, 2002; Gumusluoglu & Ilsev, 2009; Jung *et al.*, 2003; Keller, 1992; Kissi *et al.*, 2013;

Podsakoff et al., 1990; Sarros et al., 2008; Styhre & Josephson, 2006; Yammarino et al., 2008).

Many studies (Barling, Slater, & Kevin Kelloway, 2000), have made attempts to investigate the characteristics that make an individual more likely to adopt and implement a TL style, including the individuals high levels of emotional intelligence (EI) (Butler, 2005; Goleman, 2009). This is a non-cognitive social-emotional intelligence that is defined as; *“a type of social intelligence that involves the ability to monitor one's own and others' emotions, to discriminate among them, and to use the information to guide one's thinking and actions”* (Mayer, Caruso, & Salovey, 1999). Emotional Intelligence (EI) has been the subject of a large number of studies, that support the theory of emotional intelligence being a core value and strong predictor of an individual's work performance and success (Bar-On 1997; Butler, 2005; Goleman, 2009). The beneficial performance outcomes found to date include improved project financial performance, job satisfaction, organisational commitment, positive work attitudes and altruistic behaviour. (Carmeli, 2003; Cherniss, 1999; Güleriyüz, Güney, Aydın, & Aşan, 2008; Spencer & Spencer, 2008; Sy, Tram, & O'hara, 2006; Wong & Law, 2002).

Research also suggests that to successfully manage a diverse group of people such as those identified within the construction industry, higher levels of EI are required (Gardenswartz, Cherbosque, & Rowe, 2010). In an organisational context, leaders with high EI provide team members with an emotional environment that facilitates enhanced confidence, resilience and creativity. Transformational leadership also enhances middle managers ability to develop influential relationships, regulate their own stress, emotions and motivation (Balogun & Johnson, 2004; Fredrickson, 2003; Lara, 2011), which in turn improves performance. A growing number of studies (Barbuto & Burbach, 2006; Gardner & Stough, 2002) have determined that EI is the main factor responsible for the TL style, somewhat supporting the idea that EI could be used as a predictor of the TL style being adopted.

Taking into account the foregoing, TL and EI presents a unique, interesting and exciting topic to research, within the context of the NZ and UK construction industry.

## **1.2 RESEARCH PROBLEM**

Productivity in the construction industry for both NZ and the UK is purported to be declining (Conway & Meehan, 2013; McCafferty, 2014). Construction is a significant sector as it contributes 5.5% to the NZ GDP and 8% to the UK GDP (Cunningham, 2010). One of the reasons identified for lower levels of productivity was poor leadership within the construction industry (Egan, 1998).

A study conducted by the Chartered Institute of Building (CIOB) (2008) found that there was a distinct lack of influential leaders within the industry. The CIOB (2008) expressed a view that influential leaders were necessary to respond to the abundant and evolving social, economic and environmental constraints of the construction industry. Examples of which include complex team dynamics, the increasing cost of waste disposal and the need for innovative and cost effective solutions. The CIOB study (2008) also highlighted distinct differences between the required qualities and capabilities of leaders in the construction industry in comparison to those in other sectors. *“Given the lack of leadership evident in the construction industry this may represent a genuine misunderstanding of what is required by the industry in terms of leadership, or it may infer that the construction industry needs something different to other industries.”*

There is a need for improved leadership in the NZ and UK construction industry, which, based on the findings from other industries, may be possible through the engagement and encouragement of TL. Managers with high levels of EI have been linked to TL and beneficial project outcomes within other industries as previously identified in section 1.1. There is however, a distinct lack of available studies relating to EI, TL and project management for the NZ and UK construction industries. Caution must be taken when applying previous research derived from other sectors to the construction industry as they may encounter a different environment, challenges and

constraints. Furthermore, the CPM often faces an environment unique to the industry with specific project challenges relating to time, cost, quality, social-political, environmental and legal pressures (Muir, 2005), while at the same time providing leadership to an often diverse group of people as identified in section 1.1.

Relatively few scholars have undertaken research specific to project managers within the construction industry and none have considered both NZ and the UK combined. Also, the majority of empirical findings to date have been derived from either the United States of America (USA) or the UK and very few have included NZ (Barling, 2014). There are parallels between the construction sectors in NZ and the UK. In both instances, the need for change has been identified, subsequent task forces brought into effect to review the industry and suggestions for potential reform have been made (Black, Guy, & McLellan, 2003; Davis, 2007; Egan, 1998; Latham, 1994). Amongst the conclusions and recommendations put forward, leadership was one of the key areas suggested to facilitate transformation of the industry (Black et al., 2003; Davis, 2007; Egan, 1998; Latham, 1994; Santos & Powell, 2001).

### **1.3 RESEARCH AIM AND OBJECTIVES**

The aim of this study was to investigate the relationship between emotional intelligence and transformational leadership specifically for construction project managers in NZ and the UK.

To achieve the research aim, three key objectives were proposed which formed the structure of this study. The objectives were to:

1. Identify the most prevalent leadership style adopted by construction project managers in NZ and the UK.
2. Identify the average EI of construction project managers in NZ and the UK.
3. Determine if there is a significant correlation between the construction project managers EI and transformational leadership style adopted.

Objective one was an important stage as it quantified the leadership styles for both samples. This allowed for direct comparison between the two countries to identify any significant differences between the extents that TL was being embraced. This information provides an indication on the scope for improvement of leadership skills for construction project managers in each of the countries. Collectively, this information confirms the extent to which TL is currently being adopted specifically within the context of the construction industry for NZ and the UK.

The second objective was introduced to identify the average EI of CPMs and examine the factors that make up this intelligence. This step quantified EI levels and identified the scope for improvement, while also adding to the existing body of knowledge and understanding of EI and project management. The results obtained under this objective allowed for a direct comparison between NZ and UK CPMs, to see if there were any significant differences between their overall EI levels and subcomponents which make up this EI score. The average EI score acts as a benchmark for the industry, against which individuals can be tested and measured. Testing and benchmarking of EI levels is intended to assist with the identification and selection of those with high levels of EI, who may be best equipped to undertake the challenging and important construction project management role. Attainment of this objective also provided an average EI benchmark, against which other samples in future research could be measured to help improve the quality of leadership. Examples of which may include research into the EI of workers in other countries, industry sectors or construction disciplines.

The final objective was to determine if there was a significant relationship between the EI and TL style of CPMs operating within NZ and the UK construction industries. This was achieved by using the data obtained in objectives one and two and then applying statistical analysis techniques to examine the relationship. To date there is no available research relating specifically to EI and TL of CPMs in NZ and the UK. Attainment of this objective was therefore beneficial to the construction industry as it bridged this gap in available knowledge. This objective was important because confirmation of a significant relationship between EI and TL within the context of

the construction industry means that EI testing could provide a valuable method for identification and selection of suitable CPMs. These leaders would not only excel in project management but would also be more likely to get the best from their construction teams in terms of financial performance, organisational commitment, job satisfaction, safety culture and innovation (Inness, Turner, Barling, & Stride, 2010; Kissi, Payne, Luke, Dainty, & Liu, 2009; Sy et al., 2006). In order to do this the following hypothesis was proposed:

**H<sub>1</sub>:** There is a significant relationship between EI and TL of construction Project Managers

The three objectives combined were intended to establish if there was a link between EI and TL of CPMs, and if there were any significant differences between CPMs leadership style in NZ and the UK. This facilitates a better understanding of the relationship between EI and TL in the context of the construction industry for NZ and the UK. The study was intended to propose recommendations to enhance leadership styles in the construction industry at a time of much needed change (Black et al., 2003; CITB, 2012; Davis, 2007; Egan, 1998; Latham, 1994).

#### **1.4 OVERVIEW OF THE METHOD**

Following the completion of the literature review, a theoretical framework was developed and a quantitative questionnaire designed. This was implemented to test the hypothesis, H<sub>1</sub>, developed for this study. The chosen method was an online self-report questionnaire including both open and close-ended questions. An initial pilot study was conducted before an industry-wide survey was carried out.

The two populations identified and approached in this study were: 1) CPMs currently working in the construction industry in NZ, 2) CPMs currently working in the construction industry in the UK. The two sample frames for NZ and the UK were selected through non-random purposive sampling using contact information held by the Royal Institute of Chartered Surveyors (RICS).

The data collected in the live survey was analysed using statistical analysis techniques including *t*-tests, Cronbach's Alpha ( $\alpha$ ), multiple regression and Pearson's product-moment correlation coefficient (*r*). This enabled the relationship between EI and TL to be investigated. Details of the research method are discussed in detail in chapter 4.

## **1.5 RESEARCH SCOPE**

A review of the two main concepts of EI and TL was undertaken to identify and construct a suitable theoretical framework, as set out in chapter 3. This framework underpinned the self-report questionnaire design intended to measure EI and TL of CPMs in NZ and the UK. Contextually, the construction industry has not been a focus for research. This study was intended to provide a foundation for further research into EI and TL with specific emphasis on the construction industry of NZ and the UK, as well as contributing to the wider body of leadership knowledge.

The limitations of this study were within the time and financial constraints of a MSc research project, which must be completed within the universities timescale of 12 months.

## **1.6 SIGNIFICANCE OF THE STUDY**

The findings from this research determined average EI levels and leadership styles adopted amongst CPMs and confirm if there is a significant correlation between the two. The study adds value to the existing research body because it is unique in terms of the specific focus on leadership and the relevance of EI in the context of the construction industry. None of the previous studies have investigated the PM's leadership style and associated EI in both NZ and the UK construction industry. This study adds to existing research previously conducted with regard to the positive outcomes associated with the transformational leadership style in organisations. These outcomes include team cohesion, team members commitment, individual progression, organisational behaviour and success (Barling et al., 1996; Dvir et al., 2002; Gumusluoglu & Ilsev, 2009; Jung et al., 2003; Keller, 1992; Kissi et al., 2013;

MacKenzie et al., 2001; Podsakoff et al., 1990; Sarros et al., 2008). The research thus acts in a way, which contributes and facilitates a much wider understanding of EI and TL as a cohesive and inclusive body of knowledge.

The purpose of this research was not to investigate outcomes or validate the available measures of EI. Rather it sought to look at the relationship of EI and associated leadership styles employed, with specific emphasis on TL for improved project outcomes identified, (these are discussed in detail in chapters 3.4.1 – 3.4.6) for the critical role of the CPM. The study ascertained if EI had a significant relationship with a CPM's TL style.

The study provides a valuable insight into an industry where the need for change in terms of leadership quality has been identified (Black et al., 2003; Egan, 1998; Latham, 1994). If leadership quality can be improved, then there is also a potential for productivity to increase as a result.

## **1.7 THESIS STRUCTURE**

Chapter one provides an introduction to the challenges faced by NZ and the UK construction industry. The focus of this research is discussed, justified and the overall research aim and objectives are established.

Chapter two is the literature review, which explores recent papers and other publications concerning leadership with particular focus on TL. This section also provides information on EI. The relationship between EI and the effect on leadership behaviour is then considered from the review.

Chapter three identifies the appropriate theoretical framework underpinning both emotional intelligence and transformational leadership for inclusion in this study. The framework forms the foundation for the chosen research method adopted.

Chapter four describes and evaluates the main research methods available to this investigation and provides substantiation for the chosen method, research sample,



questionnaire design and research process. The selected data analysis techniques are also discussed, these include Little's missing completely at random test (1988), descriptive statistical analysis, Shapiro-Wilk's test for normality, Lvene's test for equality of variance of means (1960), Cronbach's Alpha ( $\alpha$ ) of reliability through internal consistency, *t*-tests to identify significant differences, Pearson's product-moment correlation coefficient (*r*) to measure the degree of linear correlation between the EI constructs and TL style. Methods to examine the qualitative data are described including text analysis and categorisation techniques.

Chapter five concerns the data obtained through the self-report questionnaires for EI and leadership style respectively. Data screening, descriptive statistical analysis and inferential tests are applied in accordance with the techniques selected in chapter four.

Chapter six presents a discussion of the analysed data obtained in chapter five. A descriptive of the findings is provided in relation to the three original objectives alongside a discussion of topics surrounding the results.

Chapter seven provides a report on the findings and conclusions that can be drawn from the research data in terms of EI and TL for the construction industry. Based on these conclusions, recommendations for application to improve leadership in the construction industry are made. Finally, the limitations of the study and suggestions for further research are set out.

## CHAPTER 2: LITERATURE REVIEW

### 2.1 THE CONCEPT OF LEADERSHIP

Leadership plays a vital and undisputed role within companies and organisations. It is a necessary process to capture and focus the efforts of team members, in order to achieve direction and success (Bass, 1990). Leadership has been the subject of innumerable studies, conducted in an attempt to identify and clearly define the key qualities or elements for successful leadership. There are currently numerous definitions of leadership. A definition that is largely accepted by researchers and theorists alike: *“Leadership is a process of social influence, in which one person is able to enlist the aid and support of others in the accomplishment of a common task”* (Chemers, 1997). Another more recent and also largely accepted definition of leadership is: *“Leadership is the ability to influence groups for purposes of goal accomplishment”* (Koontz & Weihrich, 2006). Both of these definitions explain the process of leadership whereby an individual (leader) is able to exert influence over others, has a vision or goal and works to attaining this through support of their team members.

A plethora of empirical research and publications provides a compelling and irrefutable case for the importance of EI for leadership in a business environment (Lopes, Grewal, Kadis, Gall, & Salovey, 2006; Seal, Boyatzis, & Bailey, 2006). However Johns (2006), noted that the organisational context within which the leadership studies were carried out is important, as the context exerts complex effects on leadership. Contexts include sector, size, location and physical distance between the leader and team members. These all affect the associated results.

For the purpose of this study, the leaders are the Construction Project Managers (CPMs). The team members include direct employees, freelance, agency workers, subcontractors and colleagues who make up the construction project team. These individuals can be involved in on site activities, operational, commercial or supply chain planning and implementation to support and ‘move behind’ the project.

## **2.2 LEADERSHIP IN THE CONSTRUCTION INDUSTRY**

As identified in chapter 1.1, a leader is responsible for using their influence to align the team with aims and desired outcomes (Chemers, 1997). When applied to the construction industry, the aims and outcomes are that of both the organisation and project team. A construction leader is therefore instrumental to the project outcomes and the relevance and importance of the human aspect of leadership becomes paramount (Sunindijo, Hadikusumo, & Ogunlana, 2007). Within the construction industry, effective leadership skills are necessary to capture and focus the efforts of team members (Bass, 1990). Traditionally, leadership in the industry has been centred around power, authority and getting individuals to perform tasks and processes required by the leader and organisation (Spatz, 1999; Toor & Ofori, 2008), with a focus on deriving efficiencies (Müller & Turner, 2007). In more recent times, the understanding of leadership for construction has evolved toward something that extends beyond task orientation and now focuses on the importance of the people that make up the construction team (Spatz, 1999; Toor & Ofori, 2008). The modern understanding of leadership encompasses a team built on trust, communication and co-operation rather than one which is focused on actions and processes (Toor & Ofori, 2008). Project based industries such as construction are facing new challenges in the face of globalisation, fast paced technological advancement, financial, environmental, time related and organisational constraints (Messner, 2011). This new approach to leadership is therefore being encouraged in order to achieve improvement, growth and success for the future (Toor & Ofori, 2008).

### **2.2.1 Construction Project Manager**

The construction industry has been identified as one of the most difficult environments to successfully lead people effectively to achieve organisational success (Loosemore, Dainty, & Lingard, 2003). One such leader is the Construction Project Manager (CPM), who has the responsibility for the planning, execution and closing of any project. A CPMs' role is pivotal to achieving the desired organisational and

project outcomes (Styhre & Josephson, 2006). What is deemed a successful outcome of a project varies depending upon the client and organisational priorities or requirements at any one time. These priorities include time, cost and quality amongst others, which invariably differ from project to project and may even change during the construction process.

This role is also particularly demanding as a result of the communication required throughout the construction process, from inception through to completion (Dainty, Moore, & Murray, 2007). Leaders are often required to liaise with the project team and a number of different parties including higher level managers, team members, suppliers and subcontractors alike (Harris et al., 2001; PMBOK, 2008). As identified in section 1.1 of the introduction, the individuals who make up the whole project team tend to be from a variety of social, economic and educational backgrounds, thus, the CPMs role is key to bringing together an often diverse group, in order to successfully manage the projects (Raiden et al., 2004).

## **2.3 CONSTRUCTION INDUSTRY AND NEED FOR CHANGE**

This research intends to capture the CPM's leadership and EI in the context of the typical construction environment for both NZ and the UK. Not only does the context of the research influence the leader-team member exchange but also the external environment of which the leadership research is set (Barling, 2014), such as the economic climate and cultural environment.

Construction accidents and deaths have been declining in the past 20 years, despite this the figures remain unacceptably high for both NZ and the UK. In 2013, six NZ construction workers were fatally injured, this equates to 12% of all fatal work injuries for the entire country. In the UK between 2012 and 2013, 5% of the population were working in the construction sector, during which time 39 people were fatally injured (HSE, 2013b), this figure amounts to 26% of all fatal work injuries (HSE, 2013b). The cost of work related injuries and ill health is considerable for the economies of NZ and the UK. Across all sectors in the UK, the cost of work related

injury and disease is estimated to be 13.8 billion pounds per annum (HSE, 2013a). Of all the reported major accidents in the UK, 10% had occurred in the construction industry (HSE, 2013b). Comparably, the cost of all work related injury and disease in NZ was estimated to be 3.5 billion New Zealand Dollars per annum (Ministry of Business, 2012). Out of all of the reported major accidents in NZ in 2014, 14% occurred in the construction industry (Worksafe, 2015). Research suggests that leaders with a TL style may be able to assist in the improvement of health and safety related outcomes for the construction industry.

The Chartered Institute of Building (2008) has described a need for the industry to respond to the increasing challenges of a social economic and environmental nature and identified a need for inspirational and effective leaders to do so. The CIOB study (2008) undertook research into leadership within the construction industry and came to the conclusion that there was a distinct lack of influential leaders within the construction industry. The CIOB study (2008) also highlighted the distinct differences between the qualities or quality of leadership capabilities of leaders in the construction industry in comparison to other sectors; *“Given the lack of leadership evident in the construction industry this may represent a genuine misunderstanding of what is required by the industry in terms of leadership, or it may infer that the construction industry needs something different to other industries”*. Research undertaken by CIOB (2008) concluded that the construction industry is failing to provide training and development of the leaders with 18% of construction companies failing to provide any development or leadership training and 45% failing to provide professional development in the form of a progression plan (CIOB, 2008). Interestingly, this was not attributed to a lack of interest or enthusiasm on the part of the construction leaders, who were eager to develop new skills through training, guidance and experience (CIOB, 2008). The CIOB surveyed 655 construction managers to ask what they thought had the greatest impact on developing leaders within the industry (CIOB, 2008). The results revealed that only 3% attributed leadership development to financial reward. A large number of respondents (41%) indicated that training and new experiences were most likely help develop their

leadership skills. In contrast to this, when asked what methods the industry most frequently use to retain and provide leadership progression, 46% indicated that this was done using financial incentives. This study is important as it appears to demonstrate a need and appetite for training and development amongst construction leaders, while the exact opposite is reported in terms of incentives being offered out by the construction industry in an endeavour to achieve this (CIOB, 2008). The research also identifies a greater need for EI and the ability of those who are able to effectively manage relationships using softer skills.

Barling *et al.* (2014) analysed the research trends of leadership in several established management journals. The results showed that the vast majority of this research (70%) focused on the USA, while only 10% of the remaining articles were associated with the UK, Netherlands and Israel combined. NZ was underrepresented to the extent that this country was not even mentioned. Obviously, these are potential pitfalls when drawing conclusions from a body of research undertaken in different external environments. Furthermore, a CPM is a leader who often faces challenges and an environment unique to the industry.

For the aforementioned reason, caution must be taken when applying the results obtained through previous research in other sectors. These findings highlight the need for research specific to the leadership of CPMs, in the context and environment of the current NZ and UK construction industry. The sections to follow address some of the significant features of the industry, for both NZ and the UK in an attempt to define the predominant contextual composition of the industry.

### **2.3.1 Gender**

One of the significant features identified for NZ and the UK construction industry is that of gender. Currently there are over 30 million people in employment across all sectors in the UK, of which just under 14 million are women, this equates to 46.7% of the entire UK workforce (ONS, 2013b). The construction industry is a major component of economy and GDP within the UK, employing over two million people.

What is most striking about the figures, is the number of women in comparison to men who participate in the industry, which is only around 14% (ONS, 2013a). These figures are disproportionate to the employment split for genders reported for other significant industries within the country. See table 18 in appendix A for details. Table 18 shows that female workers are concentrated within employment sectors such as human health, social work and education. In contrast to this, women are under-represented in the construction industry alongside mining and manufacturing. Amongst the 14% of women who do work in the industry, around 84% are employed in administration and support roles, 10% are working in professional roles such as quantity surveying and project management, 4% are in micro-enterprises or are sole traders and only 1% of women in the construction industry are site operatives (CITB, 2012).

The disproportionate number of males in the UK construction industry is mirrored by the statistics available for NZ. Currently, the total amount of employed workforce in NZ is 2.2 million ("New Zealand Unemployment Rates," 2013), of which 47% are also women (Statistics New Zealand: Household Labour Force Survey Dec 2013). Only 12.2% of employed women work in the NZ construction industry and similar to findings from the UK, women are also least likely to be employed in mining and manufacturing sectors and are most likely to be employed in health, social care and retail (Ministry of Business, 2013).

Comparisons between the two countries reveal that despite their geographic distance, the construction industries for both are remarkably similar in regards to gender participation. The construction industry of both countries is undisputedly male dominated and it is this environment which has been associated with a culture of male dominance (Fielden, Davidson, Gale, & Davey, 2000; Loosemore et al., 2003).

It was not the intention of this study to become concerned with why so few women work within this managerial construction roles such as CPM but it is the significant characteristics of the population, which must be addressed for this study. In a masculine dominated work environment such as construction, it has been found that

use of emotions and even the term ‘emotion’ itself can be viewed to have negative connotations, which are frequently looked upon by males as a weakness (Lindebaum, 2009; Lindebaum & Cassell, 2012). Based on the findings it would be interesting to see if those participating in the industry at present hold the TRL leadership style in high regard. This could be expected due to the transactional nature of this leader and lack of emotional exchange involved. The perceived ‘soft’ nature of emotions, appears to go against the values of a predominantly male dominated ‘macho’ environment such as the construction industry (Fielden et al., 2000; Loosemore et al., 2003). This environment also supports a suppression of emotions and a belief that emotions should be controlled. The ability to control ones emotions has been described by those in the industry as ‘emotional strength’ (Domagalski, 1999). It may be that those working within the construction industry are less likely to express their emotions because of their working environment. Research (Loosemore & Galea, 2008) found that the performance of males within the construction industry is often measured against masculine stereotypes of ‘decisiveness, toughness, self-reliance and control’. This could present a resistance when encouraging softer skills such as emotional intelligence and associated interpersonal skills for the industry.

To investigate how CPMs perceive and interpret EI, Lindebaum and Cassell (2012), conducted nineteen semi structured interviews with CPMs in the UK. All those interviewed were males and through narrative analysis of the transcripts, two key themes emerged, male dominance and resistance to EI in the industry. The results suggest a ‘male culture’ amongst CPMs where emotions and reflection are avoided, emotions are perceived as a weakness and are deemed unnecessary or inappropriate for the construction workplace. This study outlines the conflict between the need to improve interpersonal relationships for the benefit of the industry, versus the current environment and the resilience due to masculine stereotypes upheld. Caution must be taken when applying the findings of Lindebaum and Cassell (2012) due to the limitations of their study which included a small sample size and perhaps also, the fact that interviews were conducted by males in all instances. If females had conducted this research, then respondents may have given alternative answers. Regardless, the



study provides an invaluable and exclusive insight into the views of CPMs in the context of construction industry.

Aside from the perceptions of emotions in the industry, the actual EI levels of males and females are relatively similar (Dickau, 1997). Men and women have been found to have slightly different strengths and weaknesses within the subcomponent makeup of their EI scores. Previous empirical research using the Bar-On EQi found that women in general scored marginally higher in the categories of interpersonal relationships, social responsibility and empathy in comparison to their male counterparts. In contrast, men tended to score slightly higher than females in the categories of stress tolerance and self-regard. Table 1 below shows the average subcomponent make up.

Subcomponent	Female Score	Male Score
Self regard	97	102
Interpersonal Relationship	101	97
Social Responsibility	102	96
Empathy	103	94
Stress Tolerance	97	103

Table 1: Subcomponent EI Make up for Males and Females (1997)

These findings are representative of the EI make up for men and women within western society. Dr Bar-On commented *“It is interesting that similar differences related to interpersonal relationships, social responsibility, and stress tolerance, have been observed in almost every other population sample that has been examined by the EQi in several diverse cultures around the world. We have consistently found that women are more aware of their emotions, show more empathy and act more socially responsible than men, whereas men cope better with stress”* (Dickau, 1997). Not only has EI been found to differ amongst men and women but also the leadership style used often varies as a result of gender. According to the research conducted by Eagly *et al.* (2003), in which a meta-analysis was conducted for 45 business leaders; Women were found more likely to employ the TL leadership style than men. This is important,

as the TL has been correlated with higher effectiveness and positive outcomes. Eagly also found that women were more likely to score higher on one of the constructs of transactional leadership (TRL); contingent reward (CR), which is providing reward in return for some desired outcomes, or punishment contingent on undesired behaviour or results. Although the study identified gender differences, these are exceptionally slight and on the whole, the results of leaders were comparable. Eagly described the minor differences found to be as expected, due to the fact that all the participants were acting in the same capacity as leaders. She explained: *“if there is some gendering behaviour it is some discretionary behaviour, around the edges”* (Benson, 2003).

Differences found between the leadership styles adopted for both genders have been acknowledged and detailed by numerous empirical research (Gutek, 2001; Gutek & Morasch, 1982), however, not all of these studies have concurred when the actual reason for these inconsistencies have been explained. Notwithstanding this, the studies have all found that expectations of gender roles influence leadership delivery that result in subtle differences. The actual reason that gender affects leadership is subject to much debate. There are a number of scholars who explain the differences in terms of others' expectations of gender roles and expectations that others have for leaders in the workplace (Eagly & Karau, 2002). This affects the leaders' behaviour as they conform with this expectation to some degree. In contrast, there are a number of scholars and psychologists alike who explain this quite differently (Cross & Madson, 1997; Deaux & Major, 1987; Gabriel & Gardner, 1999) whereby the leaders internalise their own gender role expectations, which offer up changes by way of their own interpretation of the appropriate gender associated behaviour or communicative exchange with the team. The differences of leadership styles between men and women must be taken into consideration in terms of the research design, understanding and analysis of the data for this research.

Based upon the discussion provided above, the leadership style of CPMs and the associated EI in this industry presents an interesting and exciting topic for further research. The findings from which could provide an insight into the current

leaderships styles employed within the industry, along with the associated levels of EI at a time of reluctance of the industry to fully engage with the concept. This research will serve as a snapshot of the industry and provide a sound platform for future research, in an effort to stimulate an interest in an area with the potential to assist in transformation of the industry at a time of much needed change.

#### **2.4 APPLICABILITY OF EMOTIONAL INTELLIGENCE AND TRANSFORMATIONAL LEADERSHIP TO CONSTRUCTION**

The concepts of both TL and EI share an emotional component and are often discussed in conjunction with one another. EI has been proven to play a key role in leadership (Goleman, Boyatzis, & McKee, 2013), with many scholars proposing that high levels of EI are necessary to facilitate a TL style (Megerian & Sosik, 1997). There are several empirical studies which support the association between TL and EI, including the work of Barling *et al.* (2000) who undertook a study of 49 managers. Each of the managers assessed their own EI and leadership, alongside team members who assessed the managers EI and leadership style. The findings establish three aspects of TL, which differed as a result of the managers EI when compared to TRL & LFL, these were; idealised influence (II), inspirational motivation (IM) and individualised consideration (IC). Palmer (1998) also detected a correlation between EI and a number of TL components, presenting EI as a factor accountable for effective leadership, in particular with relation to interaction with team members. Furthermore, a growing number of studies (Barbuto & Burbach, 2006; Gardner & Stough, 2002) have determined that EI is the main factor responsible for TL style, somewhat supporting the idea that EI could be used as a predictor of the TL style being adopted.

Ashkanasy, *et al.* (2000) undertook a conceptual review of TL and the relationship between leaders and team members. The findings from which highlighted the ability that TLs have in influencing emotions amongst team members. Further to this McColl, *et al.* (2002) ascertained that TL had a direct effect on team members emotion in terms of a positive effect on frustration and optimism acting as a mediator

between TL and performance. The work of Seligman (2011) discovered that high levels of EI had a significant relationship with levels of optimism, where problems were perceived as a temporary challenge rather than a permanent obstacle to success. It is thought that through this optimism, they are able to encourage and motivate team members to excel.

Similar studies (Brown & Moshavi, 2005; Humphrey, 2002) have found TLs to be equipped with the emotional skills required to enhance a team members performance beyond their own expectations through inspirational motivation (IM). The TL's EI is therefore seen as a driver, acting to deliver the change through inspiration, motivation and support offered to others. (Brown & Moshavi, 2005; Fredrickson, 2003; Küpers & Weibler, 2006). Leban, *et al.* (2004) undertook research into the combined topics of EI, TL and project management, this study also determined that EI contributes to the TL style, which subsequently leads to increased performance. This research specifically focused on CPMs; however, this cannot be fully applied to the construction industry as the CPMs hailed for variety of industrial backgrounds, rather than construction, which encounters its own unique and inherent challenges. Although there are a number of studies to date concerning these topics combined, research is relatively sparse in terms of the TL and the EI of CPMs in the NZ and UK construction industry. Of the available and credible research, there is evidence to support the theory that EI underpins the likelihood of a TL style being present within organisations. If this is also true of the construction industry with the specific environment and challenges involved, it could prove an invaluable tool for predicting leadership, interpersonal communication and performance.

Although the construction industry is implementing measures of EI to a certain degree, this is mainly at the recruitment stage and the sheer potential of assessing and strategising through EI may not yet be fully appreciated. Historically the construction industry has been described as one which is slow to embrace new developments and changes (Dainty, Cheng, & Moore, 2004).

### **2.4.1 Summary**

Construction Project Managers (CPMs) face unique challenges, due to the complex nature of the work and the diverse parties involved. This is combined with the current economic climate ("Constructing Excellence NZ, International Building & Construction Industry Productivity Reform Programmes," 2010; Kissi et al., 2009) and male dominated work environment (Fielden et al., 2000; Loosemore et al., 2003). Since the 1990s understanding and importance placed upon EI has gained momentum, although, it is reasonable to conclude that within the construction context the concept is struggling to gain traction. This literature review formed the basis upon which the theoretical framework has been developed in chapter 3.

## **CHAPTER 3: THEORETICAL FRAMEWORK**

### **3.1 THEORETICAL PERSPECTIVES IN LEADERSHIP STUDY**

Leadership is an exceptionally broad subject, which impacts upon almost every aspect of daily life, spanning multi industries and geographic bounds (Boehm, 2009; Den Hartog, House, Hanges, Ruiz-Quintanilla, & Dorfman, 1999; Diamond, 1998). It has also been the subject of countless investigations resulting from the recognition of the function that leaders have in achieving specific results and influencing individuals' performance while doing so. Much of the interest to date has originated from the desire in industry to achieve effective leadership, in order to provide a competitive edge (Fulmer & Graham, 1993). For the construction industry, one motivating factor for leadership improvement has been an endeavour for continual improvement of the industry as a whole (Black et al., 2003; Davis, 2007; Egan, 1998; Latham, 1994). Historically there are several main theoretical approaches within the field of leadership, which can be categorised as great man, trait, behavioural, participative, contingency situational, transactional and transformational theories (Bolden, Gosling, Marturano, & Dennison, 2003; Cherry, 2010).

#### **3.1.1 Great Man Theory**

The great man theory, relates to early research based on the assumption that leadership capacity is inherent and that some people are simply born with the necessary attributes to become great leaders (Cherry, 2010). Great man theorists focus on those who were already perceived to be great leaders (Bolden et al., 2003). Unfortunately, due to the social climate at the time most of these studies were conducted, they focussed on male leaders who were generally from the upper class levels of society (Straker, 2010). Examples include Eisenhower and Churchill who were considered great leaders of their time and who were born with a destiny to lead others (Straker, 2010).

Most of the work contained within the great man theory were undertaken within the 20<sup>th</sup> century and as a result, many of the required traits identified were classed as predominantly masculine qualities (Cherry, 2010). Since then, there have been a number of great female leaders who do not display these qualities, which largely dispels the relevance of the theory ("Management Study Guide," 2013). Regardless of this, the theory sparked interest into the understanding of leadership and paved the way to the more recent and revered trait theory.

### **3.1.2 Trait Theory**

The trait theory focuses on the characteristics or 'traits' found in effective leaders such as drive, sociability, empathy and decision making (Northouse, 2012). The theory attempts to create the personality profile of an effective leader to find the best combination of traits (Zaccaro, Kemp, & Bader, 2004). This information can then be applied to predict how effective a leader would be (Northouse, 2012). Amongst the supporting empirical data, McCall and Lombardo (1983) established that four primary traits were required for a successful leader, these were; emotional stability, composure, admitting error and good interpersonal skills. Other studies have also found core traits such as; honesty, integrity and diligence to be determinant factors (Bolden et al., 2003). Notably, some of the key traits detected are a matter of personal choice ("Management Study Guide," 2013). For instance, honesty and integrity are internally driven values, which develop through experience and life choices, rather than being an inherent inbuilt personal quality.

Through investigation, the theory has been recognised as a sound basis for further research. The identification of associated traits provides a general guide of various qualities that a successful leader may possess. However, what constitutes a 'great' or 'successful' leader is somewhat objective when based on the perception rather than a scientific measure of the leaders' successfulness. Collectively, this body of research has distinguished more than one hundred traits connected with successful leadership. After a review of the empirical findings, Stodgill (1948) summarised that the value of such studies were limited, as they have failed to identify and conclude exactly which

specific traits are required for success. More recently Scouller (2013) explained that these studies have failed as there is no common set of qualities to have been derived as a result. Much of the criticism levelled against the theory protests the idea that identification of traits alone can be a reliable method of predicting a leaders' behavioural outcome.

### **3.1.3 Behavioural Theory**

In contrast to the trait theory, the behavioural theory seeks to investigate the effects of leadership through behaviour, rather than primary traits responsible for such behaviour (Cherry, 2010). The behavioural school of thought challenges the idea that leadership could be a result of nature and instead views it as something which can be nurtured (Shackleton, 1995). This theory identifies successful leadership in terms of desirable actions and undesirable actions, which can then be taught and applied to others in order to increase the potential for leadership success.

An example of the behavioural theories include Blake and Mouton's management grid (1962), where participants use questionnaires to rate their own behaviours in relation to concern for people and concern for production. The self-reported results are then plotted against the 'X' and 'Y' axis on the management grid, to determine the individual leadership style as shown in the figure 1.



Figure 1: Managerial Grid

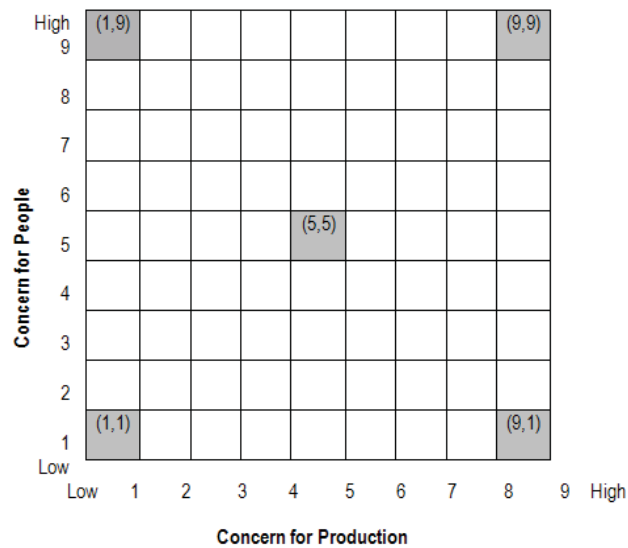


Figure 1: Blake and Mouton's Management Grid (1962)

From figure 1 above, each of the shaded boxes on the above grid relates to one of the main five management styles which include impoverished, task, middle of the road, country club and team management (Blake et al., 1962). Impoverished management (1.1) appears on the bottom left hand side of the grid. This relates to ineffective managers with low levels of concern for employees and deadlines. Task management (9.1), can be found on the right of the grid. This style relates to those who hold the production and deadlines in high regard and look to systemisation as the key to increasing production and success. This category enables the achievement of results through control and strict procedures.

Middle of the road management (5.5), directly in the centre of the grid relates to the individuals who lead by attempting to balance the need of the company, with the needs of the employees, which as a result, is said to lead to average performance and satisfaction. Country club management (1.9), depicted in the top left hand corner of the grid, occurs when the leader focuses on the people within the organisation, rather than production and output. Team management (9.9) at the top right of the grid, is presented as the most effective leadership style (Blake et al., 1962). It provides an environment of empowerment, commitment, trust, and respect, all of which are

considered to have a positive impact on the team members' self-motivation ("Management Study Guide," 2013).

The behavioural theory is beneficial because it provides an instrument for individual behaviours to be measured in an organisational setting, with the intention of improving leadership through training. This theory is not without drawbacks and of all the traits identified through the empirical research; there is no conclusive outcome in terms of linking specific behaviour to successful leadership (Stogdill, 1948). This approach does not take into account more complex issues, such as the research setting and environment. As a result, the majority of recent research has focused on alternative theories that encompass trait, behaviour and situational factors alike to provide a more integrated and inclusive leadership theory.

#### **3.1.4 Participative Theory**

The participative leadership theory incorporates the relationships between leaders, the amount of participation encouraged in other parties such as team members and the subsequent effect it has on outcomes (Probst, 2005). It places emphasis on the importance of collaboration and involvement of others in the decision making process, rather than decisions being made in an autocratic way (Bass & Riggio, 2006). This theory classifies participation and involvement as key to providing the team with a heightened sense of relevancy, commitment, involvement and empowerment (Eisenberger, Fasolo, & Davis-LaMastro, 1990; Kirkman & Rosen, 1999; Thomas & Velthouse, 1990). This in turn, provides beneficial outcomes within a group who are working towards a joint goal. The theory does however, have disadvantages associated such as the amount of time required for the decision making process. This can be time consuming due to the collaborative structure as it relies upon input from all team members (Bruine de Bruin, Parker, & Fischhoff, 2007). Another disadvantage concerns the sharing of information; within many organisations there is sensitive information involved, which is not suitable to be shared between all members of the team (Wordpress, 2012). There are also disadvantages when disingenuous authority is delegated, whereby a leader provides the team members

disingenuous power to make decisions, to create a sense of involvement and relevancy for the team member. In this case there is a potential for negative outcomes in the form of frustration if a team member puts forward their idea, which is not implemented, and the final consideration / decision is made solely by the leader (Arnstein, 1969). The theory does demonstrate positive outcomes where both participation and genuine power are conjunctively distributed to the team members, where the nature of information allows for involvement of all parties and where time and budget are permitting. Otherwise, the participative theory has been described as costly, inefficient and generally indecisive (Bruine de Bruin et al., 2007).

### **3.1.5 Contingency Theory**

The contingency theory assesses leadership in relation to situational variables, whereby the behaviour is contingent to the external task or environment (Cherry, 2010). This approach does not support one specific leadership type; rather it seeks to find which leadership style is most suitable for the environmental factors, organisational structure and quality of the team members at any given time (Cherry, 2010). Scott (1981) explained that there was a need to take into account internal and external factors depending on the nature of the business environment. Goldhaber (1993) explained how the internal and external constraints including company systems, demographics, legal and economic environment all affect communication. Within organisations, it is considered that these are factors, which must be taken into account when predicting leadership communication in organisational situations. Goldhaber (1993) also stated that the demographics of those contained within an organisation, would have a significant relationship with the communication variable. Included within the contingency theory of leadership is the work of a number of theorists, the earliest of which is Fiedler (1965), who introduced his contingency theory, taking into account for the first time such constraints alongside the psychological orientation of the leader. Hersey, *et al.* (Hersey, Blanchard, & Natemeyer, 1979; Hersey, 2001) extended the earlier Blake and Mouton's Managerial

grid (1962), to account for task variables of a given situation alongside the earlier leadership behaviours set out.

### **3.1.6 Situational Theory**

The situational leadership theory links the variables present in a particular situation, to determine which leadership style is best suited to the specific situational factors. Examples include motivation and capability of the team members (Yukl, 1989). In a construction-based environment where the team members may be inexperienced and may also be undertaking high-risk tasks on site, it may be best to use an authoritarian approach to leadership. Whereas, it may be beneficial to engage a more democratic approach with highly experienced team members in the same situation, to enable a successful outcome.

Amongst these theorists, Yukl (1989) established six intervening variables which affect leadership behaviour including; subordinate effort, subordinate ability, teamwork, organisation of the work, cooperation and external co-ordination. On a similar theme, Tannenbaum and Schmidt (1958) attributed the leaders actions into three simplified variables; forces in the situation, forces in the team member and forces in the leader. During a problem solving conference, Maier (1967), another leading theorist in the field, explained that leaders not only have to consider the team member, but also have to assess how important the particular task is, which will in turn affect the leadership action. For example, where achievement of a task is critical to a situation, a more direct approach may be adopted as a suitable leadership style. All of these styles outline the role that variables; mainly the leader, team member and situation play in the behavioural outcome and the leadership style adopted in each instance.

### **3.1.7 Transformational Theory**

The transformational theory also referred to as 'relationship' theory, examines the connection between leaders and team members. The theory focuses on how some

leaders are able to motivate and inspire people to look beyond self-interests for the good of the task or project (Pieterse, van Knippenberg, Schippers, & Stam, 2010). This is a fascinating theory that takes into account the group interaction and social exchange that is reported to bring about transformation of the team. The theory is now the most frequently researched leadership theory while others have declined over time (Barling, 2014). The TL leadership style has been described as a process whereby; *“the leader enhances the motivation, morale and performance of his follower group.”* (Bass & Riggio, 2006). This account communicates the idea that there is a change or transformation within the team members as a result of the implementation of such a leadership style. It also explains how the powerful change is implemented through the leader’s ability to articulate and communicate their vision in an influential way. TL comprised both a vision and change, which is conveyed to team members through the leaders’ social influence.

The concept of TL is widely accepted as the preferred leadership outcome for organisations because of the result in terms of respect and admiration that team members develop for the leader. TL is applied through human relationships and interactions. According to Bass, *et al.* (1990), five main components of the transformational leadership are distinguished; intellectual stimulation (IS), individualised consideration (IC), inspirational motivation (IM), idealised influence - attributes (IIA) and idealised influence - behaviours (IIB). According to Bass, *et al.* (2006), transformational leaders provide intellectual stimulation by challenging the status quo; encouraging team members to think for themselves in order to be more creative, and to explore new ways of doing things. Team members are encouraged to question the way in which work is undertaken, a process which has inevitably been found to create organisational opportunities (Bass & Riggio, 2006). TL is applied in terms of human relationships and interactions. The work of Barling, *et al.* (1996) found that TLs were able to gain power from their team members through respect, trust and loyalty.

This type of leader offers individualised consideration by way of support and encouragement, which is offered to team members along with recognition of the contribution they have made. This takes place through open terms of communication where the leader makes themselves accessible to the team members. The consideration focuses on the team member through active listening and caring to make the personal and organisational development of the team member a priority. The TL leader serves as a source of inspiration, referred to as inspirational motivation, whereby the leader is able to formulate a vision of what needs to be achieved, along with the ability to articulate this to the team and instil in others the same common goal. The TL has a respect for others and acts on a moral commitment to the good of the organisation and individuals within it, rather than acting on what is beneficial for their own personal gain.

Finally, the TLs have been established as role models that are able to gain group members trust and respect, not only for them as a leader but as an individual. The team member will therefore employ the leaders' beliefs and begin to internalise the same ideal attributes (IIA) and behaviours (IIB) themselves. It is important to note that trust is not something that is automatically given to a person in a position of power. It is a relationship that develops as team members become confident in the ethics of their leader. The team member is able to identify with the leaders values (Wang & Howell, 2012) to a point where they are willing to leave themselves vulnerable to the leader, with the belief that they will act in their best interests at all times (Dirks & Ferrin, 2002; Mayer, Davis, & Schoorman, 1995). Research undertaken by the CIOB (2008) confirmed that the biggest influence on developing leaders is that of the 'other leaders', who's key qualities were described as 'vision', 'integrity' and 'inspiration' (CIOB, 2008).

The foregoing discussion has established that the TLs guidance and ethical behaviour provides the team member with a sense of confidence and empowerment; giving them the security needed for innovation and therefore improved performance outcomes.

### **3.1.8 Transactional Theory**

The transactional theory, referred to as ‘management’ theory, focuses on managers and how they implement reward systems. This is based on the assumption that people are motivated to behave in a particular way through the use of rewards and are deterred from certain behaviours through punishment. The rewards and punishment are offered by the manager, who is in a position of power (positional power) (Burns, 1978). This theory is based on systems and processes rather than the social dynamics and interaction of a group. This leader is classed as someone who is focused on the action or transactional exchange of business, with a goal of achieving results from team members (Bass & Riggio, 2006). Rather than applying a social process, this leader will use their positional power to achieve results. They use this power through two constructs, contingent reward (CR) and management by exception either active or passive (MBEA) or (MBEP) (Bass & Riggio, 2006). Contingent reward occurs when the leader conveys to the team member what they require of them and providing these expectations are met, then the team member is rewarded accordingly. Examples of this include promotion and pay increases contingent to performance (Bass, 1985; Burns, 1978; Hartog, 1997). The TRLs are also more likely to use management by exception either active (MBEA) or passive (MBEP) (Bass & Riggio, 2006). MBEA takes place when the leader uses immediate corrective criticism and negative feedback to achieve results (Bass & Riggio, 2006). This feedback is often public and results in embarrassment to the team member (Kelloway, Sivanathan, Francis, & Barling, 2005). The second type of management by exception (MBEP) is a passive form of leadership where ineffective performance from the team member is only addressed when problems become too serious to ignore. Unless there is a serious deviation with MBEP standard procedures are observed and no action is taken (Barling, 2014). According to Bass (2005), this form of leadership approach develops a fear of making mistakes amongst team members, which stifles their development and likelihood of having an innovative and creative approach at work.

TRL is a traditional management style where the positional power is applied over the team member through exchanges or bargains, rather than the social referent power apparent with a TL.

### **3.1.9 Relevant Leadership Theory to Current Research**

From the theoretical frameworks reported above, leadership is represented as a complex process that has many dependant factors which vary from one individual, company and team situation to the next. It also outlines the inter-relationship between team success and the human element of leadership, where communication clearly plays a vital role. For the purpose of this study, leadership in the context of the construction industry is being assessed alongside the economic, cultural and team environment factors present in the UK and NZ. The organisational setting, scope and structure are anticipated to vary for each participant; however, a review of these leadership theories validates the importance of focusing specifically on CPMs i.e. leaders in a project-based environment, in the context of the construction industry. Generalising on the PM roles across multiple industries would not be as relevant because they would experience a different team environment, group dynamic and population demographic.

Many of the traditional leadership theories focus on an individual's traits or behaviours, however, after a critical review, the TL theory was selected because of the focus it has in terms of the leader – team member relationships. This theory seeks to explain the connection between leaders and team members, with particular emphasis on how they are able to motivate and inspire people to look beyond self-interests, for the good of the task or project (Pieterse et al., 2010). The theory is particularly relevant to the CPM's role, because it provides an integrative theory of leadership within the team environment on which to base further research. Importantly, the TL theory incorporates rather than dispels many of the elements of the more recent leadership theories. For instance, involvement, empowerment and commitment are all elements fundamental to the participative leadership theory (Eisenberger et al., 1990;



Kirkman & Rosen, 1999; Thomas & Velthouse, 1990); these elements are also encapsulated within the TL theory through the concept of inspirational motivation (IM). This occurs when the leader is able to inspire their team members who then begin to feel empowered and motivated to become involved (Barling, 2014; Bass, 1990). Similarly the individualised consideration (IC) provided to team members through TL is reflective of the contingency theory, as the individual experience and project specifics are taken into account, to provide the relevant amount of support required for each situation (Barling, 2014; Bass, 1990). TL is also related to the transactional leadership (TRL) theory on the full range leadership continuum (Clark, 2004) which is discussed in the following section.

### 3.2 THE LEADERSHIP CONTINUUM

The transformational leadership (TL) theory exists as a full range leadership continuum which integrates three main leadership styles; transformational (TL), transactional (TRL) and laissez-faire leadership (LFL). Figure 2 below provides a graphical representation of this continuum in relation to each leadership style.



Figure 2: Full Range Leadership Continuum (2004)

A transformational leadership (TL) style exists on the far left of the continuum and concerns participation and involvement of other team members. Empirical research has found this style to provide team members with a heightened sense of relevancy, commitment and involvement, which in turn provides beneficial outcomes (Bass & Riggio, 2006). Under the transactional theory and in contrast to the socially and emotionally interactive TL style, the TRL style exists in the centre of the continuum and focuses on the exchange of business. The final leadership style depicted to the far

right hand side of the continuum is laissez-faire leadership (LFL), this is discussed in more detail in the section to follow.

### **3.3 LAISSEZ-FAIRE LEADERSHIP**

Laissez-faire is the French phrase meaning, '*allow to go*' (Stevenson & Waite, 2011). It is an absence or hands off approach allowing team members to work independently from guidance (Bass & Riggio, 2006). When the term laissez-faire is combined with leadership it becomes an interesting concept, presenting an oxymoron, with a contradiction in terms of leadership which is active involvement and the lack thereof which is inactive and passive (Papa, Daniels, & Spiker, 2008; Wadhhwa, 2012). This type of leadership allows team members to make their own decisions without guidance. The success of such a leader depends upon the team members involved and when used in conjunction with a group, who are highly skilled and motivated, can be successful as it gives freedom for team members to work independently (Wadhhwa, 2012). However, where the team members are either inexperienced or require support and guidance, the style inevitably fails as the team members, or other members of the team are in essence self-managing (Wadhhwa, 2012).

This style of leadership is generally seen as the least desirable and effective style on the continuum (Bass, 1990), with studies linking this to detrimental outcomes such as work related stress (Skogstad, Einarsen, Torsheim, Aasland, & Hetland, 2007; Sosik & Godshalk, 2000). It is commonly accepted that implementation of this style will result in lower levels of commitment or extra effort (Spinelli, 2006; Yammarino et al., 2008), as well as reduced organisational performance (Barling et al., 1996; Geyery & Steyrer, 1998; Pelz, 1956), especially prominent when combined with team members who are inexperienced or require leadership focus and guidance.

Transformational leadership measured on the full range leadership continuum is considered to be an inclusive leadership theory, suitable for inclusion into this study. The sections to follow will consider the implication and effects associated with this specific leadership style within organisations.

### **3.4 EFFECTS OF TRANSFORMATIONAL LEADERSHIP**

The positive effects of TLs have been recognised through a wide body of empirical research. These studies support the notion that this leadership style is imperative to providing the most beneficial outcomes in the workplace.

#### **3.4.1 Financial Performance**

Financial performance and maintaining good profit margins is one of the main objectives for most companies and organisations. Numerous studies highlight the commercial importance and impact that involvement of such leaders could offer to organisations (Barling, Weber, & Kelloway, 1996; Dubinsky, Yammarino, Jolson, & Spangler, 1995; Keller, 1992; MacKenzie et al., 2001) . Although the studies are not specific to the construction industry, they are a valuable demonstration of the financial benefits generally associated with the TL leadership style. Within a variety of organisational environments and across numerous industries, a number of positive financial outcomes, such as increased sales have been established to date. For example, within the sales environment, team members of TLs have been found to achieve much higher financial figures when compared with the team members of TRLs. The team members of TLs were described as going above and beyond the call of duty (MacKenzie et al., 2001). Previous studies conducted into leadership (Barling et al., 1996) concluded that the implementation of a TL style within a banking organisation, resulted in a positive outcome upon the financial performance of the branch. Similarly, Keller (1992) ascertained that the TL style of those working within the industrial resource and development sector, was a reliable predictor of higher quality and enhanced budget related outcomes.

Due to the understanding of the constructs contained in the full range leadership continuum, there is an expectation that there would be some relationship between TL, TRL and associated financial results. Although it would be reasonable to expect little or no correlation to LFL as this is an absence of any leadership at all. This expectation

was confirmed in a study carried out in the medical sales environment (Dubinsky et al., 1995) which found that LFL was not related to individual sales performance.

### **3.4.2 Organisational Commitment**

Retention of employees and elective employee behaviour is central to the success of organisations (Judge & Kammeyer-Mueller, 2012). TLs have been found to increase the loyalty of their team members, in a process where the team member becomes both proud to be associated with the leader and also a member of the organisation, which is referred to as ‘affective commitment’ (Jackson, Meyer, & Wang, 2013). There is a compelling evidence to support the notion that a TL is one of the main elements responsible for affective commitment (Avolio, Zhu, Koh, & Bhatia, 2004). This transformation is said to improve the team members’ performance while at the same time improving staff turnover (Meyer & Allen, 1997). Levinson (1965) found that the affective commitment of the team member was a product of the TL leadership style, which enables the team member to see their role within the organisation long term, while also developing a genuine desire for the organisation to succeed. A study conducted by Salanova, *et al.* (2011), demonstrated that the organisational commitment of TL for nurses resulted in extra role performance, where the nurses voluntarily went above and beyond the requirements of their role to assist with the organisational success.

Research conducted into EI and extra role behaviour, concluded that EI is the main contributing factor of organisational citizenship behaviour (Modassir & Singh, 2008). According to Modassir, *et al.* (Modassir & Singh, 2008), “*The importance of organisational citizenship behaviour cannot be emphasised enough while creating competencies for organisations in today’s world.*” A study conducted by Jackson, *et al.* (2013), investigated how this effect comes about and which of the four transformational leadership constructs identified earlier in the chapter, were responsible for this. To refresh, these constructs were; intellectual stimulation (IS), individualised consideration (IC), inspirational motivation (IM) and idealised

influence (II) (Bass, 1990). The study found that all constructs of TL leadership were positively related with affective commitment. Only one of the constructs for the TRL style of leadership, contingent reward (CR) was positively related to affective commitment but the second, management by exception (MBE) had a negative relationship. To the far right hand side of the leadership continuum (see figure 2), LFL had a negative correlation with affective commitment.

The work of Jackson, *et al.* (2013) demonstrates how it is not just one of the TL constructs responsible for organisational and affective commitment. All four of the TL constructs are significant in facilitation of the transformation. There are also studies that have concluded the relevance of each of these four constructs separately. Inspired motivation (IM) has been linked to the organisational commitment (Gardner & Stough, 2002), where it is believed that the leaders EI enables them to assess and understand the degree to which the team members' expectations can be raised. Palmer, *et al.* (2001), concluded that individualised consideration (IC) is positively correlated to TL and extra commitment. Correspondingly Gillespie, *et al.* (2004) and Barling, *et al.* (1996) confirmed the significance of idealised influence (II) and intellectual stimulation (IS) respectively.

### **3.4.3 Health and Safety**

Research into TL thus far has established that workers who are healthy and happy are also more productive (Judge, Thoresen, Bono, & Patton, 2001; Kuoppala, Lamminpää, Liira, & Vainio, 2008). Concurrently, TLs have been found to impact positively upon both their team members' emotional state (Bono, Foldes, Vinson, & Muros, 2007) and their health choices (Beauchamp, Barling, & Morton, 2011). This would suggest that TL could promote the team members' wellbeing for the benefit of the individual and the organisation.

Nielson, *et al.* (2011) went some way towards explaining how the TL leadership style impacts upon the psychological wellbeing of team members. This was attributed to more role clarity and a team members' perception that the work they were

undertaking was more meaningful. Other research conducted by Liu, *et al.* (2010) explained that self-belief of the team member was improved by the TL, which was the factor responsible for the resulting team members' wellbeing. These explanations portray TL as being a leadership style that encourages a healthy environment for the team member.

TL has been found to increase the safety specific citizenship behaviour of team members, this includes concern for the safety of themselves, others and participation an endeavour to improve health and safety within the organisation (Inness *et al.*, 2010). As one could expect, the participative behaviour of team members results in fewer workplace injuries (Mullen & Kelloway, 2009). In contrast to the high association between the constructs of TL with safety related outcomes, the LFL style was found to have a negative relationship (Kelloway, Mullen, & Francis, 2006). Importantly, the effect of TL has been demonstrated for employees who are typically vulnerable to workplace injuries including young workers and those engaged in construction and maintenance of heavy plant (Barling, 2014; Barling, Loughlin, & Kelloway, 2002; Zohar, 2002).

#### **3.4.4 Empowerment and Innovation**

Previous empirical findings suggest that TLs are effective in providing an innovative organisational environment acting as a catalyst for change (Jung *et al.*, 2003; Kissi *et al.*, 2013; Sarros *et al.*, 2008). Kissi *et al.* (2013), examined TLs working as portfolio managers in a project based organisation and discovered a positive relationship between TL and the facilitation of an innovative environment required for improved performance. Gumusluoglu, *et al.* (2009) also noted a positive relationship between TLs and the impact on both the team members creativity at an individual and organisational level through empowerment and intellectual stimulation (IS).

These studies support the theory of Bass (Barling *et al.*, 1996) which explained the social exchange of TL as being the mediating factor responsible for a team members intellectual stimulation (IS) and inspirational motivation (IM). These two constructs in

turn, provide the team member with empowerment and a sense of relevance within the organisation. The empowered team member has the confidence to become creative, to make autonomous decisions (Spreitzer, 1996) and bring forward innovative ideas. This is an invaluable method for companies to engage team members and teams to become more innovative in order to provide improved commercial outcomes for the organisation. Kissi, *et al.* (2013) concluded that TL behaviour adopted by portfolio managers had the ability to inspire their team members to go above and beyond simple delivery of the project and begin to engage with new solutions to challenges.

Although the evidence explains how the TL style brings about improvement and change within their teams, it also presents further questions in terms of the TL style and the benefit within organisations. Is this leadership style something that could be suited to all levels of the organisation or is this something that is best applied to specific roles within the organisational hierarchy? These findings also beg the question as to whether this style is something that can be taught or improved with the implementation of training.

### **3.4.5 Training and Development**

Demonstrating the link between TL and positive leadership outcomes is important in terms of identifying the most effective leadership styles. What is also of great importance is the need to verify if this can be passed on to others through education or experience.

Barling *et al.*, (1996) confirmed that TL training can in fact have a significant impact upon both the team members' perception of the leader and commitment to the organisation. Alongside these findings, Divir, *et al.* (2002) applied the same principals in the military field and came to a similar conclusion; when compared to a control group, leaders who undertook TL training were able to significantly improve the development progression of their team members. It has been identified that a TL leader is able to influence the safety behaviours and involvement within an organisation. A study conducted by Mullen, *et al.* (2009), found that after brief site

specific TL training, the team members identified the safety specific TL style in their manager and reported a heightened sense of the company safety climate. The claim that TL can be taught was strengthened by the study conducted by Barling *et al.* (1996a) which found that bank managers with long term TL training had a positive and direct impact upon the sales performance of their team members, despite the team members being unaware of the leaders TL training.

The findings of the aforementioned studies are particularly important, as they infer that TL is something, which either can be taught or is an innate quality that can be improved upon through the implementation of training in pursuit of organisational advancement.

#### **3.4.6 Organisational Level**

It is interesting to find that the positive effects of TL styles have been found amongst leaders of various levels including top level leaders (Jung et al., 2003; 2006), mid-level leaders (Potter & Balthazard, 2002) and lower level leaders (Dvir et al., 2002). Across all levels of the organisational hierarchy, the rewards of employing TLs can be demonstrated in terms of project outcomes.

Aside from direct leader / team member relations, there is evidence to support a theory of a cascade effect on indirect team members at least two steps removed in the organisational hierarchy (Antonakis & Atwater, 2002; Dvir et al., 2002; Yammarino et al., 2008). This happens when the leader is able to influence one of their team members to employ a specific attribute or behaviour, which the team member then passes on through the leadership of their team members. These findings highlight the potential far reaching organisational effect that TL could contribute to industry as a whole rather than simply improving direct team outcomes.



### 3.4.7 Negative Outcomes

Whilst the majority of research has discovered a link between TL and positive effects, there are also studies that have identified a link between this style and a variety of negative effects. Barling *et al.* (2014) explained that with TL, the team members can experience ‘too much of a good thing.’ This phenomenon occurs when team members with high levels of autonomy and work engagement begin to experience stress, burnout and ill health. The negative effects of such outcomes in an organisational setting are both absenteeism and a decline in overall work performance.

As earlier identified in section 3.1.72, the TL is able to identify with their team member through shared values (Wang & Howell, 2012). It is these values that have previously been found to facilitate and mediate a positive work commitment and increased individual wellbeing. This was also true of the finding of Avanzi, *et al.* (2012), however, they found that when this identification reached unusually high levels, people tended to become workaholic, stressed and poor health would result. These findings demonstrate that in moderation TL develops general positive outcomes, but in extreme cases, can bring about negative outcomes for both the team member and the organisation. The negative effects of leadership have been described as the ‘dark side’ of leadership Bass and Riggio (2005). This could apply to leaders such as Adolph Hitler and Osama Bin Laden, who use inspiration and motivation to the detriment of their team members. The important thing to note here is that these leaders appear to be true TLs and exhibit many components of this impressive and transformational style, however, they lack one important factor. They do not act for the greater good of the individual or wider context. For this reason such leaders are referred to as ‘pseudo transformational leaders’ and are not given much credibility or consideration in terms of this research.

To summarise, the majority of literature provides evidence in relation to the significant effects that TL can have on team members. Numerous positive outcomes have been indicated including, team cohesion, team members commitment, reduced

staff turnover, a safer working environment, improved organisational behaviour, innovation and success (Barling et al., 1996; Dvir et al., 2002; Gumusluoglu & Ilsev, 2009; Jackson et al., 2013; Jung et al., 2003; Keller, 1992; Kissi et al., 2013; MacKenzie et al., 2001; Podsakoff et al., 1990; Salanova et al., 2011; Sarros et al., 2008). These outcomes or changes are conveyed through the four constructs of TL (IS, IC, IM & II). Previous research implies that these benefits, such as organisational behaviour can be implemented in a variety of projects, organisational contexts and hierarchical structures (Antonakis & Atwater, 2002; Dvir et al., 2002; Jung et al., 2003; Styhre & Josephson, 2006; Yammarino et al., 2008).

### **3.5 MEASUREMENT OF LEADERSHIP**

There are a variety of available methods for specifically measuring TL and the full range continuum, alongside traditional methods such as interviews and observations. There is also technology available which measures the neurological response of emotions called functional magnetic reasoning imaging, this can be used to identify the neurological response which takes place in the social exchange of leadership. This identifies stimulants and pinpoints the areas of the brain responsible for interpreting and then providing the outcome in response. Recently Balthazard, *et al.* (2012), studied leaders across a variety of organisation, both profit and non-profit. When conducting the research they asked team members and colleagues to rate the perceived TL style of the leader. They found that neurological imaging was significantly related to the reported TL style of the leader; TLs were found to have more activity within the front lobe of the brain, this area is reported to be used when dealing with self-emotions, understanding others emotions in challenging circumstances, understanding new and unusual situations and the ability to predict future events. Although this technique does not fully measure the TL style, it is hoped that this technique will be beneficial in understanding the role of emotions for leadership in the future (Balthazard et al., 2012). Notwithstanding this, should functional magnetic reasoning imaging have been considered a suitable measure, the

availability, cost, ethical considerations and skill required to interpret the results would have deemed this method unfeasible.

### **3.5.1 Multifactor Leadership Questionnaire**

Amongst the available recognised measures, the multifactor leadership questionnaire (MLQ) (Bass & Avolio, 1997) is one of the most widely accepted methods of measuring leadership. This incorporates all constructs of the full range leadership continuum. It is extensively implemented and has become the most prevalent method for measuring TL (Bass & Riggio, 2006; Kirkbride, 2006). The MLQ has been developed to measure the full range of leadership styles identified in the earlier work of Bass *et al.* (2000). This questionnaire contains 67 items alongside a five point Likert scale. The items measure the constructs of TL, TRL, and LFL alongside four associated outcomes. These outcomes are leaders' effectiveness, extra effort of team members, team member satisfaction and performance of the leader.

There are two MLQ forms, the first of which is the self-rating questionnaire; this is used for the leader to self-rate their own leadership style and behaviour. The second is the rater questionnaire, used by a team member or work colleague to assess the leaders' style and behaviour. The inclusion of the rater questionnaires is important as it reduces the chance of results suffering from bias, which could arise if the measure was based on a subjective view of the leader alone. Each of these questionnaires takes around forty-five minutes to complete. There is currently a short form MLQ available; the MLQ 5X has been condensed to measure five TL responses, four TRL, and one laissez-faire response. The self-report questionnaire takes on average ten minutes to complete. This measure has been used globally and has been translated into a number of different languages. Despite being the most widely used and accepted method of leadership measurement, the validity of the MLQ has been questioned in the past (Muenjohn & Armstrong, 2008). However, the internal consistency, construct validity and test-retest reliability of the questionnaire has now been extensively tested through

separate studies, all of which have concluded it to be a reliable measure (Avolio et al., 2004).

### **3.5.2 Alternative Measures**

The Behaviour Inventory (TLI) was introduced by Podsakoff, *et al.* (1990) after a review of the research available at the time, including that of the MLQ. This is the second most frequently used measure of TL (Bryman, 2011).

Podsakoff, *et al.* (1990) concluded that there were just six leadership behaviours responsible and required in the measurement of TL, these were identifying and articulating a vision, providing an appropriate model, fostering the acceptance of group goals, high performance expectation, providing individualised support and intellectual stimulation. Many of these identified measures of TL overlap with those of Bass (Bass, 1985) and upon comparison are reasonably similar. This measure has been used in a variety of different countries and organisations worldwide.

Another of the most frequently used methods of measurement is the transformational leadership questionnaire (TLQ). This measure was developed and introduced by Alimo-Metcalf, *et al.* (2001) and included nine robust scales against which TL could be reliably measured; concern for others, empowers others, integrity, approachability, clarifies boundaries, encourages critical thinking, inspirational networker, decisive and political sensitivity. The survey was first used in a pilot test in the context of the UK public sector with a sample of 1,464 managers working in the National Health Service.

Significantly, the main difference between the MLQ, TLQ and the TLI is that the MLQ is the only option that fully measures the full range leadership continuum. Both the TLI and the TLQ only measure the TL leadership style and do not measure the constructs of TL and TRL.

### **3.5.3 Foundation for Leadership Measurement**

After consideration of all the available measures, it is clear that the MLQ is a well-respected and proven method of leadership measurement. The advantage this measure has over other available options is that it can accurately measure the full range leadership continuum, which is vital to this research. This is the most frequently used proven and unrivalled measure that has consequently been chosen to act as a basis for development of the theoretical framework for this research. Information relating to the theoretical framework can be found in chapter 4.

### **3.6 PREDICTORS OF TRANSFORMATIONAL LEADERSHIP**

The foregoing section has established the advantages linked with the TL style and how this can be identified and measured. Thus far, it is apparent that the desirable TL style comes into fruition when the leader offers a positive social exchange and environment for the team member. What this section does not explain is exactly what makes an individual more likely to adopt or possess this particular leadership ability.

For a considerable amount of time, scientists have been investigating why intelligence quotient (IQ) alone is not sufficient to predict the performance of an individual both in and out of the workplace. This question has given rise to the understanding of a non-cognitive intelligence referred to as Emotional Intelligence (EI). The definition of which is (2013): *“The capacity to be aware of, control, and express one’s emotions, and to handle interpersonal relationships judiciously and empathetically; emotional intelligence is the key to both personal and professional success.”* The concept of EI has been largely ignored in the past, mainly due to the rise of scientific management and the belief that emotion can play a destructive part in the workplace (Robbins & Judge, 2009). Historically, Western society has been taught to be stoic in nature, with importance being heavily placed on IQ and academic achievement. It is not without irony, that Einstein, a man renowned for his high levels of intellect, warned humanity of the pitfalls of emphasising extensively on IQ when

he said (Einstein, 2013), “We should take care not to make intellect our god. It has of course, powerful muscles, but no personality. It cannot lead, it can only serve.”

This is not to say that IQ does not play an important part in life, although this is just one part of an individual’s more complex intelligence as a whole (Gardner, 1985). The uptake and understanding of EI as a valid intelligence has been a slow process, with many scholars tracing the conceptual origins back over two thousand years, to that of Plato, who said; “all learning has an emotional base” (Palmer, 1998). In 1872, Darwin explained his belief that another intelligence is essential for the adaptation of human survival (Darwin, 1872): *“it is not the strongest or most intelligent species that survives, but rather one that is the most adaptable to change.”*

Thorndike (1920) introduced the concept of social intelligence to describe the skill necessary to understand and manage other people. The importance of this concept was that it separated social intelligence from abstract or academic intelligence, bringing rise to the understanding of EI. Howard Gardner’s theory of multiple intelligences came to fruition in 1985, in which he outlined his understanding of the complexities of intelligence as a whole. He introduced intrapersonal capacity, which is the ability to understand one’s self, to appreciate one’s feelings, fears and motivations. He also explained the concept of interpersonal intelligence, which is described as being the capacity to understand intentions, motivations and desires of other people (Gardner, 1985). Gardner believed that the measure of IQ had failed to understand such complexities.

In psychological terms, emotions happen when external stimuli are experienced. A message is sent to the thalamus and translated into the brain’s chemical signal, the majority of which is sent to the area of the brain responsible for thought. At the very same time, the remainder of signal is sent to the amygdala, a part of the brain responsible for processing emotions. The stronger the signal from the amygdala, the more likely there is for an emotional response, before the individual has had chance to rationalise the situation.

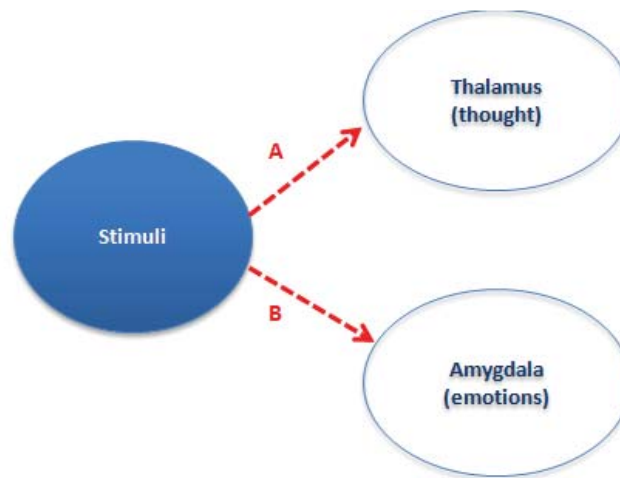


Figure 3: Psychological Process of Emotions

Figure 3 above shows a visual representation of this concept. For example, where A is greater than B, there will be a higher rational response and where B is greater than A, there will be a higher emotional response. The relationship between the ‘thinking’ and ‘emotional’ centre of the brain was scientifically proven, when a successful lawyer underwent neurosurgery for a life threatening brain tumour (Damasio, 2005). To remove the tumour, the connections between the ‘emotional’ and ‘thinking’ parts of the brain had to be severed. The results from this surgical procedure were insightful in regard to the relationship between the emotional and cognitive centres of the brain. After the procedure, the patients IQ had been unaffected, yet his decision-making abilities were altered to the point where he was unable to make even the simplest of decisions. This outcome was attributed to a lack of emotional interaction (Damasio, 2005).

Emotions are clearly a natural neurological response to external stimuli (LeDoux, 2001; Ochsner & Gross, 2005), which if repressed, can result in social, psychological or even physical problems (Ciarrochi, Deane, & Anderson, 2002; Pennebaker, 1995). All of these outcomes are detrimental to quality of life and in an organisational setting can have negative consequences to workplace performance (Tsaousis & Nikolaou,

2005). It is at this juncture, that the difference between repression and regulation must be clarified. The vast majority of available research explains the regulation of emotions as a levelled and considered approach, where the regulation of the emotion is necessary to achieve the desired team outcomes. A study conducted in higher education in Pakistan (Brackett & Mayer, 2003), found that emotions in a team environment, which are regulated provide maximised beneficial outcomes and prevent a harmful environment. The study concludes that an unregulated emotional response can hinder the effective decision making of the individual.

As identified in section 3.5, functional magnetic resonance imaging allows for identification and measurement of this emotional response, which has become possible due to technological advancement over the past two decades. This allows for the neurological process to be mapped and to pin point specific areas of the brain responsible for certain behaviours and responses. There have been a small number of leadership studies undertaken using this technology, including the work of Jaušovec, *et al.* (2001) who found that those with higher levels of EI needed less cognitive activity to solve problems. This study was concluded after measurement of theta and alpha frequency bands of activity in the brain. Another study found two locations within the brain that are responsible for both empathic accuracy and inaccuracy (Zaki, Weber, Bolger, & Ochsner, 2009). Empathic accuracy is linked to preferred leadership styles such as TL, due to that fact that social exchange and empathy are closely related (Barling, 2014). Another study which optimised functional magnetic resonance imaging technology, was carried out amongst students in an educational environment, to provide a psychological understanding of fairness and rewards systems (Kellett, Humphrey, & Sleeth, 2006). The subjects were given rewards, some of which were fairer than others, also some of the rewards were unfair but had profitable outcomes. The results were insightful, as separate areas of the brain were found to be responsible for fairness, unfairness and unfairness with profitable reward. Such studies can help understand the psychological underpinning of social interaction.



### **3.6.1 Emotional Intelligence**

It is proposed that when facing a challenge, individuals with high levels of EI are able to understand emotions to assist with cognition of decision-making and as a result, are able to resolve problems internally and also externally in the relationships with others. Conversely, individuals with lower levels of EI are less able to do this, often resulting in negative feelings such as guilt, depression and victimisation (Bar-On, Tranel, Denburg, & Bechara, 2004; Head, 2002). It is for this reason that the role of EI is an important factor to be understood in an organisational setting.

### **3.7 EMOTIONAL INTELLIGENCE IN THE WORKPLACE**

The importance of EI in the workplace has been the subject of a large number of studies and publications, the majority of which consider EI to be a core value and strong predictor of an individual's work performance and success (Bar-On, 1997; Goleman, 2009).

During an interview, Goleman (2012) described how three main qualities or abilities are responsible for outstanding performance in the workplace; cognitive ability, technical skills and emotional intelligence. Goleman (2012) explained how EI has been found as a mediating factor, responsible for an individuals' position and performance in an organisational setting. He explained that for star performers, EI was proven to be more than twice as important as cognitive ability and technical skills. Goleman (2012) also emphasised that cognitive and technical skills are entry level requirements, that are the foundations for which emotional intelligence can be built upon. Other research into star performers analysed over three hundred top level executives (Spencer Jr, 1997), the findings from which suggest that several competencies distinguish star performance from the average, these were influence, team leadership, organisational awareness, self-confidence, achievement drive and leadership.

There have been many benefits associated with the inclusion of those with high EI in the organisational setting these include financial performance, job satisfaction, organisational commitment and an improved health and safety environment.

### **3.7.1 Financial Performance**

Empirical research has discovered that EI can have a significant impact upon financial outcomes in an organisational environment. Boyatzis (1999) measured the EI of experienced partners of a multinational consultancy firm and discovered that, those who scored a median of nine or more of the twenty competency measures, delivered significantly better sales figures. These were on average greater than one million USD more in profits than their counterparts. That equates to a significant incremental increase of a staggering one hundred and thirty nine percent.

The link between EI and financial performance has been found in a large number of studies, conducted within various organisational environments (Bachman, Stein, Campbell, & Sitarenios, 2000; Baron & Markman, 2003; Boyatzis, 1999; Cherniss, 1999). These studies highlight just one of the benefits reported with implementation of employing those with higher levels of EI.

### **3.7.2 Training of EI**

There are those who have expressed doubts as to the trainability of EI and understand this as something which gradually and naturally develops over a life time (Lopes & Salovey, 2004). Although contrary to this, there is a body of evidence to suggest that EI can be trained, including the results presented in the L'Oreal study (Cherniss, 1999; Spencer & Spencer, 2008), which established that by implementing EI training, the average sales figure per person increased by \$90,000 USD.

### 3.8 JOB SATISFACTION AND ORGANISATIONAL COMMITMENT

In addition to the financial results high EI is purported to offer, empirical studies also suggested additional advantages in the form of job satisfaction (Güleryüz et al., 2008; Sy et al., 2006; Wong & Law, 2002). Güleryüz, *et al.* (2008) conducted a study within a nursing environment and established that a participants' EI was significantly and positively related to job satisfaction. A number of EI constructs were tested however, only two were considered to have a positive relationship with job satisfaction; 'regulation of emotions' (ROE) and 'use of emotions' (UOE). The finding suggesting that those with high EI levels are more adept to regulating and using emotions. Conversely, those with lower levels of EI are more likely to struggle when processing, understanding and applying emotions within the workplace.

Güleryüz, *et al.* (2008) also found EI to have a high correlation to organisational commitment. Furthermore, job satisfaction was detected as the mediator between EI and the organisational commitment consequently demonstrated in the team members. The link between organisational commitment and EI was also indicated by Wong, *et al.* (2002), who undertook a study of 149 supervisor – team member relationships and concluded that those with high levels of EI were more likely to experience increased job satisfaction and demonstrate extra role behaviours as a result.

Within the workplace, it is proposed that individuals with high levels of EI are more likely to display positive attitudes towards work, whilst demonstrating altruistic behaviours (Carmeli, 2003). When employed in a leadership capacity, such individuals are able to influence those around them through their behaviour, increasing job satisfaction (Wong & Law, 2002) and providing an environment that facilitates enhanced confidence, resilience and enables creativity in team members (Fredrickson, 2003; Zhou & George, 2003). Leaders with high EI have also been found to possess the ability to formulate a vision and convey this to others (Cote, Lopes, & Salovey, 2003). All of these abilities provide a competitive edge for leaders with high IQ, who are able to affect team performance outcomes.

A reduction in staff turnover is another positive outcome associated with TL. It has been discovered that emotionally intelligent people adopt loyalty and commitment towards a company and are therefore more likely to have lower levels of changes in their employment history (Jordan & Troth, 2011). Salespeople who have been selected based on the EI, have been found to change their job a significant sixty three percent less than those who were recruited using traditional methods (Cherniss, 1999; Spencer & Spencer, 2008). This would be significant in terms of recruitment, if implementation of this measure were to have the same effect within the construction sector.

### **3.8.1 Negative Effects of EI**

A leaders' EI has been attributed to both the improved performance of individuals and groups alike (Schaubroeck, Lam, & Cha, 2007), this is because of the leaders' ability to understand and relate emotions to the actions of the self and others through cognition, combined with an ethical approach and an efficient communication style. However, not all of the research of EI in the workplace environment has produced positive results. A study conducted in 2004 (*Der Foo, Elfenbein, Tan, & Aik*), found that high levels of EI can be detrimental in a situation, where an individuals' inclination towards a sympathetic nature can be exploited.

The negative effects of EI established through empirical research to date are few and far between, with the vast majority of studies into EI and performance related outcomes, supporting a strong case for business implementation. Cherniss (1999) concluded that EI was the key to relationship development within the organisations, especially in situations where there are high levels of group work.

## **3.9 MEASUREMENT OF EMOTIONAL INTELLIGENCE**

A number of measures of EI are referred to in the literature, the numbers of which are too vast to discuss in detail. For this reason, only the leading and most respected

measures have been considered for inclusion into this study. Each measure has a different format and relates to a different definition of emotional intelligence.

### **3.9.1 Mayer Salovey Caruso Emotional Intelligence Test**

The first test to be considered was introduced by Mayer, *et al.* (1999), this is one of the leading EI models, the Mayer Salovey Caruso Emotional Intelligence Test (MSCEIT). This measure is based on the understanding that individuals vary in their capacity to process emotions and relate this to a wider cognition. The MSCEIT model views emotions as sources of information, which help an individual make sense of and navigate the social environment. Mayer, *et al.* (1999), believed that EI comprised of four basic elements, these were, the ability to perceive emotions, use emotions, understand emotions and manage emotions.

The first element, the ability to perceive emotions, includes being able to identify emotion in one's self, others and through stimuli such as works of art, peoples' voices, stories and music. The second element, use or facilitation of emotion in thought, is the ability to use emotions in a rational and focused way, to enable reasoning, problem solving, decision-making and interpersonal communication to occur. The third element, understanding emotions, is concerned with the cause of emotions and relationship between these emotions. Finally, management and regulation of moods and emotions, is the ability to regulate and manage feelings and emotions in the self and in others.

Each of these elements are related, the most basic of which is 'perception of emotions' at the lowest level of EI ability and the highest level is 'management and regulations' of emotions. Importantly, each level needs to be attained in order, before the next ability in the sequence can be achieved (Mayer, Salovey, & Caruso). For example, understanding emotions would not be at all possible without first having the ability to perceive and then facilitate emotions. Research on this model has been upheld through the findings of several studies, including that of Parker, *et al.* (2001). The participants of the study were individuals presenting symptoms of Alexithymia,

which is the absence in ability to perceive emotions in the self or others. The conclusions of this research found that individuals with the condition were unable to progress on to the other levels of emotional intelligence, such as being able to reason or manage their own emotions. This finding gives weight to the order of constructs previously described.

The MSCEIT requires participants' to solve problems based on the four ability areas identified in their earlier work. This test is designed for those over seventeen years of age; it is untimed, includes one hundred and forty one questions and takes between thirty and forty five minutes to complete. This is done by answering questions on identification of emotions through facial expressions, solving problems relating to mood, defining causes along with progressions of emotions and determining how best to include emotion in thinking. The answers given are compared against the normative data of the original five thousand who took part. Upon completion, the overall total EI is given, which is further broken down into two areas scores, four branches and eight task level scores as demonstrated in figure 4 below.



Figure 4: MSCEIT Score Breakdown

The results obtained through the MSCEIT are particularly useful because they identify within which area the participants' EI strengths and weaknesses' lie. The problem of response bias has been addressed, with the inclusion of the negative bias score to detect overly positive or negative results, as well as a scatter score which was

included to detect any significant fluctuation of scores, providing a more accurate and objective result overall.

The test is owned and administered by Multi Health Systems Incorporated, who administer and score the test in order to provide an overall EI score. It was not possible to provide an example of this EI measure and associated measurement scale as MHS Inc. do not release the material for research purposes, unless the implementation and measure can be undertaken by a person who has received relevant training. The tests are bought at a cost per participant; the cost and accessibility of this scale is therefore a distinct disadvantage of using this measure.

The MSCEIT approach is one of the most widespread psychometric EI tests globally and has been established over numerous years of development and scrutiny. Jensen, *et al.* (2007) reported that the test provides good overall reliability which ranged from  $r = .91$  to  $r = .93$  as well as test-retest which was  $r = .86$  amongst college students (Brackett & Mayer, 2003). However, some scrutiny has been levelled against this measure in terms of reliability of three subscales (Jensen et al., 2007) which ranged between  $r = .65$  and  $r = .71$ , these were facilitation of thought at  $r = .71$ , understanding emotions  $r = .67$  and managing emotions  $r = .79$ . This stance is mirrored by that of Palmer, *et al.* (2005) who also found that the coefficient alphas were unacceptable for some of the subscales  $\alpha = .48$ . Roberts, *et al.* (2006) considered this test to be merely a measure of conformity instead of actual EI. Additionally, Brody (2004) raised concerns, that this test did not measure actual EI, rather it measured the participants' knowledge regarding emotion and their understanding of how they believed they should behave in a situation, rather than how they would actually behave in reality.

### **3.9.2 Bar-On EQi**

Reuven Bar-On (1997) introduced a model, which defined five components of EI; intrapersonal capacity, interpersonal skills, adaptability, stress management and general mood. Intrapersonal capacity is related to the individual's social awareness

and ability to interact with others. This involves being aware of, understanding and accepting feelings, alongside the ability to ascertain and express feelings in a non-destructive manner. There is also a need to have emotional dependency from others and be able to set and achieve goals to actualise potential. The second component, interpersonal skills are demonstrated by being aware of and understanding how others feel, taking social responsibility through identification with and feeling part of a social group, whilst establishing mutually satisfying relationships with others. The third component, adaptability, is solving problems by generating effective solutions of an intra and interpersonal nature. This also includes validating thoughts and feelings using external reality and being able to adapt to change. The fourth component, stress management, involves effective and constructive management of emotions. Finally, Bar-On believed that it was important that the individual's general mood is optimistic and content to provide a successful EI. From Reuven Bar-On's work, it is understood that EI is an interpersonal non cognitive intelligence and those with high levels of EI are better able to regulate and understand their emotions while being more likely to act consistently, and without irrational emotional behaviour as a result.

Bar-On (1997) also introduced the first scientific measurement of EI measurement, the 'Bar-On EQi'. This is a self-report questionnaire using a five point Likert scale to test the five constructs of EI makeup founded in his earlier work. The self-report contains one hundred and thirty three short sentences alongside a five-point response scale ranging from [1] 'very seldom or not true of me' to [5] 'very often true of me or true of me'. There are also two alternative shorter versions available, one with a hundred and twenty five items and one with fifty-one items. The individual responses given builds up a total EI score for the five areas, along with 15 subscales as earlier identified and depicted in figure 5.



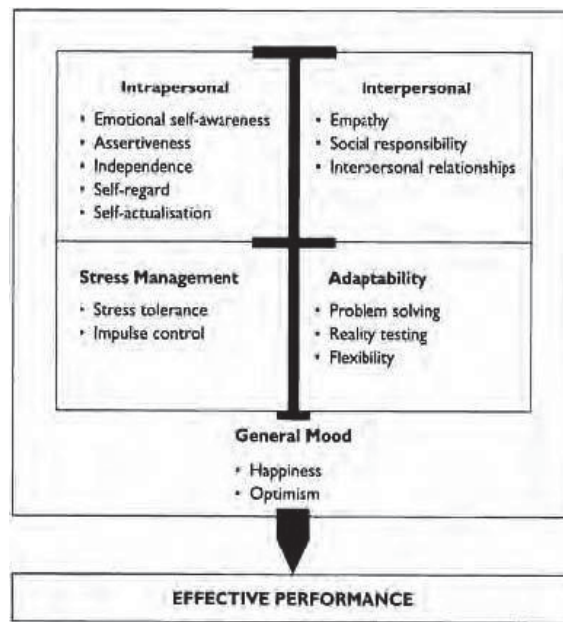


Figure 5: Reuven Bar-On Subscales (2011)

The tests can be administered online or through hard copy and are bought at a cost per participant. These scores are then compared with others from the same population, based on norms that had been standardised using the results of initial EQi participants. This method includes a built in correction factor for response bias and answering in a random fashion, which could affect the overall score and validity of the test.

This measure has a reported internal consistency between  $\alpha = .69$  and  $\alpha = .86$  on the subscales and an overall consistency of  $\alpha = .76$  (Bar-On, 1997). The internal consistency has since been tested at much lower levels of  $\alpha$  between .54 and .79 (Petrides & Furnham, 2001). The measure has a retest validity of  $r = .85$  and  $r = .75$  at intervals of one and four months respectively. It has been noted that reliability of the measures for subscales are poor and should not be used on an individual level or for the purpose of psychometrically testing applicants in an organisational setting (Bar-On, 1997; Jensen et al., 2007; Palmer et al., 2005)

### 3.9.3 Wong and Law Emotional Intelligence Scale

The final EI test for consideration is the Wong and Law Emotional Intelligence Scale given the acronym WLEIS (Wong & Law, 2002). This was based on the earlier work of Mayer, *et al.* (1995) which identified four key components of an individual's EI make up. These were self-emotional appraisal, others emotional appraisal, regulation of emotions and the use of emotions. Self-emotional appraisal (SEA) is the ability of an individual to understand and express their own emotions. Others emotional appraisal (OEA) occurs when the individual is able to identify and understand the emotions of those around them. Regulation of emotions (ROE) is the ability of the individual to regulate and control their own emotions. Use of emotions (UOE) occurs when the individual is able to constructively use their emotions to achieve direction or results.

The WLEIS measure was introduced by Wong, *et al.* (Wong & Law, 2002) after they confronted a problem encountered by many researchers, which was the amount of time required to complete these EI measures. They identified a need for a short yet reliable measure. *“Unfortunately, there has been a lack of psychometrically sound yet practically short method of EI measure for leadership and management research”* (Wong & Law, 2002).

The WLEIS is a self-report EI measure, which includes sixteen statements to measure the four EI constructs on a seven point Likert scale. An example of one of these statements is “I calm down quickly when I am very angry” which is a measure of the ROE construct. The participant is then able to choose the appropriate response on a seven point Likert scale ranging from ‘strongly agree [7] to strongly disagree [1]. One of the main advantages to using this measurement method is that it only takes around ten minutes to complete, making it an attractive option for this research, providing that reliable and consistent results are demonstrable.

The coefficient alphas for the four dimensions of EI (SEA, OEA, ROE and UOE) were acceptable at  $r = .86$ ,  $r = .85$ ,  $r = .79$  and  $r = .82$  respectively for both supervisor

and subordinate responses (Wong & Law, 2002). The overall coefficient alpha for the study is adequate at  $r = .82$  (Jensen et al., 2007). The confirmatory factor analysis at  $r = .94$  showed that the data fit was very good for this test (Wong & Law, 2002). This method presents a reliable yet practical way of collecting results in an organisational setting. The researcher contacted Dr. Wong Chi Sum to enquire about the availability and costs associated with this measure. Permission was granted for the replication of the EI scale for the purpose of this research without charge.

### **3.9.4 Foundation for EI measure**

From the three main EI measures reviewed, it is apparent that the basis and constructs for each of the measures are relatively similar, this was also identified in a literature review performed by Ciarrochi, *et al.* (2000), who observed that although the definitions may differ, they were complementary of one another rather than contradictory. The practical constraints of this research must be considered. In order to achieve a reasonable response rate for not only EI but also leadership, a reliable, affordable and efficient method of measurement is required. A completely new measure of EI is not considered prudent or necessary for a MSc project when extensive research and development of the existing EI measures have already been undertaken. It is anticipated that the use of the WLEIS would provide a valid and reliable method, which can be administered within the time constraints. This is also available free of charge and can be scored by the researcher rather than a third party (as would be the case with the MSCEIT). By using the WLEIS, this measure can be incorporated and amalgamated with the MLQ5X in an endeavour to provide a sound basis for measurement of EI and TL. The construction of the integrative theoretical framework and measure is discussed in detail in chapter 3.10.

### 3.9.5 EI Summary

This review presents the idea that individuals with higher EI levels will be more likely to lead effectively, have increased job performance, and achieve greater levels of customer satisfaction and productivity.

Although the available research suggests a strong case for integration of emotional intelligence within organisations, and that EI measurement would be an invaluable tool for such employers. It is not necessarily the case that the same outcomes would be found when applied to the context of the construction industry. The CPM has a role which is demanding due to the team orientated nature, which involves interaction with a variety of diverse parties (Cunningham, 2010; Kissi et al., 2009). The next section considers the findings of EI and TL in specific relation to the construction industry.

### 3.10 FRAMEWORK

Throughout the earlier sections in this chapter, both Bass and Wong have been identified as significant contributors in respect of the topics of TL and EI respectively. These two theories have been selected on the basis that they were the most relevant theories and beneficial measures available to serve as a foundation to the theoretical framework for this research.

In this chapter, the link between the existing theories and how these can be integrated to build a theoretical framework and measure of the full range leadership continuum, alongside EI will be considered. This is required to test the H<sub>1</sub> theory that: H<sub>1</sub>: *Project managers with high EI are more likely to adopt the transformational leadership*. To design a suitable framework, the EI must be measured and assessed alongside the leadership styles. Figure 6 provides a visual representation of the relationship between the two variables and associated constructs, which are designed to measure the EI and leadership style as an inclusive theoretical framework.

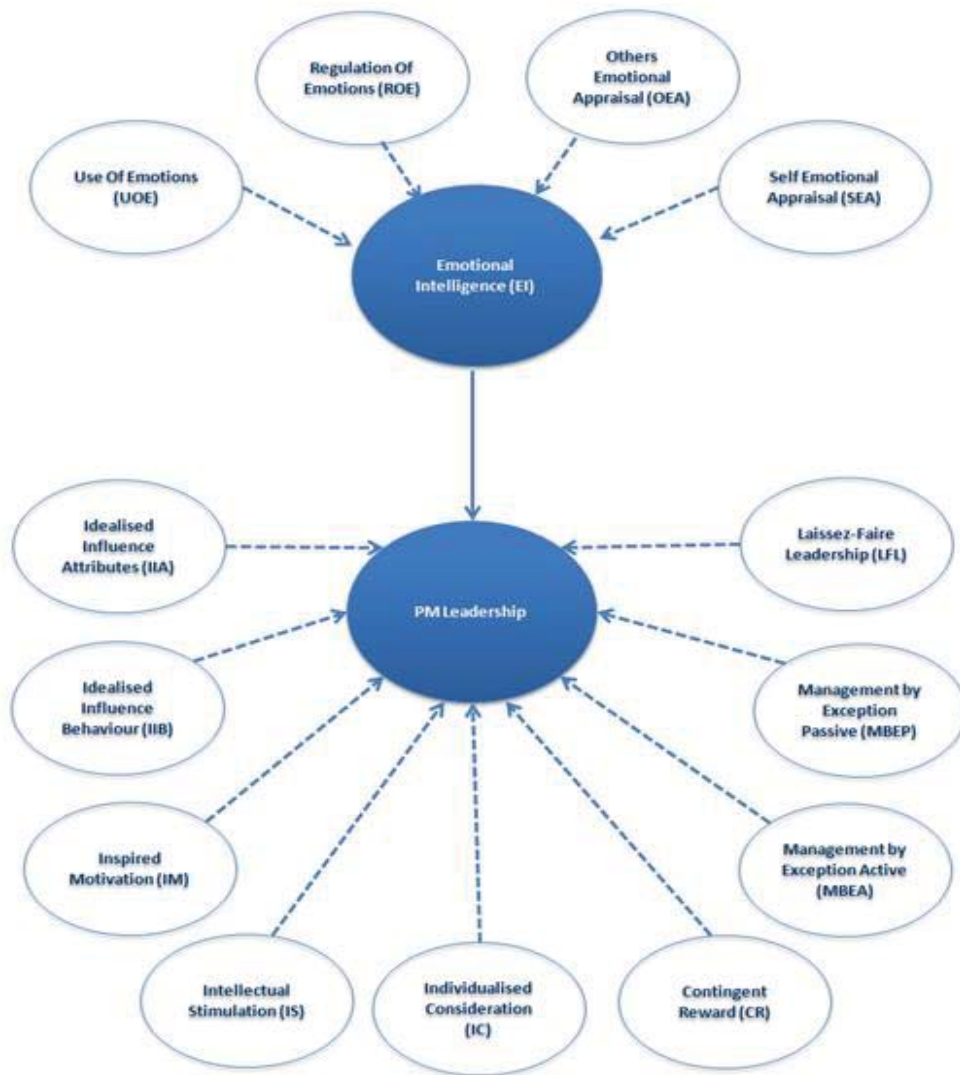


Figure 6: Theoretical Framework

Each of the variable and constructs of EI and leadership are defined and discussed in the remainder of this chapter.

### 3.10.1 Emotional Intelligence

Certain elements of the WLEIS self-report questionnaire are implemented to ascertain the respondents EI. These are:

**Self-emotional appraisal (SEA)** is the ability of an individual to understand and express their own emotions. This is an emotional self-awareness and ability to assess their emotions accurately. An example of one measure against this construct on the WLEIS, is the statement against which a seven point Likert scale is used. This reads; ‘I have a good sense of why I have certain feelings most of the time.’

**Others emotional appraisal (OEA)** is the individuals’ ability to identify and understand the emotions of those around them through non-verbal expression (Mayer et al., 1999). This varies between individuals and some of whom are better able to perceive, understand the emotions of others, take an interest in their perspectives and show empathy. An example of this construct measure contained in the WLEIS is the statement; ‘I am sensitive to the feelings and emotions of others.’

**Regulation of emotions (ROE)** is the ability of the individual to regulate and control their own emotions, especially the capacity to cope with adverse or distressing emotions (George, 2000) while remaining stable and acting positively. Four constructs contained on the WLEIS measure this, an example of which is; ‘I am able to control my temper and handle difficulties rationally.’

**Use of emotions (UOE)** is the individuals’ ability to constructively use their emotions and harness emotional information to facilitate cognition and use this to achieve the desired direction or results. The successful management of emotional interaction with others is measured on the WLEIS through four statements such as; ‘I tell myself I am a competent person.’

### **3.10.2 Leadership**

Measurement of the full range leadership continuum will incorporate the variables identified through the earlier work of Bass, *et al.* (Bass, 1985; Bass & Avolio, 2000). The five constructs measured are intellectual stimulation, individualised consideration, inspirational motivation, idealised influence attributes and idealised influence behaviour. These are defined as:

**Intellectual stimulation (IS)** is the encouragement of team members' creativity, to challenge the status quo and explore new innovative and creative ways of doing things. The team members' ideas are valued and encouraged even if these differ from those of the leader. This leader is able to approach and consider problems from a variety of ways, while avoiding criticism to allow confidence in the team members to look at old problems in a new way (Bass & Riggio, 2006). An example of one of the MLQ 5X statements, included to address and measure this construct on the five point Likert scale is; 'I get others to look at problems from many different angles.'

**Individualised consideration (IC)** is the emotional and instrumental support and encouragement offered to team members through a mentoring relationship. The leaders who provide IC are good listeners, have open terms of communication where the team members' desires and needs are respected through active listening, caring and focus on the team member. This component allows for development of the team members higher potential. One of the statements included in the MLQ 5X to measure this construct is; 'I spend time teaching and coaching.'

**Inspired motivation (IM)** is the leaders' inspiration, enthusiasm and optimism. This leader has a clear vision of what needs to be achieved, along with the ability to convey this to their team and instil in others the same common goal alongside an atmosphere of commitment. IM is the provision of meaning and challenge to their team members, aligning and including them in the development and attainment of goals (Bass & Riggio, 2006). The MLQ 5X includes a number of statements to measure this construct e.g.; 'I articulate a compelling vision of the future.'

**Idealised influence attributes (IIA) and behaviours (IIB)** are the attributes and behaviours that make the TLs able to become a role model within a group, they are able to gain individuals trust, respect and admiration from their team members. The team member then starts to employ the leaders' beliefs and begin to internalise the same ideals themselves. The TLs can be consistently relied upon to display high moral and ethical standards. Leaders with II would act in a way that is consistent with the greater good of the wider team in the long term, instead of acting in ways, which

would be self-beneficial in the short term. The leaders are reported to be those who could be described by their team members and peers as role models with high levels of integrity (Barling, 2014). An example statement, which is included in the existing MLQ 5X is; ‘I emphasise the importance of having a collective sense of mission.’

Alongside the constructs for TL, the constructs for TRL and PAL are also measured. The TRL constructs include:

**Contingent reward (CR)** is the positive reinforcement of team members for attainment of goals and objectives in the form of assistance, expressed satisfaction or recognition. Examples include positive feedback, increase in remuneration, promotion or inclusion into the leaders group of preferred team members (Hartog, 1997). As well a reward being contingent to the performance of the team member Bass, *et al.* clarified that the CR is a TRL construct where rewards are material, such as a bonus or pay increase but when the contingent reward is psychological such as praise, then the reward would be TL (Bass & Riggio, 2006). The MLQ 5X measures this construct through statement such as; ‘I make clear what one can expect to receive when performance goals are achieved.’

**Management by exception - active (MBEA)** is whereby the leader sets out what is expected as a minimum from team members, along with the punishment that will be consequential if these standards are not achieved. This involves monitoring and correcting of failures or mistakes through negative reinforcement (Barling, 2014). To measure this construct the MLQ 5X includes statements such as; ‘I direct my attention toward failures to meet standards.’

The passive avoidant leaders include the laissez-faire and passive management by exception style. These styles are measured through the following constructs:

**Management by exception - passive (MBEP)** involves a lack of involvement unless the failure of a team member becomes chronic or serious. This leader will wait for problems to arise before any action is taken. The difference between MBEA and



MBEP is that the MBEA leader actively looks for failures and deviations from what is expected, whereas the MBEP only takes action when it is evident that failures have occurred. The passive form is generally perceived as being less effective and desirable than the active form (Bass & Riggio, 2005). An example of MBEP measurement from the MLQ 5X is; 'I take no action until complaints are received.'

**Laissez-Faire Leadership (LFL)** is the avoidance of any involvement even when important issues arise, this leader lets the team member find the answers to questions themselves, avoids all decision making and is absent when needed. Almost all of the research on this style has found LFL to be the least desirable or effective leadership style on the continuum (Barling, 2014). The MLQ 5X measures this construct through a number of statements including the following; 'I avoid getting involved when important issues arise'.

Development of the theoretical framework has allowed for the defined elements to be measured through the research method and design. The chosen research method is discussed in detail in chapter 4.

## **CHAPTER 4: RESEARCH METHOD**

### **4.1 INTRODUCTION**

This chapter describes the research method chosen to accomplish the research objectives of the study. The sections to follow detail the research design and associated rationale, the research process adopted, the population and sample frame, questionnaire design, pilot test and implemented data analysis techniques.

### **4.2 RESEARCH DESIGN**

A questionnaire was administered to elicit both quantitative and qualitative data relating to emotional intelligence (EI) and leadership. Quantitative and qualitative approaches each present advantages and disadvantages in terms of the results and limitations they offer. Quantitative data collection allows for a large sample size to be incorporated, therefore providing more robust and reliable data. This method of data collection also yields objective results of a quantifiable nature. The application of mathematical procedures can then be applied to analyse and test specific hypothesis. As such, quantitative data is a reliable, quantified and tangible approach to research (Creswell, 2013). The limitation of quantitative research arises due to a lack of insight and depth that it provides as a result of the predetermined questions and numerical systemisation. Also, when investigating subjective topics such as feelings and emotions, this approach fails to provide the respondent with further opportunity to elaborate or expand upon the topic in detail (Guba & Lincoln, 1994). Conversely, qualitative data is more abstract and provides subjective results that are generally presented as words rather than numbers. This data is more descriptive through narrative but can prove difficult to measure in an exact or precise way. It is however, a valuable way of gaining further insight into an area of interest. Open-ended questions were therefore included to provide a more inclusive results, improving reliability and validity (Creswell, 2013).

In order to test the hypothesis that CPMs with high EI are more likely to be transformational leaders (TLs), quantitative data of a scientific nature was required. The study sought to compare two sets of data, EI and transformational leadership (TL) and for this reason, quantifiable measurement is necessary. The study also involves feelings and emotions, which are somewhat subjective in nature therefore, qualitative data through open-ended questions would provide further insight and opinions in the context of the construction industry. This data would also supply further validation of the findings from the quantitative research.

For the aforementioned reasons, this study was designed to incorporate both qualitative and quantitative data collection, to enable the collection of objective results through quantitative questions but with sufficient depth and additional means of validation through qualitative open-ended questions. The inclusion of both quantitative and qualitative data provides a more complete and inclusive data set and assists with the reduction of researcher bias which in turn improves the reliability and validity of results (Creswell, 2013).

#### **4.3 RESEARCH PROCESS**

In order to obtain the necessary data, an appropriate method of collection was selected to extract the relevant information within the geographic, economic and time constraints of the study. The main methods considered were questionnaires and interviews. Questionnaire surveys are currently the most frequently used method of collecting data for leadership research (Barling, 2014). This method presents a number of advantages as it enables a larger population to be included within the time and financial parameters of the study (Bowlby, Piaget, & Vygotsky). As a consequence of the increased sample size, the validity of the results also increases (Springate, 2011). Responses are collected from the sample simultaneously, therefore minimising the necessary research duration, while still providing an effective way to obtain reliable information. Responses were obtained through close-ended questions, which are quick to answer and easy to code in preparation for further data analysis (Creswell, 2013). This data can be obtained remotely, without the need to talk to each

respondent separately, helping to reduce response bias (Engel & Schutt, 2009). Likewise, it reduces the probability of answers being given to questions that participants feel may impress or please the researcher.

Through the use of technology, e-questionnaires enable a wide geographic coverage with efficient speed and economy, although it is not uncommon for such material to be deleted by recipients and some company's software may identify and filter out the survey as 'spam', subsequently preventing the intended participants from receiving the questionnaire invite. When emails are received, the pressure and demand of everyday business may result in low response rates (Cycyota & Harrison, 2006), which according to Naoum (2007) are usually around forty percent.

The use of close-ended questions can provide a limited range of options for the participants, thus providing misleading conclusions due to inability to further clarify the response (Creswell, 2013; Sheatsley, 1983), especially when presented with a choice of either 'yes' or 'no'. To reduce the likelihood of this happening, the Likert scale can be implemented to show the extent to which a question or statement applies, rather than giving participants set answers to choose from. Similarly, the schematic differential question can be used to pinpoint where on the scale, between two polar opposite words, a respondent feels represent their opinion on a subject (Creswell, 2013). Open ended questions provide the participant with an opportunity to expand upon the topic in more depth however, such questions can prove difficult to code for research purposes (Creswell, 2013). The responses can be subject to unintentional research bias when interpreting the meaning of the participant answers. The open-ended questions can also prove time consuming for participants to answer and for the researcher to interpret when compared to the close-ended questions.

Structured or semi-structured interviews provide an effective method of achieving reliable information (Creswell, 2013). Although, the information obtained is subjective in nature and more difficult to categorise due to the broader responses and verbal explanation (Creswell, 2013). This method is particularly useful where more depth or understanding to a subject matter is required (Naoum, 2007). The semi-

structured interview allows a greater freedom of expression as participants are not confined by the limited response on offer. The participant is also able to further elaborate on the response and give qualification to the answers (Clarke & Dawson, 1999). The major drawback of semi-structured interviews is that they are particularly time consuming and can be expensive to implement and assess. The data analysis is also open to researcher misinterpretation.

After careful consideration of the available data collection methods, the option of the questionnaire was chosen as the most efficient and effective method of data collection. The use of a questionnaire enables the collection of both quantitative and supporting qualitative data to explain and further investigate the attitudes of participants. This was achieved through a survey consisting of a majority of quantitative questions, with two open ended questions to provide further detail and supporting information for respondents to elaborate on their responses (Clarke & Dawson, 1999).

As the response rates to questionnaires are generally around forty percent, the motivational factors to ensure the highest possible response rate for this questionnaire were considered. To ensure the questionnaire would appeal to the audience as far as practicable, the survey was designed to reduce responder apathy. This was done by informing the respondents of the research benefits, to them individually, as well as to the construction industry as a whole. The email invite and participant information sheet was designed to capture the research benefits and to provide participants with the information required in order to make an informed and considered decision to partake in the research. See appendix B for the email invite and appendix C for the information sheet. As well as the assurance of participant anonymity promoting a maximised response rate, this also assists with the reduction of response bias through confidentiality, reducing answers being given which are considered correct or socially desirable rather than true and accurate responses. A number of studies have found that incentives (Couper, Singer, Conrad, & Groves, 2008) are likely to facilitate survey recruitment and motivate those who otherwise would not respond. It is important to

point out that the study aims not only to seek the participation of those who would take part for purely altruistic or survey related reasons, but to also encourage those who may otherwise choose not to complete the questionnaire. TLs due to their perceived higher emotional intelligence levels may be more sympathetic to the researcher's aims and introduction to that of the TRLs. The TRLs are also found to work most readily on a system of rewards and exchanges and for this reason a small incentivisation in the form of a chance to win a \$100 / £50 gift card was considered. However due to ethical reasons, it was concluded that despite the low value of this motivation, it could still be seen as coercive and was excluded.

The self-reporting questionnaire was designed in a way to reduce response bias as far as practicable by providing anonymity to prevent socially desirable answers, clear and concise questions to prevent confusion, a seven point Likert scale to offer a suitable range of options including an 'Unsure' option, to prevent false positives being reported if respondents did not know the answer. The questionnaire was also as short as possible to prevent respondent fatigue, while being an adequate length to provide a reliable measure of the EI and TL constructs.

#### **4.4 POPULATION AND SAMPLE FRAME**

The two populations selected for this study were; CPMs currently working in the construction industry in NZ and the UK. The two sample frames were selected through non-random purposive sampling.

The RICS are an independent professional body that represents and regulates construction professionals. There are 118,000 professional members in 146 countries globally, which include a variety of construction disciplines (RICS, 2015). The RICS in NZ and the UK were both contacted to discuss the research topic. In both instances, the RICS agreed to take part, but to a different degree. RICS NZ agreed to send e-invites out to all of their members, who include a variety of professions not limited to CPM's. They also agreed to post a link to this survey on their LinkedIn webpage. The professional body involvement gave credit to this research, which otherwise could

have been discounted as spam. The RICS UK provided contact details of registered members. These contact details were used by the researcher to send the e-invite direct from the survey monkey website. The RICS were unable to provide information relating to the number of CPMs for each country and due to the sampling technique used, the exact numbers of members and specifically CPM's, could not be quantified for either population.

Sample size is a factor that affects normality of data as explained by the central limit theorem, whereby larger samples with over 30 participants are most likely have normal distribution (Field, 2013). The sample size should be as large as possible to increase the representativeness of the sample, while decreasing the sampling error (Hair, 2013). This also allows for the reliable application of data analysis techniques (Hair, 2013). Based on these considerations and the fact that the sample size could not be determined, a minimum sample for each sample frame was considered to be  $N \geq 30$ .

#### **4.5 QUESTIONNAIRE DESIGN**

A self-report questionnaire was constructed using the survey monkey website (<https://www.surveymonkey.com/s/pmleadershipsv>). A full copy of the questionnaire is in appendix C. The MLQ 5X and the WLEIS were adopted in this study, as both are long-standing questionnaires that have undergone rigorous scrutiny and ethical consideration. The survey comprised of five main sections; demographics, leadership and emotional intelligence. Each of these areas are discussed in the sections that follow.

Questions one to eight of the questionnaire captured data on the participants' demographics. Demographical data are important to allow a comparison of the respondents to the wider population and investigate gender differences. The third question was included to ascertain how long each respondent had been working in the construction industry. Participants were able to select the amount of years they had spent in the industry from a drop down box, this ranged from <1 year up to 60 years.

The fourth question was devised to eliminate participants who were not working in either NZ or the UK, or engaged as a CPM. Questions five to eight, were designed to obtain information relating to the amount of time (years) the participants had been acting as CPMs, their background prior to becoming CPMs, the highest level of any construction related qualification they held and any current training being undertaken. It was important to ensure that respondents were CPMs currently practicing in this role, in order to acquire up to date feedback for the industry at present, instead of a representation of the past. Over time attitudes and approaches may have changed therefore, it was necessary to exclude any retired or ex-project managers.

Questions number nine to seventeen were designed to measure the nine constructs of the full range leadership continuum identified in chapter 3.10.2. These were IIA, IIB, IM, IS, IC, CR, MBEA, MBEP and LFL. This was done through thirty-six statements, against which CPMs were asked to rate how frequently the statement applied to them in the workplace on a seven point Likert scale ranging from ‘never’ to ‘always’ with the following weighing; ‘never’ [1], ‘rarely / seldom’ [2], ‘sometimes’ [3], ‘unsure’ [0], ‘often’ [4], ‘frequently’ [5], ‘always’ [6]. Each of the questions related to one of the constructs of the underlying research paradigm, for example, question nine included four statements: *‘I instil pride in others for being associated with me’*, all of these statements measured the construct of ideal influence (II) of TL. The sum of the scores given for all of the statements were combined then and then divided by the number of responses, to arrive at the mean score for each construct. A full survey is available in appendix E. The construct measured by each question is indicated in red at the end of each question. Table 2 summarises the question numbers with each of the leadership styles and constructs measured. The asterisk signifies the two open ended questions that were included to ascertain the CPMs perceptions in respect of EI and leadership.



Table 2: Leadership Question and Associated Constructs

Question	Measure	Construct
1	Demographics	-
2	Demographics	-
3	Demographics	-
4	Demographics	-
5	Demographics	-
6	Demographics	-
7	Demographics	-
8	Demographics	-
9	TL	IIA
10	TL	IIB
11	TL	IM
12	TL	IS
13	TL	IC
14	TRL	CR
15	TRL	MBEA
16	PAL	MBEP
17	PAL	LFL
18	* Leadership	-
19	EI	SEA
20	EI	OEA
21	EI	UOE
22	EI	ROE
23	* Emotions	-

\* denotes a qualitative question

The statements used in questions nine to seventeen were based on those contained within the MLQ 5X. This is a recognized and well established instrument which has become the most widely used method of measurement for the TL style (Kirkbride, 2006). For the purpose of this study, the original statements contained within the MLQ 5X were used but with subtle adjustments to certain words and phrases in order to tailor the survey to the context of the study. For example, one of the original MLQ 5X statements reads; *'I go beyond self-interest for the good of the group.'* For the purpose of this study, the statement was changed to: *'I go beyond self-interests for the good of my team.'* These changes were minor but were introduced to make the survey easier for CPMs to relate to. The original MLQ 5X contained statements relating to the measurement of outcomes such as effectiveness, satisfaction and extra effort.

These items were not necessary for the purpose of this study because they are outcomes attributed to leadership styles. As this study was looking at the link between EI and leadership rather than the link between leadership and the associated outcomes, this element of the MLQ 5X was excluded from the questionnaire design. The original layout and order of the questionnaire was also altered in an attempt to make the survey clearer and improve the aesthetics. The decision was made to change the five point rating scale to an extended seven point rating scale, to provide a better range of results for statistical data analysis. A copy of the original MLQ 5X and scoring sheet can be found in appendix F.

Question eighteen was the final question in related to leadership. This was not an original component of the MLQ 5X but was designed to gather qualitative data on the views and opinions of CPMs. The question asked; *'How do you get the best performance from your project team? Please comment below.'* This allowed participants free reign to express the relevant factors they believed to be beneficial, without being confined to the constraints of multiple choice.

The next set of questions within the survey concerned the measurement of the participants' EI. Questions number nineteen to twenty two were designed to measure the four construct of EI as earlier defined in chapter 3.10.1; SEA, OAE, UOE and ROE. Four questions were included, each of which contained four statements. The CPMs were again asked to rate how frequently the statement applied to them in the context of the workplace. The same seven point Likert scale used for the leadership questions, was again used for these EI questions to provide consistency with the earlier quantitative questions and to prevent any confusion for the respondent. Each of the four statements related to one of the constructs of the underlying research paradigm for EI. These were based on the original WLEIS, a full copy of which can be found in Appendix G.

From the literature review, it was evident that some construction workers within the industry view EI in a negative light. For this reason and to gain additional qualitative information on the importance CPMs attribute to emotions in the context of the

construction industry, the following question was included; *'In your opinion what is the relevance of emotions, if any, for a leader working in the construction industry? Please comment below.'* This questionnaire was not without limitations. The uses of self-rating measures have the potential to be subjective. In this instance, the research could be affected by the perception of the CPM, which may not fully reflect the reality of the leadership and EI ability. This is acknowledged but after consideration of the complexities and ethical problems relating to inclusion of multi-rating surveys from team members and leaders, to incorporate into an overall leadership score, it was considered too problematic to include a second phase of the research to do so. Multi-rating surveys were also beyond the scope of an MSc thesis but could be a useful topic for further research.

The respondents were asked if they would like to receive a copy of the summary research findings. Assurances were given that their contact details would remain confidential, before they were asked to click the *'done'* button to submit their results. The questionnaire was designed so it was impossible to reach this stage, unless answers to the some of the questions had been provided. Logic was incorporated into the questionnaire, so that if certain questions were missed or incomplete, then an error message would appear and the respondent would be unable to move on to the next section or complete the questionnaire. This measure was introduced as it precluded those who did not give their consent to take part and reduced the potential of incomplete data against questions deemed essential for the study. For example, question number four asked the respondents to indicate in which country they were working as a CPM. This question was considered necessary to ensure the respondents were currently working in the appropriate countries and to allow for comparison of the two samples (NZ & UK). The questionnaire was constructed using the survey monkey website and was subsequently tested on a number of various media types including laptop, desktop, iPhone, tablet etc. to ensure compatibility prior to administration. A pilot test was conducted within an organisational construction setting as detailed in section 4.7.

#### **4.6 ETHICAL CONSIDERATION**

Ethical considerations included anonymity of the participants and integrity at all times. Ethical approval was sought and obtained through Massey University Ethics Committee prior to the research being conducted. See appendix D for a copy of the low risk human ethics authorisation. All data was stored in password protected electronic format in a cloud management system accessible to only the researcher and the main supervisor. All hard copies of the participant data was held in a lockable cabinet and was shredded upon completion of the thesis. None of the participants or companies have been identified in the research report or any publishable article. Information relating to anonymity and confidentiality was conveyed to the participants through the e-invite.

The first screen of the survey monkey questionnaire provided the participant information required for them to give informed consent. The participant information included an introduction to the researcher, research purpose, anticipated amount of time needed to complete the survey and associated ethical consideration. At this stage, the participants were also advised that they would be able to withdraw from the research at any time and would have the opportunity to receive a summarised copy of the research results upon request. The contact details of the researcher, main supervisor and ethics committee were included to give participants the opportunity to discuss the research further or request additional information in respect.

#### **4.7 PILOT TEST**

A pilot test was undertaken with the consent of a nationwide construction company in New Zealand. This was implemented to determine how respondents would construe and respond to the questionnaire. The process sought feedback on the layout, ease of use and any unforeseen problems. The pilot was completed by twenty respondents. The feedback included suggestions of alterations to the questionnaire layout, which

was perceived to be slightly cluttered and daunting due to the amount of text on each page. The first iteration of the questionnaire therefore included fewer questions per screen to help alleviate the problem. All feedback from the pilot test was taken into consideration and amended as necessary, to improve the participants' experience and understanding.

#### **4.8 DATA ANALYSIS TECHNIQUES**

Data analysis was undertaken using IBM Statistical Package for Social Sciences (SPSS version 21), this was chosen for the ease of use and ability to undertake the necessary data analysis. The data was screened and cleaned to checked for missing data error, in order to ensure a reliable and suitable data set for further investigation (Hair, 2013). Techniques used to clean the data included missing value analysis (MVA) and Little's missing completely at random test (MCAR) (1988). Upon completion, descriptive statistics were conducted to determine and provide information in respect of the respondents' characteristics. Analysis of the demographic questions allowed for categorisation of the respondents into location, gender and background. The mean, median and mode for time spent in the industry and time spent in the role of CPM was measured.

Normality of data obtained was analysed using the Shapiro-Wilk's test ( $p < .05$ ) (Razali & Wah, 2011; Shapiro & Wilk, 1964) alongside a visual inspection of the histograms, normal Q-Q plots and box plots. The issue of skew and kurtosis and the suitability of data transformation to normalise the dataset was also considered; this is discussed in further detail in the results section in chapter 5.2 – 5.4. Homogeneity of variance was tested using Lavene's test for equality of variance of means (1960), this also allowed for the most prevalent leadership style to be identified for each country, along with any significant variances between the two samples. Harman's one-factor test was used to address the issue of common method variance in the dataset, where answers given to the objective self-report questions are either under or over exaggerated. The validity and reliability was analysed using Cronbach's Alpha ( $\alpha$ ). This was applied to measure the reliability through internal consistency, based on the

inter-item correlation of the 52 components of EI, TL, TRL and PAL. The results obtained for NZ and the UK have been compared using *t*-tests to identify any significant differences between the two samples. The relationship between EI and Leadership style was first interrogated by computing Pearson's product-moment correlation coefficient (*r*). This was used to measure the degree of linear correlation (dependence) between the EI constructs and each of the TL styles. To further investigate the relationship, multiple regression was undertaken for each of the three leadership styles (TL, TRL & PAL), to ascertain how effective the EI constructs were in predicting each of the three leadership styles.

Qualitative responses to the open-ended questions were examined using the text analysis programme available on the survey monkey website. This programme calculates the most frequently used terms and phrases amongst responses. This method was incorporated in order to identify reoccurring themes in the views and opinions of respondents for EI and TL. The qualitative data was also categorised using the original constructs contained within the theoretical framework set out in chapter 3.10.0 – 3.10.2. This was included to provide supporting or insightful information on the relevance of EI and TL constructs derived from the literature review.

This chapter described the research method used for this study. A quantitative research was adopted, comprising of a survey and an online questionnaire as the data collection technique. Necessary ethical considerations in this study were also discussed. The results obtained through implementation of this method and subsequent data analysis is presented in chapter 5.

## **CHAPTER 5: RESULTS**

### **5.1 INTRODUCTION**

The analyses of collected data using a variety of methods are discussed in this chapter, in order to assist with the achievement of the research objectives. The three objectives this study sought to achieve were to:

- 1) Identify the most prevalent leadership style adopted by construction project managers in NZ and the UK.
- 2) Identify the average emotional intelligence (EI) of construction project managers in NZ and the UK.
- 3) Determine if there is a significant correlation between the construction project managers EI and TL style adopted.

In the first part of this chapter, data screening and descriptive statistical techniques are applied. Following this, inferential tests are carried out including correlations and multiple regression analysis. These statistical tests allow for further exploration of the quantitative data set in accordance with the aims of the study. In the third and final section, qualitative responses given for both EI and Leadership are assessed. The results contained within this chapter form the basis of the discussions in chapter 6.

### **5.2 DATA SCREENING**

The first part of the data screening process was missing value analysis (MVA) to check for the missing data against the construct questions that did not contain logic as described in section 4.5. Initially one of the 73 responses were removed due to the amount of missing data, which was over 50% for one of the leadership constructs (100% missing). This was done to prevent the accuracy and generalisability of the results being effected (Hair, 2013). Little's Missing Completely at Random (MCAR) diagnostic test was then conducted to determine how random the remaining missing

data was. The result of the MCAR test concluded that missing data was non-random, with a significant percentage of missing answers for specific questions. A copy of these results can be found in appendix H. The highest percentage of missing responses was for the variable of TL IM 3, against which 8 responses were missing (11.1%). This variable was measured through question 9, which was one of four designed to measure the participants' ability to inspirationally motivate their team on a seven point rating scale, this can be found in the questionnaire in appendix C. The second highest variable for missing data was EI OEA 1, which had seven missing responses (9.7%). This is one of the four questions designed to measure the EI construct for appraisal of others' emotions using a seven point Likert scale, this question can be found in the full questionnaire in appendix C.

According to many scholars, missing data over and above 10% should not be ignored (Malhotra, 1987; Raymond & Roberts, 1987) and it is suggested that variables with over 15% of missing data should be considered for deletion all together (Hertel, 1976). In the case of this dataset, one of the variables had missing data over 10% and as a result, further consideration was required with regards to appropriate remedy. Because the missing data was below 15%, deletion was not required. Additionally, the detrimental impact of reducing the sample size would outweigh the advantage that could be gained by deleting a variable with this extent of missing data (Hair, 2013). To ascertain if the missing data was more prominent in any one of the leadership or EI constructs, MVA was processed again, except this time comparing the 13 summarised constructs responses rather than all of the 52 variable responses. Table 3 shows that there are no significant differences ( $p > .05$ ) between the extent of missing data when compared at a construct level. The results from this test are summarised in table 3.



Table 3: Little's MCAR Test at the Construct Level

	N	Mean	Std. Deviation	Missing		No. of Extremes	
				Count	Percent	Low	High
IIA	72	5.23	1.49	0	0.0	2	1
IIB	69	4.72	1.80	3	4.2	4	1
IM	72	5.40	2.08	0	0.0	0	1
IS	72	5.41	1.65	0	0.0	1	1
IC	71	5.15	.78	1	1.4	2	0
CR	71	5.11	.83	1	1.4	3	1
MBEA	70	5.10	1.11	2	2.8	7	1
MBEP	71	5.18	.76	1	1.4	2	0
LFL	72	6.36	2.29	0	0.0	0	0
UOE	72	20.03	2.20	0	0.0	1	0
ROE	72	20.38	2.65	0	0.0	3	0
OEA	72	17.83	3.11	0	0.0	0	0
SEA	72	20.31	3.06	0	0.0	1	0

To remedy the missing data as far as practicable, any 'unsure' responses were substituted using mean distribution of the participants remaining scores for the construct. This enabled the impact of the missing data to be minimised while still maintaining an adequate sample size (Hair, 2013). The dataset was also profiled to detect any outliers. Figure 7 shows responses identified as outliers and the associated respondent ID number. The outliers are both left and right skewed on the box plot.

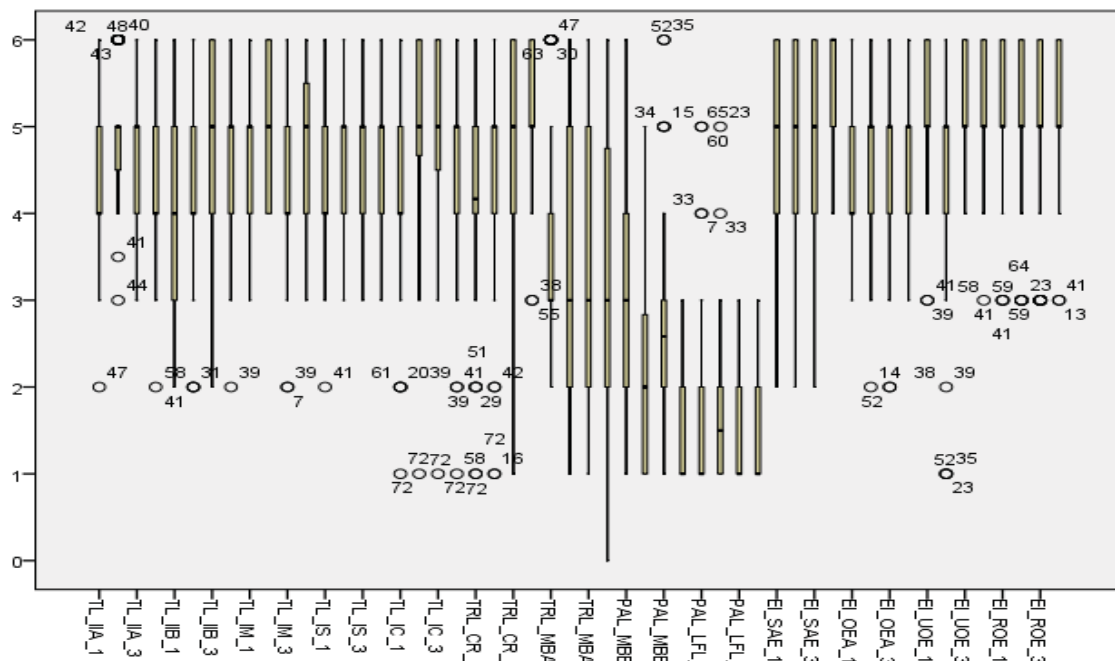


Figure 7: Box Plot to Show the Variable Outliners

Inclusion of outliers can skew data from normal distribution and as a consequence affect the accuracy of the data analysis techniques applied. This in turn limits the external validity of the results. However, it is important to note that on a five to seven point Likert scale, the outliers identified are minor and removal is therefore not theoretically justified. These responses are a vital makeup of the true data and may not be abnormalities but responses that lie on the fringes of the general data. Hair (2013), explains that caution should be taken with regards to deletion of such outliers: *“Our belief is that they should be retained unless demonstrable proof indicates that they are truly aberrant and not representative of any observations in the population.”* (Hair, 2013). This understanding formed the basis of the decision to retain the outlines in order to prevent a reduction in power and generalisability of the dataset for the population.

After the dataset had been screened and cleaned, the respondents characteristic were then extracted from the answers achieved.

### **5.3 RESPONDENT CHARACTERISTICS**

There were in total 73 responses to the online questionnaire. One response was removed entirely, due to missing answers. From the 72 responses the respondents were largely male (93%), with five female respondents (7%). Over half of the participants were from NZ (53%) and the remaining participants were from the UK (47%).

The CPMs experience within the industry ranged from two years, to forty-four years, with an average of over twenty-two years' of experience. The total amount of time the participants had been in the position of CPM, ranged from less than one year, up to thirty-five years. The average amount of time spent in this role was over thirteen years. The CPMs previously worked in a variety of backgrounds in the industry, most frequently as either a Quantity Surveyor (26%), Building Surveyor (17%) or Site Manager (14%).

The highest level of construction-based qualification held was the postgraduate level of MSc, MA or LLM (17%). The majority of respondents however, held either a BSc or BA construction based qualification (51%), and 32% of the respondents held no construction qualification. The majority of the CPMs were not undertaking any construction related training at the time they completed the questionnaire (76%).

### **5.4 PARAMETRIC TESTING**

There is some disagreement and debate surrounding the power of parametric tests in comparison to the available non-parametric alternatives (Brace, Kemp, & Snelgar, 2012). The benefit of using a parametric testing is that actual data is used as opposed to ranked data when using non-parametric methods. The disadvantage of using a non-parametric method is that the data can lose relevance of magnitude as a consequence of ranking (Field, 2013). The suitability of parametric testing depends upon four main criteria which are that the data must; 1) have independence of participants; 2) be

interval data; 3) be normally distributed and; 4) have homogeneity of variance (Bryman & Cramer, 2011; Field, 2013).

In this research, the participants are independent from one another and the data obtained via the Likert scale provides interval data. As two of the four criteria were already met, if assumption of normality and homogeneity was also met, parametric testing would be deemed a suitable method of data analysis. Shapiro-Wilk's test ( $p < .05$ ) was used to test for normality (Razali & Wah, 2011; Shapiro & Wilk, 1964) alongside a visual inspection of the histograms, normal Q-Q plots and box plots. The results indicated that the scores were approximately normally distributed for all fifty two variables measured by the quantitative questions (Cramer, 1998; Cramer & Howitt, 2004; Doane & Seward, 2011). Therefore, a parametric multivariate data analysis was selected as the appropriate method. The Shapiro Wilk's results, histograms, Q-Q Plots and box plots can be found in appendix I.

The significance levels of skew and kurtosis were calculated at both 90% and 95% for each of the fifty-two construct variables, these results can be found in table 19 in appendix J. It is noted that one of the variables, PAL LFL 1, fell outside of the significance level for kurtosis at 95% ( $\pm 1.96$ ). This variable was contained within the PAL leadership measure. Regardless, the variable demonstrates an approximately normal pattern of distribution on the histogram, all be it slightly kurtoic. The lack of numerous problems across all 52 variables supports the claim that the data is consistently normally distributed. Nevertheless, this measure of the PAL style that deviates in terms of kurtosis was taken into account when interpreting the results in the subsequent discussion chapter. Please refer to table 19 in appendix J for a copy of the summarised table of skew and kurtosis results.

Sample size is another factor that affects normality of data as explained by the central limit theorem, whereby larger samples with over 30 participants are most likely have normal distribution (Field, 2013). In this study there were two samples, one for NZ ( $N = 38$ ) and one for the UK ( $N = 34$ ), these were both in excess of 30 and were therefore considered more likely to have normal distribution. The final criterion for parametric

testing is homogeneity of data. This was tested using the Levene's test for homogeneity (1960), which can be found in table 20 of appendix K. The results from Lavene's test concluded that the error of variance across the dependant groups were equal for all variables. The four criteria of parametric testing were met by this dataset therefore this was the selected method of data analysis.

## **5.5 DATA RELIABILITY**

After the scores for each of the 52 variables had been examined, Cronbach's Alpha ( $\alpha$ ) was applied to measure the reliability through internal consistency, based on the inter-item correlation. In this instance, alpha showed excellent internal reliability with  $\alpha > .90$  and the standardised  $\alpha$  was also  $> .90$ . The similarity between the two types of  $\alpha$  is consistent with the expectations for numerous interval data on a repeated scale. These results demonstrate reliability for the scales used in the questionnaire.

Harman's one-factor test was performed to detect the presence of common method effect. This is attributed to the measurement method of an objective, self-reported data set, which can create bias among the results and therefore relationship between the constructs. Common method variance has been reported to inflate or deflate observed relationships between constructs (Avolio, Yammarino, & Bass, 1991). The Harman's one-factor test was therefore carried out using exploratory factor analysis (EFA) to investigate the presence of common method effect, for all 52 variables of EI and TL. Common method variance is considered to be a problem if the variance is greater than 50% (Eichhorn, 2014). The results from the Harman's one-factor test can be found in table 21 of appendix L, analysis of which demonstrate that only one construct can be extracted and equates to 29.78% of the variance in the data set. Although it does not fully eradicate the possibility of common method variance, it was considered unlikely to confound the interpretation of results.

A non-response bias assessment was conducted to ascertain if the responses given could be taken as a representation of the population being examined. Armstrong, et al. (1977) set out that time trend extrapolation was a suitable method to address non-

response bias, based on the assumption that those respondents who answer less readily, are more alike to the non-respondents. For this reason, the non-response bias was examined by comparison of the early responses given to the survey, against those of the late responses. Answers to the online questionnaire were recorded between the dates of 16<sup>th</sup> December 2013 and 24<sup>th</sup> of February 2014, therefore, a midpoint of 20<sup>th</sup> January 2014 was used to differentiate between the early and late responses. One way ANOVA was used to compare the means between the two subgroups for leadership style and emotional intelligence constructs, the results from which can be seen in table 4 below. This comparison confirmed that there were no statistical significant differences ( $p = 0.05$ ) between the early and late respondents in terms of EI and TL, therefore, there was no indication of significant non-response bias affecting the results.

Table 4: Non-response Bias Assessment

	F	Sig.
Transformational Leadership	.366	.548
Transactional Leadership	2.103	.152
Passiveavoidant Leadership	1.155	.287
Emotional Intelligence	.847	.361

## 5.6 ANALYSIS OF RESEARCH OBJECTIVES

The data obtained was used to address the three original objectives of the study. Each objective is addressed separately in the remainder of this section (5.6.1 – 5.6.3).

### 5.6.1 Objective One - Leadership Style

Research Objective 1 - to identify the most prevalent leadership style adopted by Construction Project Managers (CPMs) in NZ and the UK

To determine the most prevalent leadership style adopted by CPMs, it was first necessary to test for variances between the responses of the CPMs in NZ and the UK. This would ensure the two geographic locations could be classified as one generalised

sample. Postulation based on the literature review was that the two populations would be similar in terms of their demographics. This hypothesis was therefore tested using a *t*-test, the results from which are shown in table 5 below.

Table 5: Comparison of Group Statistics

	Location	N	Mean	Std. Deviation
TL	NZ	38	95.06	10.34
	UK	34	90.48	10.75
TRL	NZ	38	34.41	7.61
	UK	34	31.17	7.03
PAL	NZ	38	15.15	4.81
	UK	34	15.56	4.57
UOE	NZ	38	20.05	2.00
	UK	34	20.02	2.46
ROE	NZ	38	20.68	2.58
	UK	34	20.07	2.78
OEA	NZ	38	18.06	3.04
	UK	34	17.52	3.24
SEA	NZ	38	20.73	3.06
	UK	34	19.87	3.09

The mean scores for the UK and NZ groups were compared against the three leadership categories; TL, TRL and PAL, as well as the four constructs of EI (UOE, ROE, OEA and SEA). Visual inspection indicates that the TL scores are marginally higher than other leadership styles for both groups. NZ had a mean score of 95 for TL, whereas the participants from the UK had a mean score of 90. The combined results indicate that the TL leadership style is most frequently employed for both groups, followed by TRL and then the PAL style, which obtained the lowest scores. This rudimentary comparison offers similarities and patterns for the four variables contained within the EI construct for both countries.

To further investigate the similarities and to test for significance, Levene's test for equality and variance of means was carried out. The results demonstrate equality of variances in the independent NZ & UK samples (homogeneity of variance  $p > .05$ )

(Martin & Bridgmon, 2012) for all leadership styles and EI constructs. A *t*-test was also carried out between the constructs to see if any of the differences were significant. Out of all of the variables and construct tested, none were of significance ( $p > .05$ ). Any differences between the results for NZ and the UK were minor and of no statistical significance. Despite the TL scores for NZ CPMs being slightly higher for both TL and TRL, none of these results were considered to be a statistically significant variance of means at .072 and .066 respectively. The results for Levene's test for equality alongside the *t*-tests can be found in appendix K.

The data for the NZ and UK participants addressed the first objective of the study, as it quantified transformational leadership as the most prevalent style of leadership employed by CPMs within both NZ and the UK. The leadership style of each participant was chosen depending upon the highest score between the three main leadership styles. Analysis of these scores revealed that 53 of the CPMs could be categorised as having a TL leadership style, one CPM had a score split evenly on the borderline between TL & TRL and 18 of the CPMs presented a predominantly TRL score. It is worth noting that none of the participants had a score which would be categorised as PAL.

### **5.6.2 Objective Two - CPMs' Emotional Intelligence (EI)**

Research Objective 2 - to identify the average EI of CPMs in NZ and the UK, to enable comparison of the samples and to provide a benchmark.



The next stage of data analysis focused on the second objective of the study, which was to identify the average emotional intelligence (EI) of CPMs in NZ and the UK. The descriptive statistical analysis shows that the average (mean) measure of EI in this study was 78.56. The mean and range of EI scores can be seen in table 6.

Table 6: Mean and Range of Emotional Intelligence Scores

	<b>N</b>	<b>Minimum</b>	<b>Maximum</b>	<b>Mean</b>
<b>Total EI</b>	72	60	95	78.56
<b>UOE</b>	72	15	24	20.03
<b>ROE</b>	72	12	24	20.38
<b>OEA</b>	72	11	24	17.83
<b>SEA</b>	72	10	24	20.31

The analysis demonstrates that EI ranged from a score of 60 up to 95 for individual participants. Additionally, each of the constructs of EI have been included, the highest of which was ROE, closely followed by SEA, UOE and finally the lowest scoring construct mean was for OEA.

### 5.6.3 Objective Three - The Relationship Between EI and TL

Research Objective 3 – to determine if there is a significant correlation between the Construction Project Managers (CPMs) EI and transformational leadership style adopted.

With information relating to the EI of CPMs available, the third and final objective of the study was addressed. In order to investigate the relationship between the CPMs EI and TL style, Pearson's correlation analysis was undertaken. This process allowed the four main construct for each of the leadership styles to be compared in an effort to test the following hypothesis:

**H<sub>0</sub>:** There is no significant relationship between EI and TL

**H<sub>1</sub>:** There is a significant relationship between EI and TL

To determine if the  $H_0$  could be accepted, EI was analysed using Pearson's correlation. The results from this test can be seen in table 7 below.

Table 7: Pearson's Correlation for TL and EI Constructs

		Table 8:				
		UOE	ROE	OEA	SEA	TL
<b>UOE</b>	Pearson Correlation	1	.431**	.348**	.342**	.420**
	Sig. (2-tailed)		0	0.002	0.002	0
<b>ROE</b>	Pearson Correlation	.431**	1	.349**	0.199	.292**
	Sig. (2-tailed)	0		0.002	0.083	0.01
<b>OEA</b>	Pearson Correlation	.348**	.349**	1	.626**	.497**
	Sig. (2-tailed)	0.002	0.002		0	0
<b>SEA</b>	Pearson Correlation	.342**	0.199	.626**	1	.406**
	Sig. (2-tailed)	0.002	0.083	0		0
<b>TL</b>	Pearson Correlation	.420**	.292**	.497**	.406**	1
	Sig. (2-tailed)	0	0.01	0	0	

These findings were important because they confirmed moderate positive correlations in relation to TL for all four of the EI constructs, all of which are of statistical significance ( $p \leq .01$ ). The same process was carried out to include for correlation amongst the two other leadership styles (TRL and PAL) against the four EI constructs. The Pearson correlation values showed a moderate relationship for TRL leaders. Three of the four variables (ROE, OEA and SEA) checked were significant ( $p \leq .01$ ), the remaining variable UOE was only significant at the .05 level ( $p \leq .05$ ). The results for the PAL show a moderate negative correlation of statistical significance for OEA only ( $p \leq .01$ ). There was a weaker level of significant negative correlation for SEA ( $p \leq .05$ ). No statistically significant relationship was found between this leadership style and the UOE or ROE construct.

To further investigate the four constructs of EI and how relevant these are for the TL style, multiple regression analysis was carried out to examine the TL model in greater depth. The results from which indicate, that as a model, EI is a predictor of TL. Please refer to table 8.

Table 9: Transformational Leadership Model Summary

Model	R	R 2	Adjusted R 2	Std. Error
1	.570	0.324	0.287	8.94371

Each of the constructs of EI were then analysed individually, to assess to what extent they may explain and predict the TL style. Interestingly, a disparity was found between the four main EI constructs. UOE was a significant predictor of TL where  $p < .05$  ( $\beta = .24$ ,  $t = 2.2$ ,  $p = .03$ ), as well as OEA ( $\beta = .32$ ,  $t = 2.49$ ,  $p = .01$ ). In contrast to this however, SEA ( $\beta = .10$ ,  $t = 0.8$ ,  $p = .40$ ) and ROE ( $\beta = .05$ ,  $t = .45$ ,  $p = .65$ ) did not prove to be a significant predictor of TL. A summary of these results can be seen in table 9 below.

Table 10: EI Constructs as a Predictor of Transformational Leadership

Model		Unstandardised Coefficients		Standardised Coefficients		Sig.
		B	Std. Error	Beta	t	
1	(Constant)	38.202	10.958		3.486	0.001
	UOE	1.179	0.534	0.248	2.208	0.030
	ROE	0.202	0.449	0.050	0.450	0.654
	OEA	1.116	0.447	0.326	2.499	0.015
	SEA	0.381	0.449	0.107	0.847	0.400

The same multiple regression analysis of the four EI constructs was also undertaken for the TRL style, to provide information on how these factors interacted and to see if there were any significant relationships for any of the constructs for this style. The results indicate that EI is also a predictor of TRL as demonstrated in table 10. It was interesting to find that the model was not as strong for the TRL style, which showed lower levels of significance in comparison to the TL style previously tested.

Table 11: Transactional Leadership Model Summary

Model	R	R 2	Adjusted R 2	Std. Error
1	0.480	0.230	0.188	6.65136

For TRL, once again there was a lack of significant consistency between the four main EI constructs. OEA was found to be the only significant predictor of TRL where  $p < .05$ . ( $\beta = .303$ ,  $t = 2.17$ ,  $p = .03$ ). In this instance UOE, was not a significant predictor for TRL which fell outside the levels of significance ( $\beta = .05$ ,  $t = .42$ ,  $p = .67$ ). ROE showed no significance as a predictor ( $\beta = .20$ ,  $t = 1.69$ ,  $p = .09$ ) alongside SAE ( $\beta = .06$ ,  $t = .45$ ,  $p = .65$ ). These results can be seen in table 11 below.

Table 12: EI Constructs as a Predictor of Transactional Leadership

Model		Unstandardised Coefficients		Standardised Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.186	8.149		0.268	0.789
	UOE	0.170	0.397	0.051	0.427	0.671
	ROE	0.566	0.334	0.201	1.694	0.095
	OEA	0.723	0.332	0.303	2.177	0.033
	SEA	0.151	0.334	0.061	0.452	0.653

Finally, multiple regression was carried out for PAL scores. The results show low levels of significance for the EI constructs to be used as a predictor of the PAL being present ( $r = .33$ ,  $t = .07$ ). It is noted that although not significant, the results are only marginally outside of the suggested levels of significance ( $p < .05$ ).

Table 13: Passive Avoidant Leadership Model Summary

Model	R	R 2	Adjusted R 2	Std. Error
1	0.334	0.111	0.062	5.35628

It was also interesting to find that none of the constructs were seen to be a significant factor in predicting the PAL style. Many of the beta standardised coefficients ( $\beta$ ) were also negative for UOE ( $\beta = -.06$ ,  $t = -.49$ ,  $p = .62$ ), OEA ( $\beta = -.23$ ,  $t = -1.56$ ,  $p = .12$ ) and SEA ( $\beta = -.12$ ,  $t = -.83$ ,  $p = .40$ ). The only positive  $\beta$  was for ROE ( $\beta = .07$ ,  $t = .57$ ,  $p = .57$ ). These results can be found in table 13 below.

Table 14: EI Constructs as a Predictor of Passive Avoidant Leadership

Model		Unstandardised Coefficients		Standardised Coefficients		Sig.
		B	Std. Error	Beta	t	
1	(Constant)	27.960	6.562		4.261	0.000
	UOE	-0.160	0.320	-0.064	-0.499	0.620
	ROE	0.153	0.269	0.073	0.570	0.570
	OEA	-0.419	0.267	-0.234	-1.568	0.121
	SEA	-0.226	0.269	-0.122	-0.839	0.404

Interpretations of these results show that the constructs of EI have little or no significant predictive power on the PAL leadership style ( $p < .05$ ). Furthermore, any weak relationship for UOE, OEA and SEA would be that of a negative relationship. As a result of the findings, the  $H_0$  was rejected and the  $H_1$  hypothesis was accepted.

## 5.7 QUALITATIVE DATA

Two qualitative open-ended questions were included in the questionnaire to draw out information relating both to the perceptions and beliefs of CPMs in regard to EI and leadership. This element was included to provide explanatory and supplementary information for the quantitative data. The nature of qualitative data means it is less tangible, more difficult to measure and interpret than quantitative data with numeric systemisation. It was important to devise analysis methods to suitably interrogate the responses given in connection with opinions provided. It was considered vital that this research was undertaken without researcher bias, for researcher opinions and emotional involvement in the industry to be ruled out and to provide objective

interpretation. To do this, data analysis was undertaken to consider how the responses explained TL and EI as well as confirmed or elaborated upon the current understanding of leadership and EI theories. This undertaking enables the responses to be broken down into units and linked back to the previous research findings. This process helped to deduct new information or themes from the responses and to see if there were any new patterns or explanations to come forth.

Coding enables open-ended responses to be categorised and indexed depending upon the theme or primary topic. This coding is described as: “*a code of qualitative enquiry is most often a short word or phrase that symbolically assigns a summative, salient, essence-capturing, and/or evocative attribute for a portion of language based on visual data*” (Strauss & Corbin, 1990). Systematic approaches available to qualitative analysis was set out by Bryman (2012) who suggests looking for major themes as well as grouping cases together into categories. A suitable method to identify major themes includes text analysis, which identification of repetitions of any words or phrases given in response to the question Bernard and Ryan (2009). Text analysis of the open-ended questions was undertaken formally using the survey monkey analysis tool. This programme automatically selects the most frequently used words or phrases for all of the responses to each question. Following this, categorising was performed to link the responses given back to the literature review for EI and TL. For instance, the responses to the EI question were all categorised against the four main elements or codes of emotional intelligence (SEA, OEA, ROE & UOE). This systematic examination of the dataset was designed to extract the relevance of the research findings for the research objectives, as well as the implications in the context of construction and amid the wider research finding to date. The responses to each of the qualitative data questions for leadership (Q18) and EI (Q23) are first considered in the remainder of this chapter (sections 5.8 - 5.11.5).

## 5.8 PERCEPTIONS OF EFFECTIVE LEADERSHIP

The first qualitative question sought to address the participants' perception of which leadership methods they felt were the most effective in maximising results from their construction project team. *'Q18. How do you get the best performance from your project team? Please comment below.'* Fifty-eight responses were recorded, these can be found in full in appendix M. The initial stage of the data analysis involved coding using text analysis to reduce and make sense of the data. This was done using the tools available on the survey monkey website, which detect any reoccurring words given as part of the response. This process identified several words and phrases frequently used (frequency > 3). The summary of this data can be found in table 14.

Table 15: Text Analysis of Qualitative Leadership Responses

Clear	9	16%
Expected	8	14%
Leading by example	8	14%
Achievement	7	12%
Encourage	6	10%
Motivate	4	7%
Listening	3	5%

The most frequently used word was 'clear', this was used in nine of the responses equating to 16% of all cases. A summary of the answers against each word or phrase identified above can be found in Appendix N. The responses indicate that clarity is considered a crucial factor when achieving results within a construction project team environment. Of the available responses, clarity of the team members' responsibility within the project parameters was a reoccurring theme. One respondent explained that the *CPMs* must make the responsibility of achieving aims and objective clear; 'make clear who is responsible for what and when', another response explained this as; 'operatives should be given a clear understanding of what is required.' Clear and concise instructions were also reported to assist in achieving optimum performance from the team, by clearly explaining both the task in hand 'clear instructions of what needs to be done' as well as expectations that the leader holds for them 'clear

instruction of what is required and expected.’ Clearly conveying a goal or outcome to the team was claimed to be an essential way to maximise performance. One of the respondents explained this; ‘Provide clear vision and goals for what is required to be achieved.’ To summarise, clarity was alleged to support improved team outcomes through instruction, clarity of responsibility and clear definition of a vision or goal.

The second most frequently used word or phrase was ‘expected expectation(s)’ as well as ‘leading by example’, which were both used in eight of the responses given (14%). The summary table of expectation responses is also contained within appendix N. The CPMs explained that the communication of their expectations to individual members of the team was an important mechanism to achieve the desirable team outcomes. These expectations are communicated at an individual level, taking into account the team members experience and abilities; *‘to recognise strength and capabilities and set tasks / expectations accordingly.’* As well as on a team level; *‘setting out at the start of the project what is expected of the team and what needs to be achieved’.*

While most of the responses appeared to concur in the theme and explanation, one particular response appeared different to the others, this was ‘There is an expectation that this should not be necessary. They are all professionals and paid as such.’ This response shows that the participant considers self-motivation and self-management to be the responsibility of the team member rather than the leader. The majority of responses regarding expectations also link back to the theme of clarity and show the perceived importance of clearly conveying objectives and expectations to attain the best team performance. Concurrent to the word ‘expectation’ the phrase ‘leading by example’ or ‘setting an example’ was also recorded eight times (14%).

Leading by example is a term which recognises the importance and impact that the leader plays in the team dynamics. This involves the leaders behaving and communicating in a way that is seen to be desirable for the rest of the team to also employ, ‘setting an example for the team to follow.’ The responses demonstrate the significance that CPMs place on their own actions in connection with team



performance outcomes. Many of the respondents explained that they are working as part of the team in a support role, assisting with problems as and when they arise. One respondent described this as; ‘lead by example, be supportive all the time. Engage when team members seem to be struggling with the task. Face problems head on and involve the larger team.’ Throughout the responses, the third word identified was ‘achieve/achieved/achievement’, which appeared seven times (12%). Analysis of these responses found that the CPMs viewed involvement of team members and providing them with a sense of ownership on the project to be key components in the attainment of goals and objectives. One respondent explained that they would get the best from their team by; ‘asking their (*team members*) opinion on the best way to achieve the task.’ What also became apparent was a view that aims and objectives must first be clearly communicated to the team and then subsequently reviewed at regular intervals, to align progress to the original objectives. This was explained by one respondent: ‘Define clear objectives with the individuals in the team, monitor and review achievement against objectives and any issues on a one to one basis and as a team formally on a weekly basis, and informally as and when required.’

Another frequently used word was encouragement. This was used in six instances (10%). Encouragement is identified as an important aspect of leadership, although, the answers given do not conclusively concur on what exactly is being encouraged by the leader. Some examples of encouragement given to team members include, encouragement of others to take on more responsibility; ‘to engage personal responsibility’ and to improve the team environment; ‘encourage an open and engaging atmosphere amongst the team.’ Motivation was another theme which emerged with ‘motivate / motivation / motivating’ being used on four occasions (7%). As was found with encouragement, motivation was given as an explanation of how the CPMs perceived they were able to get their best from the team. Collectively, there were no concurring examples given as to the areas in which this motivation was applied. The only explanation of team motivation was that of a ‘shared vision’ of the project outcomes. The final word recorded was ‘listening’ which occurred in three instances (5%). All of these are set out in appendix N; one of which simply stated

‘listening’ although, the other two responses explained how the involvement of all team members and listening to other team members was valuable. The dynamics of a team means that the individuals contained within the team all have different strengths and weaknesses and it is only by involving and listening to other team members, that the best course of action can be selected and the team members begin to experience a sense of value and relevancy with the team unit.

Overall, open coding of responses found that CPMs employ a variety of methods to involve, motivate and encourage the team members to facilitate improved performance. CPMs also report acting in a way that they would like to see other members of the team behave, in the hope that they would start to do the same. Clarity around goals and communication of what is expected from team members was described as an influential factor, alongside the review of progress against these goals. This provides a sense of achievement when steps toward a goal have been made. Many of the responses referred to listening and involvement of others in a team effort where CPMs work with the rest of the team to provide support where necessary.

### **5.8.1 Categorising**

In order to link the responses given to the leadership question back to the literature review and subsequent theoretical framework, categorising was undertaken to index the responses given against the nine constructs of TL, TRL and PAL on the full range leadership continuum. All responses against question 19 can be found in appendix O. Each of the questions has been marked as either; Ideal influence attributes or behaviours (IIA/B), inspired motivation (IM), intellectual stimulation (IS), individualised consideration (IC), contingent reward (CR), management by exception active (MBEA), management by exception passive (MBEP) or laissez-faire leadership (LFL) based on which category was the best interpretation of the response given. An additional category named ‘other’ was included for responses which did not clearly fit into any of the categories or had an alternative explanation of how the best could be achieved from the project team. Some of the responses provided covered more than

one construct of leadership, so were assigned more than one category. A summary of the numbers for each category are shown in table 15 below.

Table 16: Summarised Categorisation of Leadership Responses

Q.19	(IC) Individualised consideration	Other	(IM) Inspired Motivation	(IIA / IIB) Idealised Influence	(IS) Intellectual Stimulation	(CR) Contingent Reward	(LFL) Laissez Faire Leadership	(MBEA) Management by Exception Active	(MBEP) Management by Exception Passive
No of responses	24	16	11	9	6	1	1	0	0

From the categorisation it is clear that CPMs find the methods associated with TL constructs (IC, IM, II, IS & CR) as being the most favourable ways to achieve the best performance from their construction team.

### 5.8.2 Transformational leadership

The most frequent explanation of how the CPMs felt that they were best able to achieve results from their team, was individualised consideration. The respondents clearly felt that consideration of the team members is a requirement which must be addressed before improved performance can be achieved. Twenty-four of the 58 responses have been categorised under IC explaining the need for CPMs to listen to individuals who make up the team, consider the needs and opinions of the individuals and provide this consideration at an individual level to foster trust and security for the team member. One respondent conveyed their opinion of the importance that listening has in understanding the team members and providing them with a sense of trust in the leader and relevancy in the team: ‘Listen, listen and when I think I understand, really listen – then I understand better and they feel of team worth.’ Within the IC explanations of improved team performance, the use of acknowledgement, praise and encouragement was identified as being an important factor, whereas the avoidance of blame was described as a way to enable a positive work environment. One response described this: ‘By giving as much help and advice as possible and listening to the

team, by rewarding success and collectively taking the responsibility for failure, so as not to create a blame culture.’

Inspirational motivation was described in 11 of the CPM answers. Some of these responses simply stated ‘motivate’ whereas others were more descriptive when they explained how they introduced motivation into the team. The way in which CPMs inspired the team included providing ownership of the project, a shared vision of the project outcomes, while fully supporting them in this endeavour. One response explained this: ‘Motivate them with a shared vision of the project outcome expectation and properly brief and attend to them so that they can do their job well.’ Idealised influence attributes (IIA) and behaviours (IIB) were given in nine of the responses to describe how the CPM felt that; ‘setting an example for the rest of the team to follow’ and; ‘leading by example’ could act as a facilitator for improved team performance. These responses clearly show that CPMs view their own actions and attitudes as an important and consequential ingredient for the performance of their project team. Intellectual Stimulation (IS) was identified amongst six of the responses. These instances explain the need to provide tasks which challenge and engage individuals so that they remain focused on the desired outcome and project goal or vision. One of the responses described their belief of this process: ‘Providing tasks that will challenge them to keep them focused and valued.’

The responses show that continual engagement of the individuals, is viewed as a necessary component for the overall team dynamics. The comments succinctly cover all of the salient points of TL and it is apparent that the CPMs understand the way that they are best able to engage, encourage, relate to and motivate the team. The combined results explain TL in terms of a conscious choice based on knowledge, ethics and cognition.

### **5.8.3 Transactional Leadership**

Contingent reward (CR) and Management by Exception active (MBEA) are the two constructs that make up the TRL. Astoundingly, none of these explanations were

given in response to the questions. It would appear that all of the respondents either use TL or 'other' methods to get the best from their project team. Positive and negative reinforcement was not identified specifically.

#### **5.8.4 Passive Avoidant Leadership**

There was only one recorded incidence of PAL, which was the following response: 'There is an exception that this should not be necessary. They are all professionals and paid as such.' This opinion is quite different from the other responses and falls into the Laissez-faire leadership (LFL) category. This leader is conveying a hands-off approach, with a belief that industry professionals should have the skills to self-manage and communicate efficiently, without the need for intervention to improve team environments and project related outcomes.

#### **5.8.5 Unallocated Answers**

It was possible for the responses given to question 19 to be categorised under a variety of constructs depending upon the researchers' interpretation. However, there was insufficient information available to fully assign some responses accurately and for this reason the responses were recorded under the heading 'other'. For example, one response to this question simply stated: '110%'. This answer does not give sufficient information to allow for constructive categorisation. Additionally, a number of responses given, mentioned the perceived importance of setting out clear goals and boundaries, which would be reviewed as the project was underway or at completion. The problem with categorisation of these responses is the way in which the feedback and review of the goals given was not detailed. For this reason, it is impossible to know if the feedback given by the CPM was constructive which would then fall into the TL category or if rewards and punishments were contingent to the team members' performance which would then categorise the response as TRL. To reduce response bias, it was considered prudent to allocate ambiguous responses to a category labelled 'other.'

## 5.9 PERCEPTIONS OF EMOTIONAL INTELLIGENCE

Question 23 related to the topic of EI and enquired about how respondents perceived emotions. The question was included to find out if participants viewed EI as a relevant factor of leadership specifically in the context of the construction industry: *Q23. In your opinion what is the relevance of emotions, if any, for a leader working within the construction industry?* There were 54 responses to this question; again the same process of text analysis and categorisation was consistently applied to the qualitative data of answers given for this question. A full copy of the responses can be found in appendix P.

## 5.10 TEXT ANALYSIS

Table 16 summarises the seven of the most frequently cited words (frequency > 3) and categorises them into seven main themes for discussion.

Table 17: Text Analysis of Qualitative EI Responses

Word / Phrase	Frequency	% of responses
Team	14	26%
Able	14	26%
Manage	9	17%
Control	7	13%
Industry	4	7%
Calm	4	7%
Peoples Emotions	3	6%

A summary of responses for each of the words or phrases can be found in appendix Q. The most frequently used words in the responses were ‘team’ and ‘able’. Both of these words were used in fourteen instances (26% of the answers given). The responses suggest that CPMs perceive emotions to be a relevant component for a construction teams’ performance, morale and social environment. The morale of a team is reported to be affected in a negative way when certain emotions are expressed; ‘Emotions come in the way of carrying out your own tasks and affect the teams morale.’ Another response approached team morale and emotions from a

different perspective, when they explained that identification and empathising with others emotions, is an important way of improving the morale of the team: 'This is required to understand the team and keep morale high.' The responses of CPMs often referred to the social team environment where emotional interpretation and interaction is a requirement for all members of the construction team: 'You need to understand emotions of your team so that you can communicate with them.' This is identified as a way in which the team can be encouraged to ensure performance. Alongside team the word 'ability / able' was also referred to 14 times (26%). From all of the 'ability' responses given, there is no concluding or reoccurring idea that can be deduced. Despite the word ability being present in a large number of the responses, these were merely a variety of ways that the participants described a CPMs skill set such as the ability to identify emotions, judge if a team member is struggling, controlling emotions, be firm and so on. There was not fitting pattern of explanation for the importance of emotions.

The second word frequently used was 'management / manage / manager (s)', this appeared in nine of the 54 responses (17%). The importance of emotions alongside management fell into three main categories, these were; identifications, managing and facilitating. First, identification of emotions in other people is seen as being relevant to identify instances where support for the team member may be required. The respondents also intimated that the understanding of others emotions within the team is essential to achieve the best performance; 'identifying emotions is important in the workplace in order to manage individuals and optimise performance.' The second commonality found in the responses given, was the belief that a CPMs management of the team ensured the best working environment for team success. An example of this response was: 'you have to control your emotions as a manager in order to influence team members in the most optimal way.' Finally, the CPMs conveyed a belief that emotions were invaluable and could be used to facilitate successful project outcomes, through understanding and engagement of the team, leading to overall project success. One respondent explained this belief: 'Emotionless management might yield results in the beginning – but late the team members disconnect from the

team – if this happens they can't align with the project goals – so emotions have a lot of importance in leadership.'

The third word was 'control' which featured in seven of the responses given (13%). Most of the respondents viewed the ability to control emotions as being essential within the construction industry. One CPM simply responded; 'it is important to be able to control and not show emotion.' This ability to control emotions was further described in one response: 'you must be able to keep your emotions under control, at least outwardly.' The types of emotions that required control were identified as frustration and anger, another remark explaining an opinion that expression of such emotion would be detrimental to the other members of the team: 'you should not lose your temper with junior members of staff even when angry as this could affect confidence etc.' Other responses conveyed a perception that anger could potentially jeopardise business outcomes and could generally have a negative impact when used within the industry: 'Others may take pleasure in goading you and 'pushing your buttons' this rarely ends well for anyone.'

Four of the responses given included the word 'calm' or 'industry' (7%). The consensus from the industry responses given was that emotions play a vital role in the construction industry; 'emotions are a driving factor of management roles within the industry.' One of the respondents pointed out that the role of emotions has the same relevance in construction as it does for other industries; 'Allowing emotions to cloud your judgement has the same consequence in the construction industry as any other.' What is striking from this comment, is the perception that emotions are obstructive to judgement. Another comment that gives insight to this view, explains that raw or unregulated emotions can be unproductive in the industry; 'Raw emotions are rarely helpful in the construction industry. Work is hard enough without having to deal with other peoples' emotions as well.' Although this comment appears to convey that emotions are destructive, it is the use of the word 'raw' which puts the comments into context and infers that regulated and controlled emotions are separate from knee-jerk reactions or emotions that have not been shaped by cognition. It is worth noting that



one lengthy response given by a participant under the 'industry' category identified a lack of emotionality in the construction industry as being detrimental to quality. This was the only response to address build quality and the associated emotional outcomes of leadership rather than the emotional input of the leader. An example of the emotional impact of the construction industry was given in relation to the leaky homes crisis in NZ. This relates to a large number of timber framed homes built between 1994 and 2005 had water tightness issues: 'As a result, hundreds of thousands of people lost billions of dollars and the consequential EMOTIONAL devastation actually resulted in people taking their own lives, in some cases.'

The next most frequent word to be used was 'calm.' There was an agreement between the participants' responses that a leader must be someone who is able to remain calm and control their emotions when problems arise; 'you need to be a calm and confident person to get those around you to act accordingly when things go wrong.' This response put forward the idea that the CPMs believe that team members begin to act in a way which is consistent with their own behaviour and that they perceive themselves as being a role model to the rest of the team. A number of responses also described how the emotions of a leader must remain constant and be controlled, demonstrating consistency regardless of the project situation. It is interesting that the CPMs viewed their emotions as an anchor for the rest of the team and that by remaining or appearing calm, a positive environment could be offered to the team. One respondent explained this: 'A leader's emotions set the tone of the project. Being too enthusiastic can be as off putting as being negative. I believe calm confidence and reassurance, with a willingness to listen are the way to handle ups and downs people will feel during a project.'

The fifth frequently used word or phrase was 'peoples emotions', this was used on three occasions (6%). Analysis of the responses found that identification of other peoples' emotions was viewed as an important way in which the CPM could monitor and intervene when a member of the team could benefit from support and assistance. This was described as something that is done in a bureaucratic way to enable the best

performance from the project team members; ‘Dictorial behaviour only causes adversity it does not create a good working environment. Also by taking notice of other peoples’ emotions you are able to judge if a team member is struggling with workload etc. and needs help.’

## 5.11 CATEGORISATION OF QUALITATIVE DATA

Upon completion of the text analysis, categorisation was carried out to categorise the responses into the four EI constructs set out in the theoretical framework. The categorisation of all responses against question 23 can be found in appendix R. Each of the questions were marked as either; ROE, UOE, SEA, OEA or other based on the best category to describe the response. Some of the responses covered more than one construct of EI so were assigned more than one category. A summary of the numbers for each category can be found in table 17.

Table 18: Summarised Categorisation of EI Responses

Q.23	ROE	OEA	OTHER	SEA	SEA
<b>No of responses</b>	20	15	13	12	5

### 5.11.1 Regulation of Emotions

From the summary, regulations of emotions (ROE) came to light as the most frequently used explanation for the relevance of emotions in the industry. It was intriguing to find that while some respondents found the expression and involvement of both positive and negative emotions as being critical to the leadership role, e.g.: ‘It’s important to be able to display both positive and negative emotion depending on the situation. If things are not going to plan you need to ensure you portray the

relevant emotions to substantiate this and the need to get things back on track. Equally if things are going well this needs to be shown and rewarded accordingly.’ This response could be interpreted as somewhat transactional due to the exchange of reward in return for positive behaviour and a negative consequence in return for a negative behaviour or performance.

There were also those who expressed the need to contain and conceal emotions from the rest of the project team. Many of the respondents explained that this regulation was a necessary way of being professional leaders in the industry. For example, one respondent explained suppression of emotions to guide and influence the team: ‘In order to get the best out of people, you have to control your emotions as a manager in order to influence team members in the most optimal way.’ Most of the explanations provided, give an account for the need to regulate emotions to enable interaction with the team members and team in a positive and considered way and to prevent detrimental emotional interactions with individuals and the wider team.

### **5.11.2 Others Emotional Appraisal**

Others emotional appraisal (OEA) was explained as a relevant factor in 15 of the 54 responses given. From these responses a great deal of insight was obtained regarding the view of CPMs. Many of the comments given indicated that emotions play an important part for leaders and that it is a necessity to be able to identify the feelings and emotions of others; ‘Identifying emotional behaviour is relevant in everything we do’ another response explains this as; ‘being able to identify others emotions is important in order to extract the best performance from the individual.’ Many of the responses explained that not only is identification of others emotions important, but it is essential to be able to understand and empathise with other members of the project team. One such respondent explained the relevance of emotions as; ‘Empathy for individual needs of all staff.’ So it would appear that identification of emotions in others allows the CPM to understand and relate to the team member.

The answers given to this question illustrate the role that empathy and the leaders understanding has to play in the facilitation of an improved team environment. Responses given explain this environment as a; ‘good working environment’ which improves morale, ‘keep morale high’ and provides the individuals with a feeling of relevance and inclusion in the group, ‘create a sense of belonging and security.’ From all of the responses given against this category, emotions were explained as a necessary way for a leader to empathise and understand the team members to provide a supportive environment which improves team morale. What is most apparent about the responses categorised as OEA, was the explanations given to the positive resultant outcomes. This was described as a way in which the leader could; ‘successfully manage’, ‘manage in a more efficient and effective manner’. As well as improved leadership performance, the manifestation of an improved team environment was linked with improved outcomes that; ‘optimise performance’ and achieve, ‘business outputs.’

Looking at all of the responses given, it would appear as though the OEA allows for empathy and a social interaction between the leader and team member which facilitates a better team environment acting as a catalyst for improved project related outcomes.

### **5.11.3 Self-Emotional Appraisal**

Twelve of the 54 responses were categorised as self-emotional appraisal (SEA). These answers explain the relevance of emotions in terms of the CPMs need to identify and understand their own emotions. Many of the answers given in this category linked to the regulation of emotion, after first identifying the emotion that needed to be regulated i.e. ‘I am unable to make sound judgements when I am angry’.

The respondents also described emotions as being a valuable way to know if they were under stress or how experiencing personal stress prevents them from being able to engage and achieve results in a construction project environment: ‘Very relevant in order to get the best from team working. I am a trained mediator but sometimes I

recognise that in a stressful situation I am sometimes slow to use those skills to help me deal with a problem or help to direct those people around me. It is much easier to mediate from a distance in a situation that one is not involved in.'

#### **5.11.4 Use of Emotions**

Five of the responses were categorised under use of emotions (UOE). From these answers it would appear that the CPMs use emotions to encourage other members of the team to achieve the desired direction or success; 'it can be positive in pulling people along with you rather than insensitive pushing people along.' Another explanation states that; 'if things are not going to plan you need to ensure you portray the relevant emotions to substantiate this and get things back on track.' Not all of the answers given are detailed in the way emotions are used, but touch on the subject of how the emotions could be used to realign people with the project aims and improve performance.

#### **5.11.5 Other Comments**

Although this section concerned categorisation of the responses, it should be noted that there were a few answers given, which touched upon the issues and discussions contained within the literature review. One of which was the topic of gender. This item suggests that the male dominance and autocratic leadership is something which may be changing within the industry. This also intimates that the leadership style within the industry may have shifted towards a more bureaucratic and inclusive leadership style: 'The days of the sexist bully-boy is just about over but there are still some dinosaurs out there. Key to any project is take the team with you.' Another answer given conveys the idea that emotions are imperative to keeping the team happy and that happy team members are essential for team performance: 'Performance is key and unhappy colleagues tend to underperform. Emotions are key to performance and output.' Although this answer does not specifically fit into any of the constructs of emotions, it does align with the earlier research findings that

established happy and healthy workers are more productive (Judge et al., 2001; Kuoppala et al., 2008).

This chapter has provided analysis of the quantitative and qualitative data with focus on the three research objectives. From the results attained, a significant correlation has been found between the CPMs EI and TL style adopted. This is discussed further in the chapter 6.

## **CHAPTER 6: DISCUSSION**

This section provides a discussion of the research findings in relation to the three original objectives and deliberates these findings in terms of the implications for the leadership style of construction project managers.

### **6.1 EMOTIONAL INTELLIGENCE OF THE PROJECT MANAGER**

The results found that emotional intelligence scores for construction project managers ranged from 60 to 95 with a mean of over 78. The mean score for each individual construct contained within the overall emotional intelligence score ranged between 17 and 20. This demonstrates that all of the constructs are responsible for the total emotional intelligence score makeup. It is this measure of EI that has been found to correlate with the resulting transformational leadership style as detailed in section 5.6.3.

### **6.2 PREDOMINANT LEADERSHIP STYLE – TRANSFORMATIONAL LEADERSHIP**

The analysed results show that the most prevalent leadership style identified for CPMs is the transformational leadership style, with over 73% of respondents falling into this category. The remaining respondents fall into the transactional leadership category (27%), with none of those who took part were categorised as passive avoidant leaders. These findings show that the majority of project managers already have an engagement with the transformational leadership style. The qualitative results also demonstrate that the project managers have an understanding and acknowledge the relevance of the underlying transformational leadership components. It is proposed that the demands of the project managers leadership role, which involves communicating with people on a variety of levels and backgrounds, attracts individuals with high levels of emotional intelligence and those who naturally employ the transformational leadership style. It could also be that the transformational leadership or transactional leadership style is necessary to achieve or maintain a

successful project management role and therefore, the passive avoidant leader is rejected by the industry accordingly.

The results pertaining to current levels of engagement with the transformational leadership style, is insightful as the present situation is determined, this information can then be used as a benchmark for any further research across other industries or sectors. Furthermore, the potential scope for improvement specifically related to the project management role in the context of the construction industry, has now been quantified. Although the percentage of transformational leaders identified is proportionally higher than that of transactional leaders, the results signify an opportunity for the industry to encourage those in the transactional leadership category to improve and work towards a transformational leadership style on the continuum.

Categorisation of the qualitative responses revealed that the underlying constructs of transformational leadership, were the most frequent explanations of how PMs felt they could maximise team performance. This was explained through the individualised consideration, intellectual motivation, the leaders' ideal influence and intellectual stimulation provided to team members.

### **6.3 RELATIONSHIP BETWEEN EI AND TL**

The results provide evidence to support a link between the emotional intelligence and consequential leadership style of the construction project manager. Pearson's correlation analysis confirmed moderate levels of correlation for all four of the emotional intelligence constructs ( $p \leq .01$ ) against transformational leadership. As a direct result, the  $H_1$  Hypothesis is accepted and the null hypothesis is rejected. As the leadership style changes across the continuum, the significance of some of the emotional intelligence constructs using Pearson's Correlation Analysis appear to diminish. Only three of the construct of emotional intelligence; regulation of emotions (ROE), others emotional appraisal (OEA) and self-emotional appraisal (SEA), are significant for transactional leadership. This is reduced to one significant construct of



emotional intelligence, others emotional appraisal (OEA) for the passive avoidant leadership style on the far right hand side of the leadership continuum. Put simply, construction project managers are more likely to be transformational leaders if they can demonstrate a full range of emotional intelligence abilities. These abilities include being able to identify others emotions (OEA), their own emotions (SEA), regulate their own emotions (ROE) and use emotions effectively (UOE) in a team environment. The main difference between the transformational leader and the transactional leader was their ability to use their emotions effectively (UOE). The important finding was that project managers' use of emotions (UOE) which was the main factor of emotional intelligence when compared to a transactional leader. The only significant element of emotional intelligence for the passive avoidant leadership style, is the ability to appraise others emotions, therefore, it can be concluded that as the scope of EI improves, so too does the leadership style across the continuum. This is demonstrated in the figure 8 below:



Figure 8: Leadership Continuum against EI Constructs

### 6.3.1 Use of Emotions

The above findings are particularly interesting as they show that the use of emotions (UOE) is fundamental in the facilitation of transformational leadership. This is a necessary factor for the transformational leadership style to emerge, and it is this construct that sets the transformational leader apart from transactional or passive avoidant leaders. Pearson's correlation analysis shows that this construct has a

statistical significance ( $p \leq .01$ ) for the transformational leadership style to emerge and multiple regression analysis confirmed that the use of emotions could be used as a significant predictor of the transformational leadership style being adopted ( $p < .05$ ). These findings show that main element of emotional intelligence needed for a transformational project manager to come into effect, is the ability to use emotions to facilitate a team direction. The project managers' ability to interpret their own emotions through cognition and then channel this to achieve the desired direction or success is therefore key, to the use of a transformational leadership style in a team environment.

From open coding of the qualitative responses given to question 19, it becomes apparent that emotions are used in a way to encourage, involve and motivate team members to make progress of their own accord and using their own judgement, rather than instructing people in the project team to undertake specific tasks. It is of interest that, as the leadership style moves across the leadership continuum, then the weaker the relationship between this construct of EI becomes. At the point on the continuum where the transactional leadership begins, the relationship has weakened and is no longer statistically significant. When the leadership style reaches passive avoidant leadership on the continuum, then the construct becomes negative. This would suggest that as the project managers ability to effectively use emotions diminishes, so too does the associated leadership style displayed. These findings are supported by recent work of Jackson, *et al.* (2013), who found that all of the constructs of EI are positively related to affective commitment. It is therefore proposed that the leaders use of emotion is necessary alongside the regulation of emotions, self-emotional appraisal and others emotional appraisal to enable the transformational leadership style and affective commitment. It is also proposed that a project managers' use of emotions is a responsible vehicle for providing intellectual stimulation (IS), individualised consideration (IC), inspirational motivation (IM) and Idealised influence (II) to the construction team members.

### **6.3.2 Self-Emotional Appraisal**

The second construct of emotional intelligence identified to have significance for transformational leadership, was self-emotional appraisal (SEA). Although this construct was found to be a significant predictor of the transformational leadership style ( $p \leq .01$ ), unlike the use of emotions (UOE), it was also a significant predictor of the transactional leadership style, albeit with lower levels of significance in comparison to the transformational leadership style. This means that the project managers' ability to appraise their own emotions is important to the actualisation of both the transformational and transactional leadership style but the use of emotions is only relevant for the transformational leadership style. It could be that transactional leaders can constructively appraise their own emotions but are then unable to use their own emotions to channel and direct the individual team members to show affective commitment. As identified in section 3.4.2, affective commitment occurs when TLs are able to understand their own emotions and then use them to facilitate improved performance.

Text analysis and categorisation of the qualitative responses revealed that the project managers believed that understanding of their own emotions was instrumental to achieving the best for their project team. This was explained as a necessity, especially when stressed or angry so that the emotions could be approached objectively, allowing for regulation of these emotions (ROE) where necessary. The regulation of emotions was viewed as a way to prevent any negative impact that expression of such emotions could have on the team and working environment.

### **6.3.3 Regulation of Emotions**

Previous research described in section 3.6, theorised that repression of emotions could be detrimental socially, physically and psychologically (Ciarrochi et al., 2002; Pennebaker, 1995). In an organisational setting, repression was found to have negative consequences in relation to performance (Tsaousis & Nikolaou, 2005).

However, the responses provided in this study do not indicate that the emotions are being repressed, but that the emotions experienced are being regulated for the most beneficial team outcome. Regulation involves the individuals' understanding and experience of every day emotional highs and lows, while being able to level out and regulate the extremes. Regulation of emotions (ROE) is therefore the experience of emotions, rather than repression of the emotions. By doing this, the individual is able to level off the emotional peaks and troughs, through regulation, to demonstrate more consistent, positive and regularised emotions.

Pearson's correlation analysis revealed a statistical relationship between this a project managers' regulation of emotions and transformational leadership ( $p \leq .01$ ), as well as transactional leadership ( $p \leq .01$ ) with a lower strength of significance. There was no significant relationship between regulation of emotions and passive avoidant leadership. Multiple regression analysis also revealed that the ability to regulate emotions was not a significant predictor of the transformational leadership style being adopted. This means that project managers who are able to regulate their emotions are more likely to be transformational and transactional leaders. Categorisation of the qualitative data also identified that regulations of emotions was the most frequent explanation of the relevance of emotions for a leader working in the industry. This was described as being necessary to facilitate a consistent and levelled environment and to enable the leader to remain flexible and positive in their approach and exchange with the rest of the team.

#### **6.3.4 Others Emotional Appraisal**

Others Emotional appraisal (OEA) was found to have a statistically significant relationship with transformational leadership using Pearson's correlation analysis ( $p \leq .01$ ); this was also found with transactional leadership style but with lower  $r$  values and therefore a weaker relationship. This means that construction project managers with a high score on their ability to appraise others emotions are more likely to be transformational leaders. Those with moderate scores are more likely to be

transactional leaders and those with low scores are more likely to be passive avoidant leaders. Interestingly the construct of others emotional appraisal was the only construct found to have a significant correlation with the passive avoidant leadership style ( $p \leq .01$ ), which was a negative relationship suggesting that the passive avoidant project managers are not able to understand the emotions of others around them in an organisational environment. These results demonstrate a definite shift in strength for the construct as it moves across the leadership continuum from a strong positive with the transformational leadership style through to a negative at the passive avoidant leadership style. Multiple regression analysis confirmed that others emotional appraisal was a significant predictor ( $p < 0.5$ ) of the transformational and transactional leadership style being adopted.

Text analysis has identified that the team members' emotions and understanding of these emotions, while being able to empathising with this, facilitates an improved team environment and project outcomes. This was also seen to provide a sense of belonging, relevancy and security for the team members affecting the overall team morale. The understanding of the team members motives and goals and the leaders ability to emphasise with the team members was seen as being critical to project success.

Although, the research has identified two of the constructs as having particular relevance in terms of the transformational leadership style (UEO and OEA), the complexity of social interaction may best be considered holistically rather than simplified and dissected into constructs. Furthermore, the continuum means that the change is something that graduates across the scale rather than fits into clean cut parameters and categories. These results show that transformational leaders who have higher emotional intelligence make self-emotional appraisal, regulation of emotions, others emotional appraisal and use of emotions possible to achieve success. Those who are not only able to understand and regulate their own emotions but then fully understand, empathise regulate and use their own emotions to advancement of the team, are those who are more likely to become or act as transformational leaders.

## **6.4 CONSTRUCTS OF TRANSFORMATIONAL LEADERSHIP**

Objective assessment of the collective qualitative data implies that project managers have a belief or understanding that they must engage with the project team, while showing genuine concern, acting as a role model and source of inspiration. There is a general agreement from the responses given that being supportive while facilitating an environment of trust, honesty and openness is essential before optimum performance from the team can be actualised for the project. Categorisation of this data explained that the individual consideration (IC) offered to team members by listening to their views and concerns, to provide an understanding, is a necessary factor to foster an element of trust. Encouragement, acknowledgement and praise were also identified as ways the CPM could identify the contribution, effort and progression that the team member has made, while avoiding allocation of blame for any failures that inevitably arise within a construction team.

Inspired motivation (IM) was another way in which CPMs identified they were able to get the best from their project team. Inspiration was provided to members through a shared vision and goal, which team members were given some degree of control and ownership on how this was to be achieved with the support of the leader when required. The data also indicated that the CPMs Idealised Influence (II) was necessary to provide an example to team members on the suitable attributes to employ and behaviour to demonstrate. It was viewed that the actions and attitudes of this leader would have a direct impact on the team members' values and behaviour as a result. Intellectual Stimulation (IS) was rationalised through setting of challenging tasks and individual feedback, to ensure the individual remained engaged within the construction team and their endeavour to achieve the defined project goals.

## **6.5 GENDER**

Construction has previously been identified as a male dominated industry which has often struggled to embrace the concept of emotions and softer skills (Kissi et al.,

2009; Mossman, 2009). Previous empirical research has found a resistance to this topic amongst males (Fielden et al., 2000; Lindebaum & Cassell, 2012; Loosemore et al., 2003). Although this study is not designed to investigate gender differences within the industry, it is nevertheless a significant factor of the CPM demographic, which must be taken into consideration. The responses obtained for both NZ and the UK were representative of the general population in terms of the ratio of males to females. This enabled the responses to be interpreted as a representation for the group as a whole, when assessing the beliefs and opinions of CPMs in the industry. It also allows for any general differences between the genders to be examined however, due to the relatively small yet representative number of females who responded, comparative tests such as *t*-tests were not suitable for reliability and validity reasons.

Earlier research conducted into the area of EI and TL in the construction industry (Fielden et al., 2000; Lindebaum & Cassell, 2012; Loosemore et al., 2003), put forth an expectation that there would be an undertone of male dominance and resistance to EI within the industry. In congruence to this, the qualitative responses provided demonstrate an understanding amongst CPMs that endorsed implementation of collaborative team methods. One of the respondents actually indirectly referred to a perception of a change in the leadership style of leaders working in the industry over time. This would suggest that the male dominated environment with traditional working methods could now be changing or may have converted to working methods that involve collaboration and involvement of the collective team. ‘The days of the sexist bully-boy is just about over but there are still some dinosaurs out there. Key to any project is take the team with you.’ If the culture within the industry has in fact changed over time, this could be an indication that the industry has become more receptive to the implementation of softer skills and emotional intelligence. As this was merely one response, it cannot be held as conclusive findings but it does infer that the leadership style is perceived to have change by some but the extent of this belief is unclear.

Despite the majority of qualitative answers categorised as either transformational or transactional leadership, one of the responses indicated a clear passive avoidant leadership viewpoint of the project managers' leadership role. This stance was conveyed through the comment; 'There is an expectation that this should not be necessary. They are all professionals and paid as such.' This is a distanced and removed comment, which was not consistent with the remainder of the responses. Again, caution is taken when including this response in the overall interpretation of the results, but it would suggest that there are still a minority of leaders who exist between transactional and passive avoidant leadership style on the continuum.

## **6.6 GEOGRAPHIC LOCATION**

Due to a lack of research into the emotional intelligence of project managers in the NZ construction industry, there was no available research upon which to base a hypothesis on the anticipated similarities and differences in comparison to that of the UK. Of course, the two countries are both considered to have a Western culture with English as their primary language but other than this, there is a lack of sufficient information to base a hypothesis on. Analysis of the results found slight differences between the average emotional intelligence scores of project managers in NZ, who scored 95 in comparison to UK participants who scored 90. Both of these country's CPMs employ transformational leadership as the predominant leadership style followed by transactional and then passive avoidant leadership. There were also minor differences found between the constructs of emotional intelligence and transformational leadership but application of Levene's test for equality of variance and means as well as *t*-tests concluded that any differences found were of no statistical significance ( $p > .05$ ). For these reasons, the results were considered as one comparable and integrated sample rather than separate entities.

This chapter has revealed a number of meaningful insights that are interlinked with the initial literature review. The role of emotional intelligence with regards to the subsequent leadership style of CPMs on the full range leadership continuum has been



addressed. The constructs that can predict the likelihood of CPMs adopting the transformational leadership style amid the context of the construction environment have been identified and discussed. It is from this discussion that the fundamental conclusions in chapter seven have been drawn.

## **CHAPTER 7: CONCLUSION**

### **7.1 INTRODUCTION**

This chapter looked at the conclusions that can be drawn in relation to each of the three research objectives examined in this study. Consideration is given to how recommendations drawn out of this research could be applied to the construction industry. The limitations of this study are also discussed along with recommendations for further research and development of the topic.

### **7.2 REVIEW OF RESEARCH OBJECTIVES**

The first objective of this thesis was to identify the most prevalent leadership style being used by construction project managers (CPMs) in NZ and the UK. The second was to determine the average emotional intelligence for this group in order for the final aim of the study to be addressed, which was to see if there was any significant relationship between emotional intelligence and transformational leadership being adopted.

The research presents empirical evidence to support the idea that emotional intelligence is a predictor of the preferred transformational leadership style being adopted amongst construction project managers within NZ and the UK. The study also quantifies that the majority of construction project managers currently employ this style, with over two thirds (73%) self-reporting this leadership style. The remaining leaders were identified as being transactional leaders. The average emotional intelligence of the construction project manager was 78, with a range between 60 and 95. This score provides the industry with a benchmark of emotional intelligence scores, which enables the samples to be compared against other samples and industries in future studies.

The importance of adopting and utilising transformational leadership has been outlined for a plethora of other sectors through previous studies. However, this is one

of the first studies to address the current use of transformational leadership specific to the role within the UK & NZ construction industries combined. The built environment is such an integral part of the economy for both NZ and the UK, so it is astounding to find that it has been the focus of such few studies conducted into this topic. The findings are therefore intended as a solid foundation for further research and development with a potential for positive change. Previous empirical research supports the idea that the transformational leadership style presents numerous benefits when active within a team, this style is therefore encouraged. Engaging project managers with this leadership capability could have the potential to lend a helping hand to the construction industry at a challenging time, where continual improvement and effective leadership is required.

To summarise, it has been found that the transformational leadership style is the most prevalent amongst project managers within the construction industry in both NZ and the UK. The emotional intelligence score and all constructs contained within, were found to have a significant relationship with the transformational leadership style, especially the use of emotions, which is specifically relevant to achievement of transformational leadership.

The results demonstrate that transformational leaders are able to control and understand their own emotions and manage relationships through the recognition and understanding of these emotions. The majority of project managers demonstrate self-awareness in the ability to understand their own emotions and recognise the impact that this has on their performance and other members of their team. Furthermore, these results indicate that an awareness of others emotions, such as happiness or worry, is important to be able to understand team members or team members concerns, motives and goals. The important point conveyed by project managers was not only the ability to understand their team members' emotions, but also empathise with the individuals in a way that gains trust and allows for the project managers to direct the efforts of team members toward achievement of the desired goals. For instance, when a team member is experiencing personal problems such as the ill

health of a relative or a relationship breakdown, this could potentially impact upon the output of the team member and the team alike. Self-management and regulation of emotions was suggested as an important component of the ability to control the emotion and use this awareness to remain flexible and act in a positive way. Social skills and relationship management through others emotional appraisal, regulation of emotions, self-emotional appraisal and use of emotions are essential to successfully manage interactions and therefore provide improved project, team and individual outcomes through transformational leadership. The encouragement of transformational leaders in the construction industry will help to foster collaborative working relationships, encourage a team approach to problem solving and a willingness to seek cost-effective and innovative solutions for the benefit of the individual, team, client and inevitably, the industry as a whole.

### **7.3 RECOMMENDATIONS FOR CONSTRUCTION INDUSTRY PRACTITIONERS**

As recognised in chapter 1.2, the construction industry has been identified as a sector that is a considerable contributor to the GDP of both NZ and the UK. Alongside this, it is also an industry that has been identified as being in desperate need of reform in both countries. Leadership is one of the key areas that have been singled out to help bring about this change. From the study, a number of practical recommendations are put forward for implementation in the industry. It is intended that these recommendations can be included to improve the identification, selection and training of project managers for improved project outcomes.

- **Psychometric Testing**

The use of using psychometric testing during the recruitment process would make it possible for those with the most suitable qualities, especially those with good self-emotional appraisal and the ability to use emotions effectively, to be identified and selected for the important role of a construction project manager. This would identify leaders who are best able to provide an environment to facilitate a happy, healthy workforce who can achieve improved project outcomes.

Testing for emotional intelligence should be considered as a potential way to assist in the recruitment for this socially demanding role, alongside other more traditional methods such as interviews to assess personality, academic achievement, IQ and experience. By implementing a measure of emotional intelligence, a holistic and inclusive assessment of the construction project manager could be achieved potentially leading to improved project outcomes.

- **Providing training for existing project managers**

Research has shown that emotional intelligence and transformational leadership is something that can be taught and strengthened through training using workshops and seminars. The majority of project managers who responded (76%) were not undertaking any construction related training at the time they completed the questionnaire. This indicates a capacity of future development for the industry and based on these findings, it has been proposed that organisations should encourage emotional intelligence training of construction project managers. Training should be tailored to improve and develop the use of emotions and self-emotional appraisal. This training can also be available as a refresher workshop to assist in developing the culture change and prevent relapse. From the findings contained in the review of literature and relevant documents, it is proposed that this training would be beneficial not only to the direct project team, but it is expected that implementation of transformational leadership training workshops or seminars would have the potential to yield improved performance outcomes for indirect team members such as through the cascade effect. This training would also satisfy the desire of leaders in the industry for leadership progression through training and new experience, in contrast to the financial incentives and rewards currently being offered by the industry in this pursuit.

- **Availability of Mentors and Secondment Opportunities**

Another suggestion would be to provide the project managers with one-on-one coaching with a trained mentor at specified intervals. This could be tailored specifically for construction project managers to encourage emotional intelligence and transformational leadership improvement, with specific reference to the challenges that a construction project manager encounters on a day-to-day basis in the industry. Also, secondments of exposure to new processes or environments could be implemented to provide development in a working based environment rather than abstract training sessions. The initial reaction to this suggestion may be one of concern with regard to the associated costs, although with the findings of this research and considering the weight of previous empirical research, the potential benefits for improved leadership and associated outcomes would outweigh this.

This research has, as intended, has provided a study that is inclusive of the NZ construction industry. In the past, this country has been neglected in comparison to others such as the UK and the USA. The research has therefore achieved the aim of providing specific information relating to the construction project manager. This information can be used for future research and development within the country. It is important to continue the research on transformational leadership and emotional intelligence for the construction industry, in an endeavour to improve and enhance the leadership quality required to achieve associated beneficial outcomes.

#### **7.4 LIMITATIONS OF THE STUDY**

Despite the significant findings of this study, it is not without limitations. One limitation is the subjective nature of the participants' self-measurement of their own emotional intelligence and leadership style. For example, what one individual may have scored on their ability to identify, interpret, control and use emotions; may be entirely different to the scores that would be given by the manager, colleagues or team members of the same project manager. Similarly, the leadership capabilities could be

subject to informant bias, resulting from the participants desire to provide results which are considered to be correct or desirable. Steps were taken to reduce the possibility of social desirability bias by conveying assurance to the participants that their responses would remain anonymous, via the e-invite and the introduction page of the questionnaire as highlighted in section 4.6.

The sample was limited to members contained within the Royal Institute of Chartered Surveyors' database, which may have presented a bias for participants who are associated with this professional body. The Royal Institute of Chartered Surveyors has strong foundations in the quantity surveying profession and may therefore have been bias towards project managers with a surveying background, or those who work in a specific sector of the industry.

## **7.5 RECOMMENDATIONS FOR FURTHER RESEARCH**

The findings from this study, presents a case for further investigation and suggests how future research could eliminate some of the apparent limitations. The first suggestion would be to include peer questionnaires to provide a more objective measure of the leaders project managers' style and hone in on the relationship in more detail at a project level. This inclusion would provide a more reliable and objective dataset for interpretation. A second measure would be to include the use of interviews with the PMs and peers, to further interrogate the relationships as a second phase to the research. The involvement of other professional bodies such as the Chartered Institute of Building, International Project Managers Association and Institution of Civil Engineers, would enable participants with a background in a wider variety of disciplines to be included within the research. Another option would be to approach companies from a variety of sectors in construction industry to take part in future studies. This would ensure reflection of the complex and diverse nature of the industry to include sectors such as oil, gas, civil, nuclear, social housing, residential and commercial.

If future research aimed to identify the differences in gender for the project managers in relation to both transformational leadership and emotional intelligence, then a balanced and larger sample size would be required to do so. The demographic of the sample in this instance is a suitable representation of the identified population. The respondents reflected the gender ratio for the population exceptionally well, however, the small number of female responses meant that reliable comparison and conclusion of any differences between the emotional intelligence, transformational leadership and opinions was not possible. While the results section may give some intuition on this and provide a direction for further research, the sample ratio of male to females would have to be much larger, before reliable conclusions could be drawn from these results. This research could be replicated for the comparison of males against females, but a recruitment method to provide the desired sample would need to be refined to identify and then provide inclusion of females representing a minority in this role and industry.

Contextually, this study found a link between a construction project managers' emotional intelligence and the likelihood that they would employ a transformational leadership style. This aim was considered essential, due to the associated positive outcomes linked to this leadership style across multi-industries. It is reasonable at this point to expect the same outcomes for construction, although further confirmatory contextual research would strengthen the claims of potential outcomes for the industry and depict which outcomes, such as financial performance, organisational commitment, innovation and health and safety are likely to be affected as a result.



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## **APPENDICIES**

## **Appendix A : Employment by Industry UK**

Table 19: Employment by Industry in the UK

Standard Industrial Classification (SIC) 2007<sup>1</sup>

	All in employment 2	Public sector <sup>3</sup>	Private sector	Agriculture, forestry & fishing	Mining, energy and water supply	Wholesale, retail & repair of motor vehicles										Accommodation and food services				Information & communication				Financial & insurance activities				Real estate activities				Professional, scientific & technical activities				Administrative & support services				Public administration & defence; social security				Education				Human health & social work activities				Other services				R, S, T																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
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T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO	AP	AQ	AR	AS	AT	AU	AV	AW	AX	AY	AZ	BA	BB		BC	BD	BE	BF	BG	BH	BI	BJ	BK	BL	BM	BN	BO	BP	BQ	BR	BS	BT	BU	BV	BW	BX	BY	BZ	CA	CB	CC	CD	CE	CF	CG	CH	CI	CJ	CK	CL	CM	CN	CO	CP	CQ	CR	CS	CT	CU	CV	CW	CX	CY	CA	CB	CC	CD	CE	CF	CG	CH	CI	CJ	CK	CL	CM	CN	CO	CP	CQ	CR	CS	CT	CU	CV	CW	CX	CY	CA	CB	CC	CD	CE	CF	CG	CH	CI	CJ	CK	CL	CM	CN	CO	CP	CQ	CR	CS	CT	CU	CV	CW	CX	CY	CA	CB	CC	CD	CE	CF	CG	CH	CI	CJ	CK	CL	CM	CN	CO	CP	CQ	CR	CS	CT	CU	CV	CW	CX	CY	CA	CB	CC	CD	CE	CF	CG	CH	CI	CJ	CK	CL	CM	CN	CO	CP	CQ	CR	CS	CT	CU	CV	CW	CX	CY	CA	CB	CC	CD	CE	CF	CG	CH	CI	CJ	CK	CL	CM	CN	CO	CP	CQ	CR	CS	CT	CU	CV	CW	CX	CY	CA	CB	CC	CD	CE	CF	CG	CH	CI	CJ	CK	CL	CM	CN	CO	CP	CQ	CR	CS	CT	CU	CV	CW	CX	CY	CA	CB	CC	CD	CE	CF	CG	CH	CI	CJ	CK	CL	CM	CN	CO	CP	CQ	CR	CS	CT	CU	CV	CW	CX	CY	CA	CB	CC	CD	CE	CF	CG	CH	CI	CJ	CK	CL	CM	CN	CO	CP	CQ	CR	CS	CT	CU	CV	CW	CX	CY	CA	CB	CC	CD	CE	CF	CG	CH	CI	CJ	CK	CL	CM	CN	CO	CP	CQ	CR	CS	CT	CU	CV	CW	CX	CY	CA	CB	CC	CD	CE	CF	CG	CH	CI	CJ	CK	CL	CM	CN	CO	CP	CQ	CR	CS	CT	CU	CV	CW	CX	CY	CA	CB	CC	CD	CE	CF	CG	CH	CI	CJ	CK	CL	CM	CN	CO	CP	CQ	CR	CS	CT	CU	CV	CW	CX	CY	CA	CB	CC	CD	CE	CF	CG	CH	CI	CJ	CK	CL	CM	CN	CO	CP	CQ	CR	CS	CT	CU	CV	CW	CX	CY	CA	CB	CC	CD	CE	CF	CG	CH	CI	CJ	CK	CL	CM	CN	CO	CP	CQ	CR	CS	CT	CU	CV	CW	CX	CY	CA	CB	CC	CD	CE	CF	CG	CH	CI	CJ	CK	CL	CM	CN	CO	CP	CQ	CR	CS	CT	CU	CV	CW	CX	CY	CA	CB	CC	CD	CE	CF	CG	CH	CI	CJ	CK	CL	CM	CN	CO	CP	CQ	CR	CS	CT	CU	CV	CW	CX	CY	CA	CB	CC	CD	CE	CF	CG	CH	CI	CJ	CK	CL	CM	CN	CO	CP	CQ	CR	CS	CT	CU	CV	CW	CX	CY	CA	CB	CC	CD	CE	CF	CG	CH	CI	CJ	CK	CL	CM	CN	CO	CP	CQ	CR	CS	CT	CU	CV	CW	CX	CY	CA	CB	CC	CD	CE	CF	CG	CH	CI	CJ	CK	CL	CM	CN	CO	CP	CQ	CR	CS	CT	CU	CV	CW	CX	CY	CA	CB	CC	CD	CE	CF	CG	CH	CI	CJ	CK	CL	CM	CN	CO	CP	CQ	CR	CS	CT	CU	CV	CW	CX	CY	CA	CB	CC	CD	CE	CF	CG	CH	CI	CJ	CK	CL	CM	CN	CO	CP	CQ	CR	CS	CT	CU	CV	CW	CX	CY	CA	CB	CC	CD	CE	CF	CG	CH	CI	CJ	CK	CL	CM	CN	CO	CP	CQ	CR	CS	CT	CU	CV	CW	CX	CY	CA	CB	CC	CD	CE	CF	CG	CH	CI	CJ	CK	CL	CM	CN	CO	CP	CQ	CR	CS	CT	CU	CV	CW	CX	CY	CA	CB	CC	CD	CE	CF	CG	CH	CI	CJ	CK	CL	CM	CN	CO	CP	CQ	CR	CS	CT	CU	CV	CW	CX	CY	CA	CB	CC	CD	CE	CF	CG	CH	CI	CJ	CK	CL	CM	CN	CO	CP	CQ	CR	CS	CT	CU	CV	CW	CX	CY	CA	CB	CC	CD	CE	CF	CG	CH	CI	CJ	CK	CL	CM	CN	CO	CP	CQ	CR	CS	CT	CU	CV	CW	CX	CY	CA	CB	CC	CD	CE	CF	CG	CH	CI	CJ	CK	CL	CM	CN	CO	CP	CQ	CR	CS	CT	CU	CV	CW	CX	CY	CA	CB	CC	CD	CE	CF	CG	CH	CI	CJ	CK	CL	CM	CN	CO	CP	CQ	CR	CS	CT	CU	CV	CW	CX	CY	CA	CB	CC	CD	CE	CF	CG	CH	CI	CJ	CK	CL	CM	CN	CO	CP	CQ	CR	CS	CT	CU	CV	CW	CX	CY	CA	CB	CC	CD	CE	CF	CG	CH	CI	CJ	CK	CL	CM	CN	CO	CP	CQ	CR	CS	CT	CU	CV	CW	CX	CY	CA	CB	CC	CD	CE	CF	CG	CH	CI	CJ	CK	CL	CM	CN	CO	CP	CQ	CR	CS	CT	CU	CV	CW	CX	CY	CA	CB	CC	CD	CE	CF	CG	CH	CI	CJ	CK	CL	CM	CN	CO	CP	CQ	CR	CS	CT	CU	CV	CW	CX	CY	CA	CB	CC	CD	CE	CF	CG	CH	CI	CJ	CK	CL	CM	CN	CO	CP	CQ	CR	CS	CT	CU	CV	CW	CX	CY	CA	CB	CC	CD	CE	CF	CG	CH	CI	CJ	CK	CL	CM	CN	CO	CP	CQ	CR	CS	CT	CU	CV	CW	CX	CY	CA	CB	CC	CD	CE	CF	CG	CH	CI	CJ	CK	CL	CM	CN	CO	CP	CQ	CR	CS	CT	CU	CV	CW	CX	CY	CA	CB	CC	CD	CE	CF	CG	CH	CI	CJ	CK	CL	CM	CN	CO	CP	CQ	CR	CS	CT	CU	CV	CW	CX	CY	CA	CB	CC	CD	CE	CF	CG	CH	CI	CJ	CK	CL	CM	CN	CO	CP	CQ	CR	CS	CT	CU	CV	CW	CX	CY	CA	CB	CC	CD	CE	CF	CG	CH	CI	CJ	CK	CL	CM	CN	CO	CP	CQ	CR	CS	CT	CU	CV	CW	CX	CY	CA	CB	CC	CD	CE	CF	CG	CH	CI	CJ	CK	CL	CM	CN	CO	CP	CQ	CR	CS	CT	CU	CV	CW	CX	CY	CA	CB	CC	CD	CE	CF	CG	CH	CI	CJ	CK	CL	CM	CN	CO	CP	CQ	CR	CS	CT	CU	CV	CW	CX	CY	CA	CB	CC	CD	CE	CF	CG	CH	CI	CJ	CK	CL	CM	CN	CO	CP	CQ	CR	CS	CT	CU	CV	CW	CX	CY	CA	CB	CC	CD	CE	CF	CG	CH	CI	CJ	CK	CL	CM	CN	CO	CP	CQ	CR	CS	CT	CU	CV	CW	CX	CY	CA	CB	CC	CD	CE	CF	CG	CH	CI	CJ	CK	CL	CM	CN	CO	CP	CQ	CR	CS	CT	CU	CV	CW	CX	CY	CA	CB	CC	CD	CE	CF	CG	CH	CI	CJ	CK	CL	CM	CN	CO	CP	CQ	CR	CS	CT	CU	CV	CW	CX	CY	CA	CB	CC	CD	CE	CF	CG	CH	CI	CJ	CK	CL	CM	CN	CO	CP	CQ	CR	CS	CT	CU	CV	CW	CX	CY	CA	CB	CC	CD	CE	CF	CG	CH	CI	CJ	CK	CL	CM	CN	CO	CP	CQ	CR	CS	CT	CU	CV	CW	CX	CY	CA	CB	CC	CD	CE	CF	CG	CH	CI	CJ	CK	CL	CM	CN	CO	CP	CQ	CR	CS	CT	CU	CV	CW	CX	CY	CA	CB	CC	CD	CE	CF	CG	CH	CI	CJ	CK	CL	CM	CN	CO	CP	CQ	CR	CS	CT	CU	CV	CW	CX	CY	CA	CB	CC	CD	CE	CF	CG	CH	CI	CJ	CK	CL	CM	CN	CO	CP	CQ	CR	CS	CT	CU	CV	CW	CX	CY	CA	CB	CC	CD	CE	CF	CG	CH	CI	CJ	CK	CL	CM	CN	CO	CP	CQ	CR	CS	CT	CU	CV	CW	CX	CY	CA	CB	CC	CD	CE	CF	CG	CH	CI	CJ	CK	CL	CM	CN	CO	CP	CQ	CR	CS	CT	CU	CV	CW	CX	CY	CA	CB	CC	CD	CE	CF	CG	CH	CI	CJ	CK	CL	CM	CN	CO	CP	CQ	CR	CS	CT	CU	CV	CW	CX	CY	CA	CB	CC	CD	CE	CF	CG	CH	CI	CJ	CK	CL	CM	CN	CO	CP	CQ	CR	CS	CT	CU	CV	CW	CX	CY	CA	CB	CC	CD	CE	CF	CG	CH	CI	CJ	CK	CL	CM	CN	CO	CP	CQ	CR	CS	CT	CU	CV	CW	CX	CY	CA	CB	CC	CD	CE	CF	CG	CH	CI	CJ	CK	CL	CM	CN	CO	CP	CQ	CR	CS	CT	CU	CV	CW	CX	CY	CA	CB	CC	CD	CE	CF	CG	CH	CI	CJ	CK	CL	CM	CN	CO	CP	CQ	CR	CS	CT	CU	CV	CW	CX	CY	CA	CB	CC	CD	CE	CF	CG	CH	CI	CJ	CK	CL	CM	CN	CO	CP	CQ	CR	CS	CT	CU	CV	CW	CX	CY	CA	CB	CC	CD	CE	CF	CG	CH	CI	CJ	CK	CL	CM	CN	CO	CP	CQ	CR	CS	CT	CU	CV	CW	CX	CY	CA	CB	CC	CD	CE	CF	CG	CH	CI	CJ	CK	CL	CM	CN	CO	CP	CQ	CR	CS	CT	CU	CV	CW	CX	CY	CA	CB	CC	CD	CE	CF	CG	CH	CI	CJ	CK	CL	CM	CN	CO	CP	CQ	CR	CS	CT	CU	CV	CW	CX	CY	CA	CB	CC	CD	CE	CF	CG	CH	CI	CJ	CK	CL	CM	CN	CO	CP	CQ	CR	CS	CT	CU	CV	CW	CX	CY	CA	CB	CC	CD	CE	CF	CG	CH	CI	CJ	CK	CL	CM	CN	CO	CP	CQ	CR	CS	CT	CU	CV	CW	CX	CY	CA	CB	CC	CD	CE	CF	CG	CH	CI	CJ	CK	CL	CM	CN	CO	CP	CQ	CR	CS	CT	CU	CV	CW	CX	CY	CA	CB	CC	CD	CE	CF	CG	CH	CI	CJ	CK	CL	CM	CN	CO	CP	CQ	CR	CS	CT	CU	CV	CW	CX	CY	CA	CB	CC	CD	CE	CF	CG	CH	CI	CJ	CK	CL	CM	CN	CO	CP	CQ	CR	CS	CT	CU	CV	CW	CX	CY	CA	CB	CC	CD	CE	CF	CG	CH	CI	CJ	CK	CL	CM	CN	CO	CP	CQ	CR	CS	CT	CU	CV	CW	CX	CY	CA	CB	CC	CD	CE	CF	CG	CH	CI	CJ	CK	CL	CM	CN	CO	CP	CQ	CR	CS	CT	CU	CV	CW	CX	CY	CA	CB	CC	CD	CE	CF	CG	CH	CI	CJ	CK	CL	CM	CN	CO	CP	CQ	CR	CS	CT	CU	CV	CW	CX	CY	CA	CB	CC	CD	CE	CF	CG	CH	CI	CJ	CK	CL	CM	CN	CO	CP	CQ	CR	CS	CT	CU	CV	CW	CX	CY	CA	CB	CC	CD	CE	CF	CG	CH	CI	CJ	CK	CL	CM	CN	CO	CP	CQ	CR	CS	CT	CU	CV	CW	CX	CY	CA	CB	CC	CD	CE	CF	CG	CH	CI	CJ	CK	CL	CM	CN	CO	CP	CQ	CR	CS	CT	CU	CV	CW	CX	CY	CA	CB	CC	CD	CE	CF	CG	CH	CI	CJ	CK	CL	CM	CN	CO	CP	CQ	CR	CS	CT	CU	CV	CW	CX	CY	CA	CB	CC	CD	CE	CF	CG	CH	CI	CJ	CK	CL	CM	CN	CO	CP	CQ	CR	CS	CT	CU	CV	CW	CX	CY	CA	CB	CC	CD	CE	CF	CG	CH	CI	CJ	CK	CL	CM	CN	CO	CP	CQ	CR	CS	CT	CU	CV	CW	CX	CY	CA	CB	CC	CD	CE	CF	CG	CH	CI	CJ	CK	CL	CM	CN	CO	CP	CQ	CR	CS	CT	CU	CV	CW	CX	CY	CA	CB	CC	CD	CE	CF	CG	CH	CI	CJ	CK	CL	CM	CN	CO	CP	CQ	CR	CS	CT	CU	CV	CW	CX	CY	CA	CB	CC	CD	CE	CF	CG	CH	CI	CJ	CK	CL	CM	CN	CO	CP	CQ	CR	CS	CT	CU	CV	CW	CX	CY	CA	CB	CC	CD	CE	CF	CG	CH	CI	CJ	CK	CL	CM	CN	CO	CP	CQ	CR

Source: Labour Force Survey

<sup>1</sup> The breakdown by industry sector for Q1 2009 onwards is not entirely consistent with those of previous quarters. This is because:

(a) LFS data on industrial activity were coded directly to SIC 1992 for all quarters up to and including Q4 2008 and then mapped to the new industrial classification, SIC 2007, according to the assumed relationship between the two classifications;

(b) data for Q1 2009 onwards have been coded directly to SIC 2007; and

(c) a new, automatic coding tool was introduced in January 2009.

The effect of these changes on the time series was significant for some of the industry sectors shown. **Consequently some adjustments have been made to the pre-2009 estimates to account for the estimated combined effects of the new classification and the new coding tool.** This also means that the pre-2009 estimates in this table are not the same as those obtained from LFS microdata.

More information and analysis of these effects are available in the Labour Force Survey User Guide (Volume 1) and from Labour Force Assessment Branch (tel 01633 455839 or email labour\_market\_assessment@ons.gov.uk).

<sup>2</sup> Includes people with workplace outside UK and those who did not state their industry.<sup>3</sup> In the LFS the distinction between public and private sector is based on respondents' views about the organisation for which they work. The public sector estimates provided here do not correspond to the official Public Sector Employment estimates which are based on National Accounts definitions.

## **Appendix B : Email Invite**

## Email Invite

### **RE: Survey on Leadership Skills of Project Managers in the Construction Industry**

I am writing to inform you of an on-going research project at Massey University, Auckland. This concerns leadership skills of Project Managers working in the construction industry.

You have been invited as a key participant in an online survey on the above named research topic. It is an opportunity to contribute to the findings that could affect changes to problems faced when identifying and selecting the most effective leaders. This is specifically looking at the challenging and varied role of a Project Manager in the construction industry.

This study will benefit you and your organisation, as it aims to propose a way to identify and recruit the most suitable leaders for this role.

Your contribution and participation is highly valuable to this research as you have been considered as one of the significant leaders in the industry.

To participate in the survey click on this link:

<https://www.surveymonkey.com/s/pmleadershipsv>

If the link does not work on your computer, kindly copy the link on your web browser.

Please note:

- All information and responses will remain strictly confidential
- Research participants and responses will not be identified
- No individual performance report will be generated
- A summary of research will only be available in the form of generic combined responses and will not be traceable to you or your organisation.

Thank you for your time and providing valuable feedback.

With kind regards,

Emily Potter  
MRICS, BSc (Hons) Commercial Man.  
Postgraduate student, Massey University  
em.potter.1@uni.massey.ac.nz

## **Appendix C : Questionnaire Design**



## Project Managers Leadership Skills Survey

My name is Emily Potter, a MSc Construction Management student at Massey University. I am currently conducting research into key leadership skills of Project Managers in the construction industry. You have been identified as a construction professional that may have valuable experience of leadership to provide. I am therefore inviting you to undertake a short questionnaire; this will take around 10 minutes of your time.

**Please provide the information requested by filling in the blanks, selecting the relevant drop down option or ticking the appropriate boxes.**

Ethics :

- The data will be stored for academic research only and will not be used for commercial purposes
- All information provided will remain confidential in accordance with Massey University policy and procedures on ethical research
- Any personal information will be kept strictly confidential to provide anonymity
- The summary of research results will be available upon request. This will be in the form of generic cumulative responses, which will not be traceable to individuals or particular organisations
- No individual performance report will be generated
- There will be no identification of research participants and responses
- You are able to withdraw from this research at any time
- Please contact the researcher or the researcher's supervisor using the information provided below, if you have any concerns regarding the way in which this research is being conducted

**Researcher: Emily Potter, postgraduate student at Massey University**

**Email: em.potter.1@uni.massey.ac.nz**

**Supervisor: Dr. Temitope Egbelakin, School of Engineering and Advanced Technology (SEAT), Massey University**

**Email: T.Egbelakin@massey.ac.nz**

**Tel: 09 4140800 ext. 41542**

**Thank you for taking the time to assist in my educational endeavours. Your participation is greatly appreciated.**

*This project has been evaluated by peer review and judged to be low risk. Consequently, it has not been reviewed by one of the University's Human Ethics Committees. The researcher(s) named above are responsible for the ethical conduct of this research. If you have any concerns about the conduct of this research that you wish to raise with someone other than the researcher(s), please contact Professor John O'Neill, Director, Research Ethics, telephone 06 350 5249, email: humanethics@massey.ac.nz*

**Do you give consent to take part in this survey?**

☐ Yes

☐ No

# Project Managers Leadership Skills Survey

## Q1. Personal Details (Optional).

Name:

Organisation:

Job Title:

City / Town:

Email:

## Q2. Gender (Optional).

- ☐ Male ☐ Female

## Q3. How many years experience in the construction industry do you have?

Years

Years of experience

## Q4. In which country are you currently working as a Project Manager?

- ☐ United Kingdom
- ☐ New Zealand
- ☐ Other (please specify)

## Q5. How many years experience do you have in the role of Project Manager?

Years

Years of experience

## Project Managers Leadership Skills Survey

**Q6. Please indicate your background prior to becoming a Project Manager.**

- ☐ Architect
- ☐ Engineer
- ☐ Quantity Surveyor
- ☐ Site Manager
- ☐ Carpenter
- ☐ Other (please specify)

**Q7. What is the highest level construction qualification you hold (if any)?**

- ☐ PhD or Doctorate
- ☐ MSc, MA or LLM
- ☐ BSc or BA
- ☐ None

Other (please specify)

**Q8. Are you currently undertaking any construction related training?**

- ☐ No
- ☐ Yes (Please specify)

Comment

## Project Managers Leadership Skills Survey

**Q9. Please rate the following statements by judging how frequently each applies to you and your project team.**

[illegible]

**Q10. How frequently are you likely to do the following with the project team?**

[illegible]

**Q11. Please rate how often you choose to communicate with your team by:**

[illegible]



## Project Managers Leadership Skills Survey

**Q12. Please rate the statements below against how frequently you do the following at work:**

	Never	Rarely / seldom	Sometimes	Unsure	Often	Frequently	Always
I re-examine the assumptions that critical decisions have been based on and question if they are appropriate	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I seek differing perspectives when solving problems	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I get others to look at problems form many different angles	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I suggest new ways of looking at how to complete assignments	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**Q13. How often do you do the following with your project team?**

[illegible]

**Q14. In your leadership capacity, how often do you do the following at work?**

[illegible]

## Project Managers Leadership Skills Survey

**Q15. Please rate the following statements by judging how frequently each applies to you when managing your project team.**

[illegible]

**Q16. Please rate how often in your leadership role you:**

[illegible]

**Q17. Please rate how often in your role you do the following:**

[illegible]

## Project Managers Leadership Skills Survey

**Q18. How do you get the best performance from your project team? Please comment below.**

**Q19. Please rate the following statements by judging how frequently each applies to you and your emotions at work.**

[illegible]

**Q20. When at work how often do the following statements apply to you and the emotions of others?**

[illegible]

## Project Managers Leadership Skills Survey

### Q21. How frequently do the following statements apply to you at work?

	Never	Rarely / seldom	Sometimes	Unsure	Often	Frequently	Always
I set goals for myself and then try my best to achieve them	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I tell myself I am a competent person	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am a self-motivated person	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I encourage myself to try my best	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

### Q22. Please rate the following statements in relation to how you deal with your emotions in the workplace.

	Never	Rarely / seldom	Sometimes	Unsure	Often	Frequently	Always
I am able to control my temper and handle difficulties rationally	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am quite capable of controlling my emotions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I can calm down quickly when I am very angry	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have good control of my own emotions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

### Q23. In your opinion what is the relevance of emotions, if any, for a leader working in the construction industry? Please comment below.



## Project Managers Leadership Skills Survey

**Would you like to receive copy of the summary research findings from this study?  
This will be based on combined responses and will not be traceable to individuals.**

- ☐ No
- ☐ Yes (if yes, please provide your email address below)

Email:

**Thank you for your time and effort in responding to this questionnaire!**

**Once you click the 'Done' button below your survey response will be submitted.  
All information supplied will be kept strictly confidential.**

**For further enquiries please contact:  
Emily Potter, MSc Candidate  
Email: [em.potter.1@uni.massey.ac.nz](mailto:em.potter.1@uni.massey.ac.nz)**

**GOODBYE!**



## **Appendix D : Human Ethics Authorisation**



**MASSEY UNIVERSITY**  
**ALBANY**

26 November 2013

Emily Potter  
11 Cameron Place  
Fernhill  
Queenstown 9300

Dear Emily

**Re: Project Managers' Key Leadership Skills in the Construction Industry**

Thank you for your Low Risk Notification which was received on 19 November 2013.

Your project has been recorded on the Low Risk Database which is reported in the Annual Report of the Massey University Human Ethics Committees.

The low risk notification for this project is valid for a maximum of three years.

Please notify me if situations subsequently occur which cause you to reconsider your initial ethical analysis that it is safe to proceed without approval by one of the University's Human Ethics Committees.

Please note that travel undertaken by students must be approved by the supervisor and the relevant Pro Vice-Chancellor and be in accordance with the Policy and Procedures for Course-Related Student Travel Overseas. In addition, the supervisor must advise the University's Insurance Officer.

**A reminder to include the following statement on all public documents:**

*"This project has been evaluated by peer review and judged to be low risk. Consequently, it has not been reviewed by one of the University's Human Ethics Committees. The researcher(s) named above are responsible for the ethical conduct of this research."*

*If you have any concerns about the conduct of this research that you wish to raise with someone other than the researcher(s), please contact Professor John O'Neill, Director (Research Ethics), telephone 06 350 5249, e-mail [humanethics@massey.ac.nz](mailto:humanethics@massey.ac.nz)."*

Please note that if a sponsoring organisation, funding authority or a journal in which you wish to publish requires evidence of committee approval (with an approval number), you will have to provide a full application to one of the University's Human Ethics Committees. You should also note that such an approval can only be provided prior to the commencement of the research.

Yours sincerely

John G O'Neill (Professor)  
**Chair, Human Ethics Chairs' Committee and  
Director (Research Ethics)**

cc Dr T Egbelakin  
School of Engineering & Advanced Technology  
Albany campus

Prof D ClelandHOS  
SEAT  
Turitea campus

## **Appendix E : Questionnaire to Show the Constructs of EI and TL**



## Project Managers Leadership Survey

My name is Emily Potter, a MSc Construction Management student at Massey University. I am currently conducting research into the leadership skills of construction Project Managers.

You have been identified as a construction professional that may have valuable experience of leadership to provide. I am therefore inviting you to undertake a short questionnaire; this will take around 10 minutes of your time

**Please provide the information requested by filling in the blanks, selecting the relevant drop down option or ticking the appropriate boxes.**

### Ethics:

- The data will be stored for academic research only and will not be used for commercial purposes
- All information provided will remain confidential in accordance with Massey University policy and procedures on ethical research
- Any personal information will be kept strictly confidential to provide anonymity
- The summary of research results will be available upon request
- You are able to withdraw from this research at any time
- Please contact the researcher or the researcher's supervisor using the information provided below, if you have any concerns regarding the way in which this research is being conducted

### Researcher

Emily Potter  
C/O Massey University  
Email: em.potter.1@uni.massey.ac.nz

### Supervisor

Dr. Temitope Egbelakin  
School of Engineering and Advanced Technology (SEAT)  
Massey University  
Email: T.Egbelakin@massey.ac.nz  
Tel: 09 4140800 ext. 41542

**Thank you for taking the time to assist in my educational endeavours. Your participation is greatly appreciated.**

This project has been evaluated by peer review and judged to be low risk. Consequently, it has not been reviewed by one of the University's Human Ethics Committees. The researcher(s) named above are responsible for the ethical conduct of this research. If you have any concerns about the conduct of this research that you wish to raise with someone other than the researcher(s), please contact Professor John O'Neill, Director, Research Ethics, telephone 06 350 5249, email: [humanethics@massey.ac.nz](mailto:humanethics@massey.ac.nz)

**Do you give consent to take part in this survey?**

\_\_\_Yes      \_\_\_No

**1. Personal Details (Optional).**

Name: \_\_\_\_\_

Organisation: \_\_\_\_\_

Job Title: \_\_\_\_\_

City / Town: \_\_\_\_\_

Email: \_\_\_\_\_

**2. Gender (optional).**

Male \_\_\_\_\_ Female \_\_\_\_\_

**3. How many years experience in the construction industry do you have?**

Years of Experience: \_\_\_\_\_

**4. In which country are you currently working as a Project Manager?**

☐

United Kingdom

☐

New Zealand

☐

Other (please specify)

---

**5. How many years experience do you have in the role of Project Manager?**

Years of Experience: \_\_\_\_\_

**6. Please indicate your background prior to becoming a Project Manager?**

- ☐ Architect
  - ☐ Engineer
  - ☐ Quantity Surveyor
  - ☐ Site Manager
  - ☐ Carpenter
  - ☐ Other (please specify)
- 

**7. What is the highest level of construction qualification you hold if any?**

- ☐ PhD or Doctorate
- ☐ MSc, MA or LLM
- ☐ BSc or BA
- ☐ None
- ☐ Other (please specify)

**8. Are you currently undertaking any construction related training?**

- ☐ No
- ☐ Yes

**Comment:** \_\_\_\_\_

9. Please rate the following statements by judging how frequently each applies to you and your project team.

	Never	Rarely / seldom	Sometimes	Unsure	Often	Frequently	Always
I instil pride in others for being associated with me							
I go beyond self-interest for the good of my team							
I act in ways that builds others' respect for me							
I display a sense of power and confidence							

**TOTAL SCORE: Transformational Leadership – Idealised influence attributes (IIA)** \_\_\_\_\_

10. How frequently are you likely to do the following with the project team?

	Never	Rarely / seldom	Sometimes	Unsure	Often	Frequently	Always
Talk about my most important values and beliefs							
Specify the importance of having a strong sense of purpose							
Consider the moral and ethical consequences of decisions							
Emphasise the importance of having a collective sense of mission							

**TOTAL SCORE: Transformational Leadership – Idealised influence behaviours (IIB)** \_\_\_\_\_

11. Please rate how often you choose to communicate with your team by:

	Never	Rarely / seldom	Sometimes	Unsure	Often	Frequently	Always
Talking optimistically about the future							
Talking enthusiastically about what needs to be accomplished							
Articulating a compelling vision of the future							
Expressing confidence that goals will be achieved							

**TOTAL SCORE: Transformational Leadership – Inspirational motivation (IM)** \_\_\_\_\_



12. Please rate the statements below against how frequently you do the following at work:

	Never	Rarely / seldom	Sometimes	Unsure	Often	Frequently	Always
I re-examine the assumptions that critical decisions have been based on and question if they are appropriate							
I seek differing perspectives when solving problems							
I get others to look at problems from many different angles							
I suggest new ways of looking at how to complete assignments							

**TOTAL SCORE: Transformational Leadership – Intellectual stimulation (IS)** \_\_\_\_\_

13. How often do you do the following with your project team?

	Never	Rarely / seldom	Sometimes	Unsure	Often	Frequently	Always
Spend time teaching and coaching other members of the team							
Treat others as individuals rather than just another member of the team							
Consider an individual as having different needs, abilities and aspirations from others							
Help other team members to develop their strengths							

**TOTAL SCORE: Transformational leadership – Individual consideration (IC)** \_\_\_\_\_

14. In your leadership capacity, how often do you do the following at work?

	Never	Rarely / seldom	Sometimes	Unsure	Often	Frequently	Always
Provide team members with assistance in exchange for their efforts							
Discuss in specific terms who is responsible for achieving performance targets							
Make clear what team members can expect when performance goals are achieved							
Express satisfaction when members of the team meet expectations							

**TOTAL SCORE: Transactional leadership – Contingent reward (CR)** \_\_\_\_\_

15. Please rate the following statements by judging how frequently each applies to you when managing your project team.

Never	Rarely / seldom	Sometimes	Unsure	Often	Frequently	Always

I focus attention on irregularities, mistakes, exceptions and deviations from standards  
 I concentrate my full attention on dealing with mistakes, complaints and failures  
 I keep track of all mistakes  
 I direct my attention toward failures to meet standards

**TOTAL SCORE: Passive avoidant leadership – Management by exception, active (MBEA)** \_\_\_\_\_

16. Please rate how often in your leadership role you:

Never	Rarely / seldom	Sometimes	Unsure	Often	Frequently	Always

Try not to interfere until problems become serious  
 Wait for things to go wrong before you step in and take action  
 Show that you are a firm believer of "if it ain't broke, don't fix it"  
 Demonstrate that problems must become chronic before you take action

**TOTAL SCORE: Passive avoidant leadership – Management by exception, passive (MBEP)** \_\_\_\_\_

17. Please rate how often in your role you do the following:

Never	Rarely / seldom	Sometimes	Unsure	Often	Frequently	Always

Try to avoid getting involved when important issues arise  
 Leave other members of the team to deal with critical issues  
 Avoid making critical decisions  
 Delay responding to urgent questions from team members

**TOTAL SCORE: Passive avoidant leadership – Laissez-Faire (LFL)** \_\_\_\_\_

18. How do you get the best performance from your project team? Please comment below.

.....

.....

.....

.....

19. Please rate the following statements by judging how frequently each applies to you and your emotions at work.

	Never	Rarely / seldom	Sometimes	Unsure	Often	Frequently	Always
I have a good sense of why I have certain feelings							
I have a good understanding of my own emotions							
I really understand what I feel							
I always know whether or not I am happy							

**TOTAL SCORE: Self-emotions appraisal (SEA)**

\_\_\_\_\_

20. When at work how often do the following statements apply to you and the emotions of others?

	Never	Rarely / seldom	Sometimes	Unsure	Often	Frequently	Always
I know others' emotions from their behaviour							
I am a good observer of others' emotions							
I am sensitive to the feelings and emotions of others							
I have a good understanding of the emotions of people around me							

**TOTAL SCORE: Others-emotions appraisal (OEA)**

\_\_\_\_\_

**21. How frequently do the following statements apply to you at work?**

	Never	Rarely / seldom	Sometimes	Unsure	Often	Frequently	Always
I set goals for myself and then try my best to achieve them							
I tell myself I am a competent person							
I am a self-motivated person							
I encourage myself to try my best							

**TOTAL SCORE: Use of emotions (UOE)**

\_\_\_\_\_

**22. Please rate the following statements in relation to how you deal with emotions in the workplace.**

	Never	Rarely / seldom	Sometimes	Unsure	Often	Frequently	Always
I am able to control my temper and handle difficulties rationally							
I am quite capable of controlling my own emotions							
I can calm down quickly when I am very angry							
I have good control of my own emotions							

**TOTAL SCORE: Regulation of emotions (ROE)**

\_\_\_\_\_

**23. In your opinion what is the relevance of emotions, if any, for a leader working in the construction industry? Please comment below.**

.....

.....

.....

.....

**Would you like to receive a copy of the summary research findings from this study?**

- ☐ No
- ☒ Yes (if yes, please provide your email address below)

Email: \_\_\_\_\_

**Thank you for your time and effort in responding to this questionnaire!**

Once you click the 'Done' button below your survey response will be submitted. All information supplied will be kept strictly confidential.

For further enquiries please contact:  
Emily Potter, MSc Candidate  
Email: em.potter.1@uni.massey.ac.nz

**GOODBYE!**



Prev

Done

## **Appendix F : MLQ 5X - Sample**

# Multifactor Leadership Questionnaire Leader Form

My Name: \_\_\_\_\_ Date: \_\_\_\_\_

Organization ID #: \_\_\_\_\_ Leader ID #: \_\_\_\_\_

This questionnaire is to describe your leadership style as you perceive it. Please answer all items on this answer sheet. If an item is irrelevant, or if you are unsure or do not know the answer, leave the answer blank.

Forty-five descriptive statements are listed on the following pages. Judge how frequently each statement fits you. The word "others" may mean your peers, clients, direct reports, supervisors, and/or all of these individuals.

Use the following rating scale:

Not at all	Once in a while	Sometimes	Fairly often	Frequently, if not always
0	1	2	3	4
1. I provide others with assistance in exchange for their efforts.....	0	1	2	3 4
2. I re-examine critical assumptions to question whether they are appropriate.....	0	1	2	3 4
3. I fail to interfere until problems become serious.....	0	1	2	3 4
4. I focus attention on irregularities, mistakes, exceptions, and deviations from standards.....	0	1	2	3 4
5. I avoid getting involved when important issues arise.....	0	1	2	3 4
6. I talk about my most important values and beliefs.....	0	1	2	3 4
7. I am absent when needed.....	0	1	2	3 4
8. I seek differing perspectives when solving problems.....	0	1	2	3 4
9. I talk optimistically about the future.....	0	1	2	3 4
10. I instill pride in others for being associated with me.....	0	1	2	3 4
11. I discuss in specific terms who is responsible for achieving performance targets.....	0	1	2	3 4
12. I wait for things to go wrong before taking action.....	0	1	2	3 4
13. I talk enthusiastically about what needs to be accomplished.....	0	1	2	3 4
14. I specify the importance of having a strong sense of purpose.....	0	1	2	3 4
15. I spend time teaching and coaching.....	0	1	2	3 4

Continued →

Not at all	Once in a while	Sometimes	Fairly often	Frequently, If not always	
0	1	2	3	4	
16. I make clear what one can expect to receive when performance goals are achieved .....	0	1	2	3	4
17. I show that I am a firm believer in "If it ain't broke, don't fix it." .....	0	1	2	3	4
18. I go beyond self-interest for the good of the group.....	0	1	2	3	4
19. I treat others as individuals rather than just as a member of a group.....	0	1	2	3	4
20. I demonstrate that problems must become chronic before I take action.....	0	1	2	3	4
21. I act in ways that build others' respect for me .....	0	1	2	3	4
22. I concentrate my full attention on dealing with mistakes, complaints, and failures .....	0	1	2	3	4
23. I consider the moral and ethical consequences of decisions.....	0	1	2	3	4
24. I keep track of all mistakes.....	0	1	2	3	4
25. I display a sense of power and confidence .....	0	1	2	3	4
26. I articulate a compelling vision of the future.....	0	1	2	3	4
27. I direct my attention toward failures to meet standards.....	0	1	2	3	4
28. I avoid making decisions .....	0	1	2	3	4
29. I consider an individual as having different needs, abilities, and aspirations from others.....	1	2	3	4	0
30. I get others to look at problems from many different angles .....	0	1	2	3	4
31. I help others to develop their strengths.....	0	1	2	3	4
32. I suggest new ways of looking at how to complete assignments .....	0	1	2	3	4
33. I delay responding to urgent questions.....	0	1	2	3	4
34. I emphasize the importance of having a collective sense of mission.....	0	1	2	3	4
35. I express satisfaction when others meet expectations.....	0	1	2	3	4
36. I express confidence that goals will be achieved.....	0	1	2	3	4
37. I am effective in meeting others' job-related needs .....	0	1	2	3	4
38. I use methods of leadership that are satisfying.....	0	1	2	3	4
39. I get others to do more than they expected to do.....	0	1	2	3	4
40. I am effective in representing others to higher authority .....	0	1	2	3	4
41. I work with others in a satisfactory way .....	0	1	2	3	4
42. I heighten others' desire to succeed .....	0	1	2	3	4
43. I am effective in meeting organizational requirements.....	0	1	2	3	4
44. I increase others' willingness to try harder.....	0	1	2	3	4
45. I lead a group that is effective.....	0	1	2	3	4



# MLQ Multifactor Leadership Questionnaire

## Scoring Key (5x) Short

My Name: \_\_\_\_\_ Date: \_\_\_\_\_

Organization ID #: \_\_\_\_\_ Leader ID #: \_\_\_\_\_

**Scoring:** The MLQ scale scores are average scores for the items on the scale. The score can be derived by summing the items and dividing by the number of items that make up the scale. **If an item is left blank, divide the total for that scale by the number of items answered.** All of the leadership style scales have four items, Extra Effort has three items, Effectiveness has four items, and Satisfaction has two items.

Not at all	Once in a while	Sometimes	Fairly often	Frequently, if not always
0	1	2	3	4

\*Idealized Influence (Attributed) total/4 = \_\_\_\_\_ # Management-by-Exception (Active) total/4 = \_\_\_\_\_  
 \*Idealized Influence (Behavior) total/4 = \_\_\_\_\_ +Management-by-Exception (Passive) total/4 = \_\_\_\_\_  
 \*Inspirational Motivation total/4 = \_\_\_\_\_ +Laissez-faire Leadership total/4 = \_\_\_\_\_  
 \*Intellectual Stimulation total/4 = \_\_\_\_\_ Extra Effort total/3 = \_\_\_\_\_  
 \*Individual Consideration total/4 = \_\_\_\_\_ Effectiveness total/4 = \_\_\_\_\_  
 # Contingent Reward total/4 = \_\_\_\_\_ Satisfaction total/2 = \_\_\_\_\_

1. Contingent Reward.....	0	1	2	3	4
2. Intellectual Stimulation.....	0	1	2	3	4
3. Management-by-Exception (Passive).....	0	1	2	3	4
4. Management-by-Exception (Active).....	0	1	2	3	4
5. Laissez-faire Leadership.....	0	1	2	3	4
6. Idealized Influence (Behavior).....	0	1	2	3	4
7. Laissez-faire Leadership.....	0	1	2	3	4
8. Intellectual Stimulation.....	0	1	2	3	4
9. Inspirational Motivation.....	0	1	2	3	4
10. Idealized Influence (Attributed).....	0	1	2	3	4
11. Contingent Reward.....	0	1	2	3	4
12. Management-by-Exception (Passive).....	0	1	2	3	4
13. Inspirational Motivation.....	0	1	2	3	4
14. Idealized Influence (Behavior).....	0	1	2	3	4
15. Individual Consideration.....	0	1	2	3	4

Continued →

Not at all	Once in a while	Sometimes	Fairly often	Frequently, if not always	
0	1	2	3	4	
16. Contingent Reward.....	0	1	2	3	4
17. Management-by-Exception (Passive).....	0	1	2	3	4
18. Idealized Influence (Attributed).....	0	1	2	3	4
19. Individual Consideration.....	0	1	2	3	4
20. Management-by-Exception (Passive).....	0	1	2	3	4
21. Idealized Influence (Attributed).....	0	1	2	3	4
22. Management-by-Exception (Active).....	0	1	2	3	4
23. Idealized Influence (Behavior).....	0	1	2	3	4
24. Management-by-Exception (Active).....	0	1	2	3	4
25. Idealized Influence (Attributed).....	0	1	2	3	4
26. Inspirational Motivation.....	0	1	2	3	4
27. Management-by-Exception (Active).....	0	1	2	3	4
28. Laissez-faire Leadership.....	0	1	2	3	4
29. Individual Consideration.....	0	1	2	3	4
30. Intellectual Stimulation.....	0	1	2	3	4
31. Individual Consideration.....	0	1	2	3	4
32. Intellectual Stimulation.....	0	1	2	3	4
33. Laissez-faire Leadership.....	0	1	2	3	4
34. Idealized Influence (Behavior).....	0	1	2	3	4
35. Contingent Reward.....	0	1	2	3	4
36. Inspirational Motivation.....	0	1	2	3	4
37. Effectiveness.....	0	1	2	3	4
38. Satisfaction.....	0	1	2	3	4
39. Extra Effort.....	0	1	2	3	4
40. Effectiveness.....	0	1	2	3	4
41. Satisfaction.....	0	1	2	3	4
42. Extra Effort.....	0	1	2	3	4
43. Effectiveness.....	0	1	2	3	4
44. Extra Effort.....	0	1	2	3	4
45. Effectiveness.....	0	1	2	3	4

## **Appendix G : Wong & Law Emotional Intelligence Test – Sample**

### Appendix- Survey Questionnaire

I invite you to participate in my research project to find out **The Impact of Emotional Intelligence on Team Performance**. By Emotional Intelligence, I mean an ability or capacity to observe, evaluate, and manage the emotions of one's self and of others.

I have attached a short survey about my study which I am hoping you will fill out and return it to me. It would take you about five minutes to complete. This study is conducted on teams so please mention your team name, sub-department and department properly. For each of the questions, please select the option that best reflects your answer.

Please note that your responses will be kept confidential and are for research information purposes only. Any of your information will not be shared with anyone outside my research group which consists of only me.

Strongly Disagree	Disagree	Moderately Disagree	Neither Agree nor Disagree	Moderately agree	Agree	Strongly Agree
1	2	3	4	5	6	7

#### Emotional Intelligence

I have a good sense of why I have certain feelings most of the time.	1	2	3	4	5	6	7
I have good understanding of my own emotions.	1	2	3	4	5	6	7
I really understand what I feel.	1	2	3	4	5	6	7
I always know whether or not I am happy.	1	2	3	4	5	6	7
I always know my team members' emotion from their behavior.	1	2	3	4	5	6	7
I am a good observer of other's emotions.	1	2	3	4	5	6	7
I am sensitive to the feelings and emotions of others.	1	2	3	4	5	6	7
I have good understanding of the emotions of people around me.	1	2	3	4	5	6	7
I always set goals for myself and then try my best to achieve them.	1	2	3	4	5	6	7
I always tell myself that I am a competent person.	1	2	3	4	5	6	7
I am motivated to do a task without needing pressure from others.	1	2	3	4	5	6	7
I would always encourage myself to try my best.	1	2	3	4	5	6	7
I am able to control my temper and handle difficulties wisely.	1	2	3	4	5	6	7
I am quite capable of controlling my own emotions.	1	2	3	4	5	6	7
I can always calm down quickly when I am angry.	1	2	3	4	5	6	7
I have good control of my own emotions.	1	2	3	4	5	6	7

## Team Performance

This team has clear objectives.	1	2	3	4	5	6	7
Team objectives are made by keeping in mind the individual differences of team members.	1	2	3	4	5	6	7
There is a constructive conflict management and counseling in the team.	1	2	3	4	5	6	7
The team members have openness and trust.	1	2	3	4	5	6	7
The whole team is aware of the process.	1	2	3	4	5	6	7
The team members have clear roles and responsibilities	1	2	3	4	5	6	7
There is a thorough operational planning with the involvement of team.	1	2	3	4	5	6	7
There is an adequate communication among team members.	1	2	3	4	5	6	7
The members of this team are skilled.	1	2	3	4	5	6	7
There is a lot of client feedback at organizational level.	1	2	3	4	5	6	7
In my team, each member has good individual performances	1	2	3	4	5	6	7
New ideas are welcomed from team members	1	2	3	4	5	6	7
There is enjoyable work environment in this team.	1	2	3	4	5	6	7
Priorities are set about the tasks of the team.	1	2	3	4	5	6	7
Team members cooperate with each other.	1	2	3	4	5	6	7
There is a lot of client feedback at organizational level	1	2	3	4	5	6	7

## **Appendix H : Little's MCAR Test for 52 Variables**

**Little's MCAR Test for 52 Variables**

	N	Mean	Std. Deviation	Missing		No. of Extremes	
				Count	Percent	Low	High
TL_IIA_1	72	4.1250	.83860	0	0.0	1	0
TL_IIA_2	72	4.9375	.72159	0	0.0	0	0
TL_IIA_3	72	4.8634	.71389	0	0.0	0	0
TL_IIA_4	72	4.4028	.86433	0	0.0	1	0
TL_IIB_1	72	4.0764	.90682	0	0.0	0	0
TL_IIB_2	72	4.2153	.90315	0	0.0	3	0
TL_IIB_3	72	4.8889	.91244	0	0.0	0	0
TL_IIB_4	72	4.6944	.95886	0	0.0	1	0
TL_IM_1	72	4.4583	.88711	0	0.0	0	0
TL_IM_2	72	5.0139	.74101	0	0.0	0	0
TL_IM_3	64	4.1563	.83986	8	11.1	1	0
TL_IM_4	69	5.0725	.69280	3	4.2	0	0
TL_IS_1	70	4.9143	.71714	2	2.8	0	0
TL_IS_2	68	4.4118	.88495	4	5.6	1	0
TL_IS_3	68	4.1471	.93465	4	5.6	3	0
TL_IS_4	69	4.2899	.94092	3	4.2	3	0
TL_IC_1	71	4.9718	1.02778	1	1.4	1	0
TL_IC_2	72	4.7222	1.05112	0	0.0	1	0
TL_IC_3	71	4.3803	.99090	1	1.4	1	0
TL_IC_4	72	4.9583	.86297	0	0.0	1	0
TRL_CR_1	69	4.4638	1.00849	3	4.2	3	0
TRL_CR_2	72	4.8889	.91244	0	0.0	1	0
TRL_CR_3	71	4.5775	1.09103	1	1.4	2	0
TRL_CR_4	71	4.8451	.76808	1	1.4	0	0
TRL_MBEA_1	71	4.7183	.83123	1	1.4	1	0
TRL_MBEA_2	72	4.5972	.86659	0	0.0	1	0
TRL_MBEA_3	71	4.1831	.96080	1	1.4	3	0
TRL_MBEA_4	69	5.2319	1.00213	3	4.2	3	0
PAL_MBEP_1	71	5.1408	1.05959	1	1.4	4	0
PAL_MBEP_2	71	4.5493	1.13123	1	1.4	4	0
PAL_MBEP_3	68	4.2647	1.22922	4	5.6	6	0
PAL_MBEP_4	72	4.5556	1.25473	0	0.0	5	0
PAL_LFL_1	70	4.5571	1.32573	2	2.8	2	0
PAL_LFL_2	72	5.2500	.86806	0	0.0	3	0
PAL_LFL_3	71	3.7324	1.21840	1	1.4	0	0
PAL_LFL_4	70	3.6000	1.56409	2	2.8	0	0
EI_SAE_1	69	3.4203	1.50885	3	4.2	0	0
EI_SAE_2	68	3.5882	1.42719	4	5.6	0	0
EI_SAE_3	70	2.9381	1.27694	2	2.8	0	0
EI_SAE_4	68	2.1618	1.14096	4	5.6	0	1
EI_OEA_1	65	2.7077	1.24653	7	9.7	0	6
EI_OEA_2	71	1.5915	.91928	1	1.4	0	1
EI_OEA_3	72	1.7639	1.08112	0	0.0	0	6
EI_OEA_4	72	1.8333	.97865	0	0.0	0	3
EI_UOE_1	72	1.4722	.83872	0	0.0	0	2
EI_UOE_2	72	1.6806	.83626	0	0.0	0	1
EI_UOE_3	66	4.9394	.95883	6	8.3	0	0
EI_UOE_4	72	4.9861	.89589	0	0.0	0	0
EI_ROE_1	68	4.9559	.90494	4	5.6	0	0
EI_ROE_2	71	5.4648	.69346	1	1.4	0	0
EI_ROE_3	72	4.2639	.82211	0	0.0	0	0
EI_ROE_4	71	4.5070	.80841	1	1.4	1	0

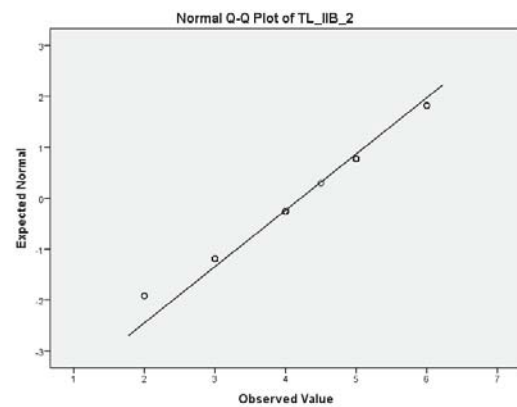
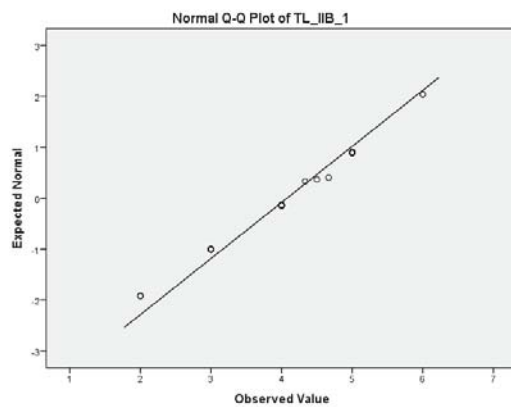
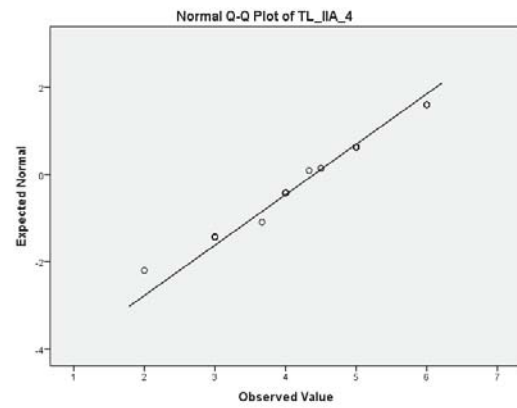
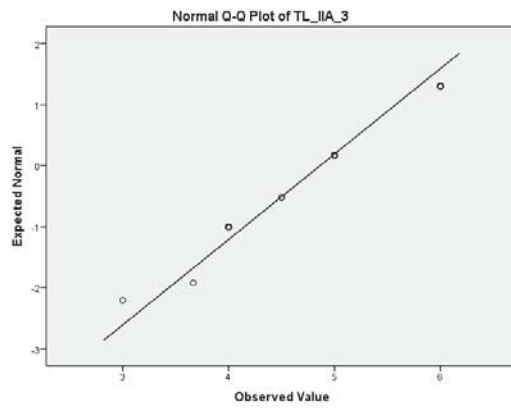
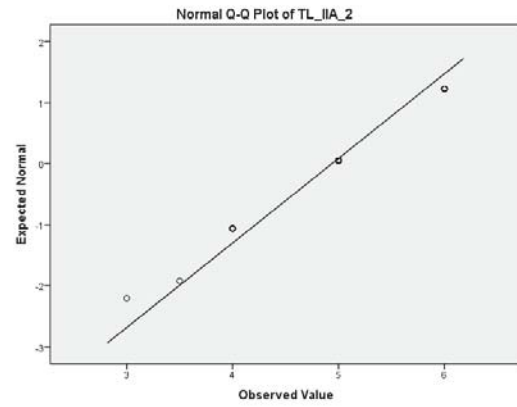
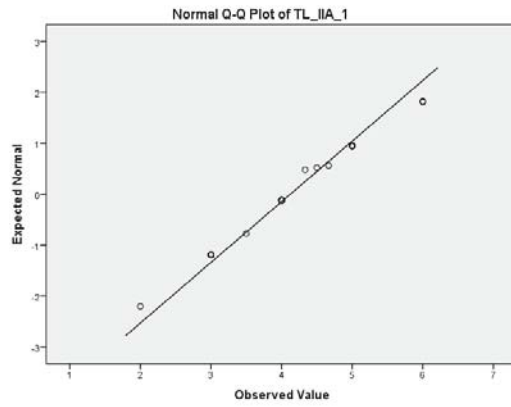
## **Appendix I : Shapiro Wilk's, Histograms, Q-Q & Box Plots**

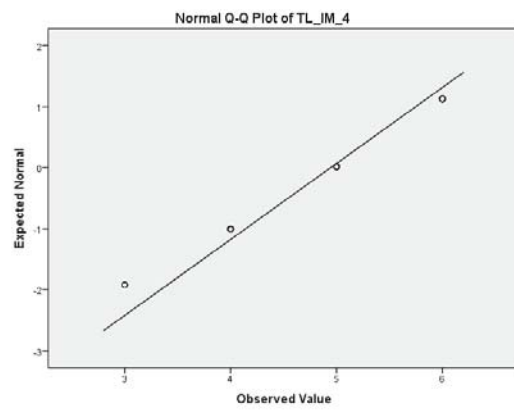
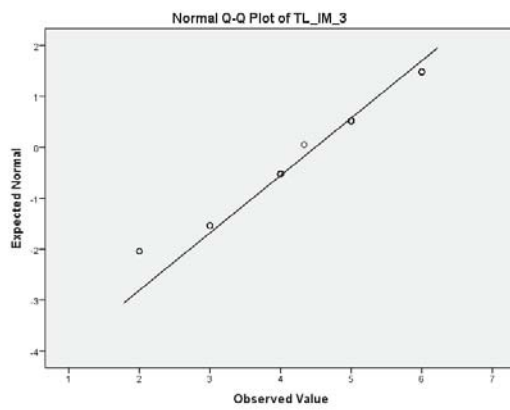
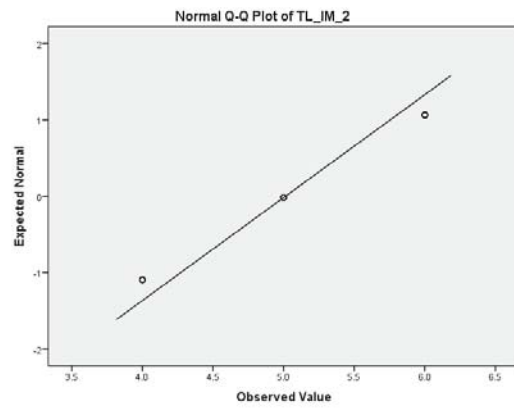
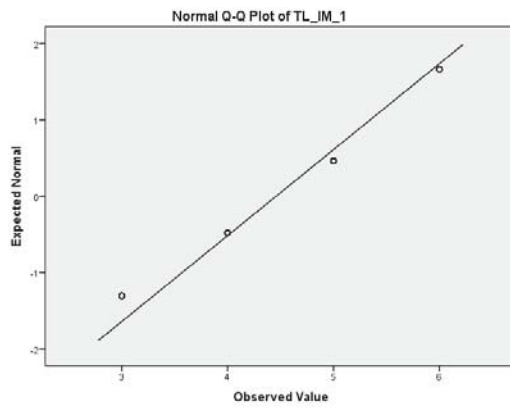
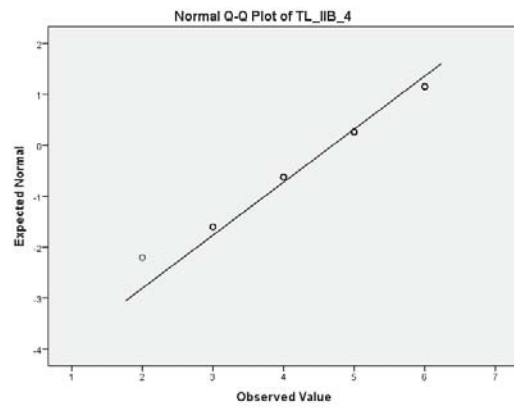
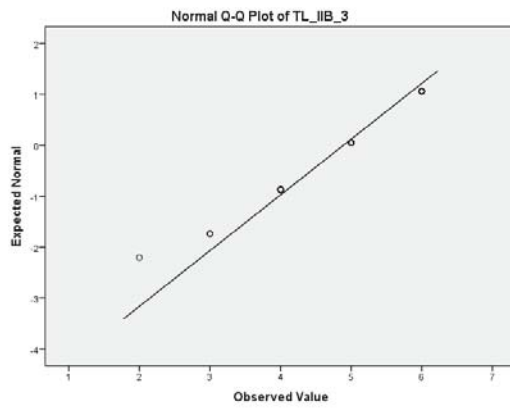


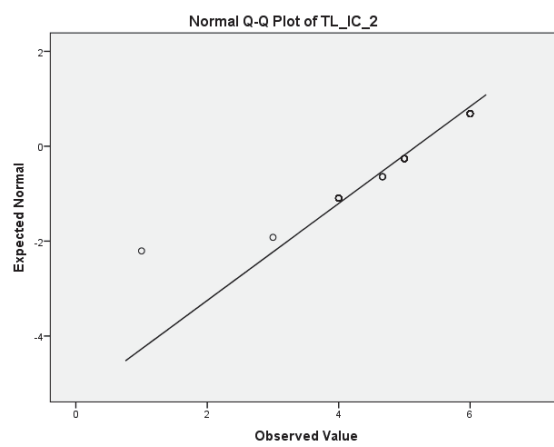
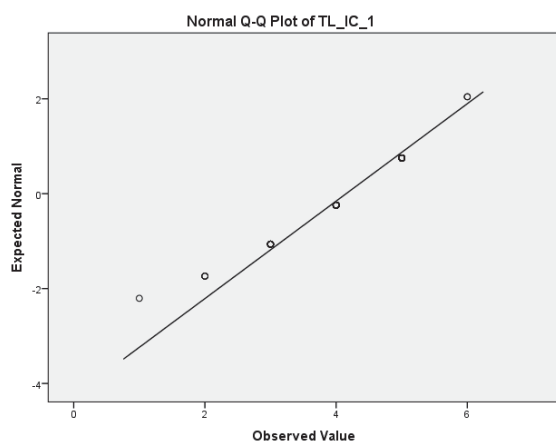
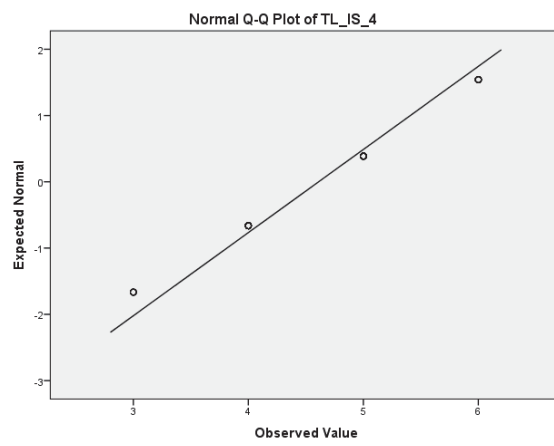
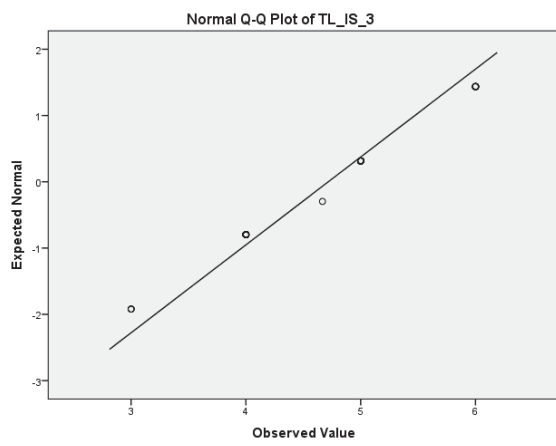
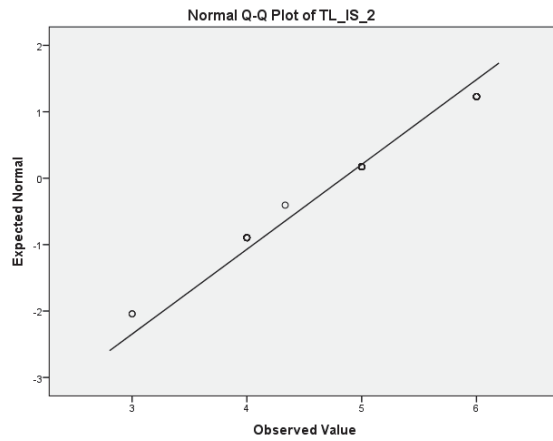
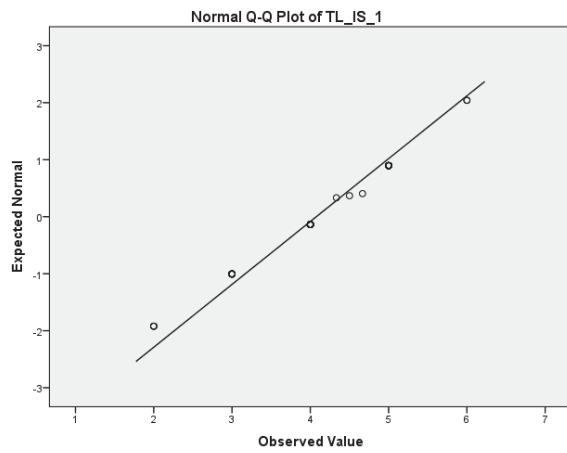
### Shapiro Wilk's Test of Normality

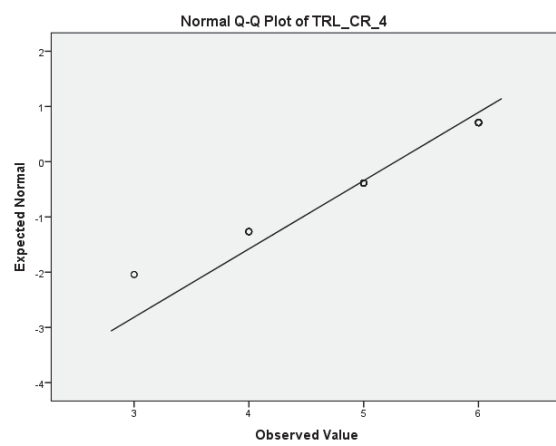
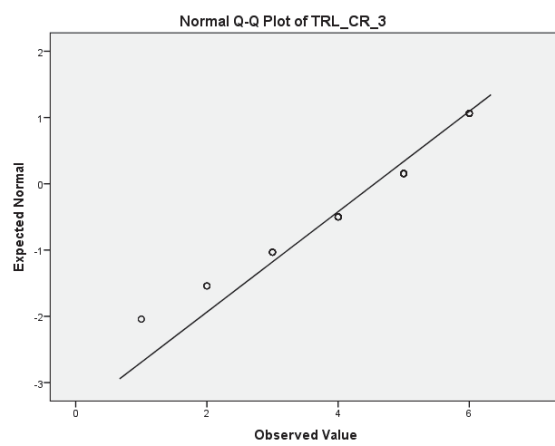
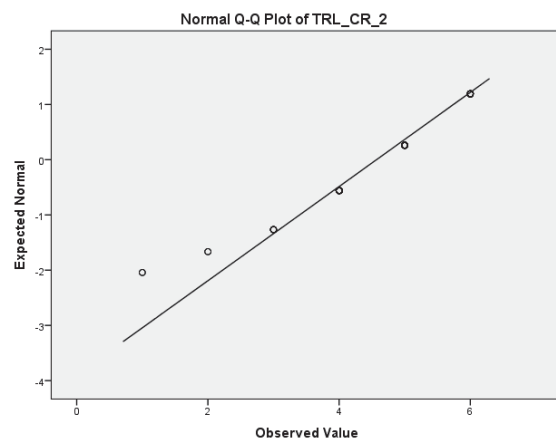
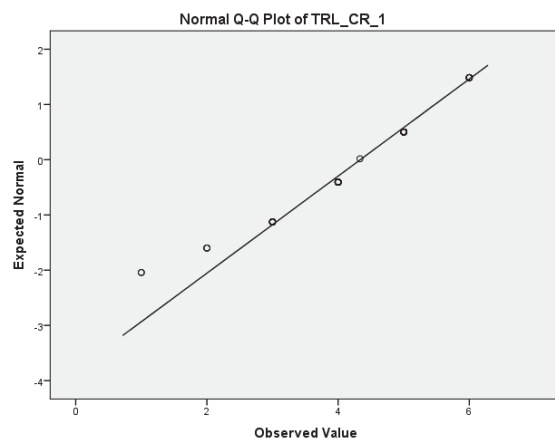
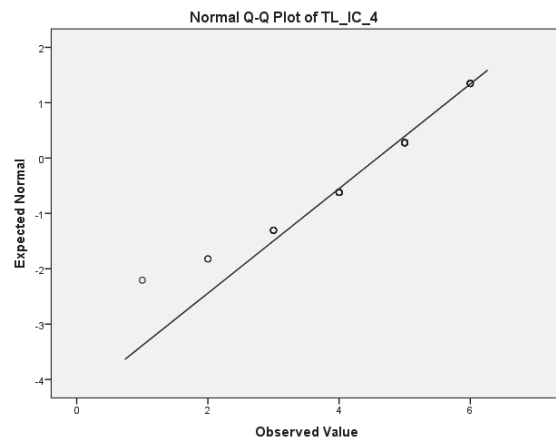
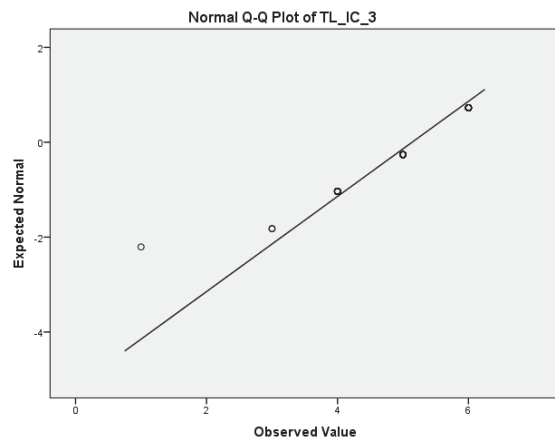
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TL_IIA_2	.836	72	.000	TRL_MBA_4	.942	72	.002
TL_IIA_3	.854	72	.000	PAL_MBEP_	.924	72	.000
TL_IIA_4	.901	72	.000	PAL_MBEP_	.845	72	.000
TL_IIB_1	.896	72	.000	PAL_MBEP_	.895	72	.000
TL_IIB_2	.891	72	.000	PAL_MBEP_	.666	72	.000
TL_IIB_3	.862	72	.000	PAL_LFL_1	.696	72	.000
TL_IIB_4	.879	72	.000	PAL_LFL_2	.775	72	.000
TL_IM_1	.849	72	.000	PAL_LFL_3	.615	72	.000
TL_IM_2	.810	72	.000	PAL_LFL_4	.744	72	.000
TL_IM_3	.873	72	.000	EI_SAE_1	.854	72	.000
TL_IM_4	.848	72	.000	EI_SAE_2	.845	72	.000
TL_IS_1	.876	72	.000	EI_SAE_3	.860	72	.000
TL_IS_2	.854	72	.000	EI_SAE_4	.708	72	.000
TL_IS_3	.853	72	.000	EI_OEA_1	.855	72	.000
TL_IS_4	.858	72	.000	EI_OEA_2	.871	72	.000
TL_IC_1	.869	72	.000	EI_OEA_3	.902	72	.000
TL_IC_2	.771	72	.000	EI_OEA_4	.876	72	.000
TL_IC_3	.784	72	.000	EI_UOE_1	.821	72	.000
TL_IC_4	.871	72	.000	EI_UOE_2	.829	72	.000
TRL_CR_1	.890	72	.000	EI_UOE_3	.789	72	.000
TRL_CR_2	.875	72	.000	EI_UOE_4	.787	72	.000
TRL_CR_3	.876	72	.000	EI_ROE_1	.816	72	.000
TRL_CR_4	.787	72	.000	EI_ROE_2	.790	72	.000
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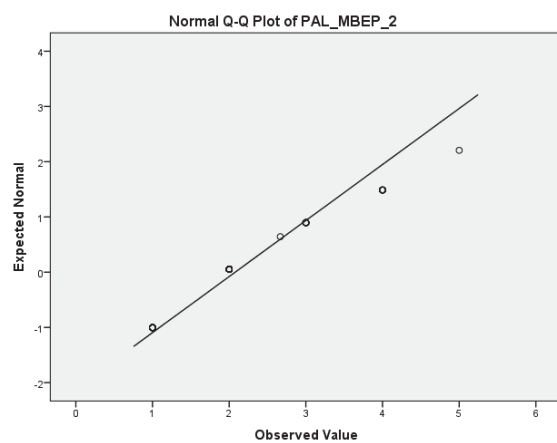
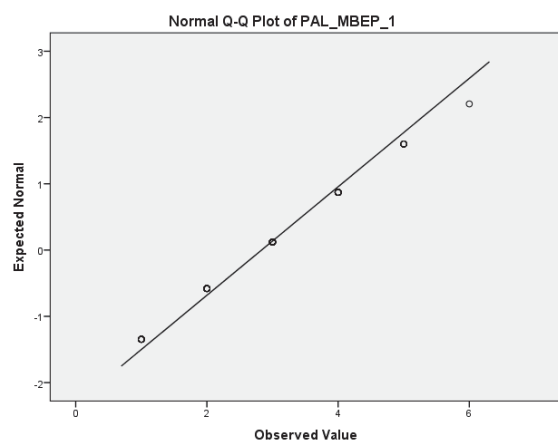
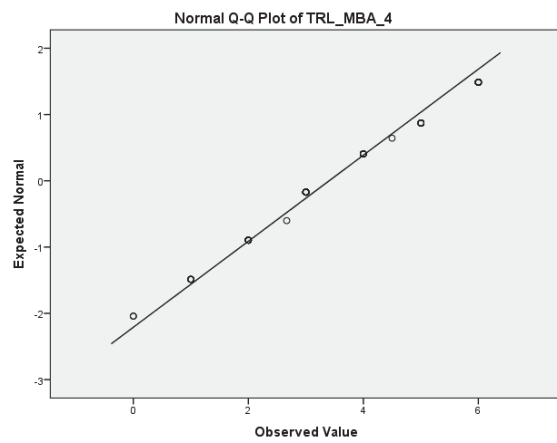
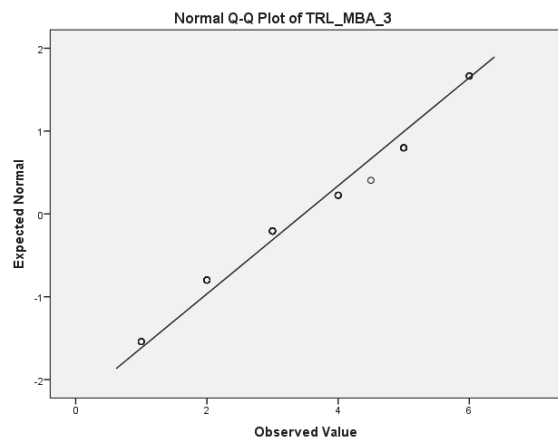
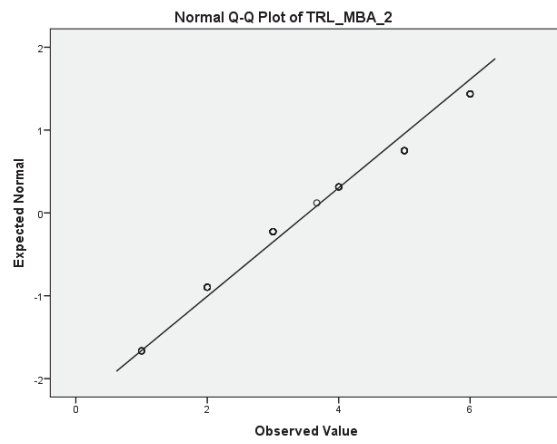
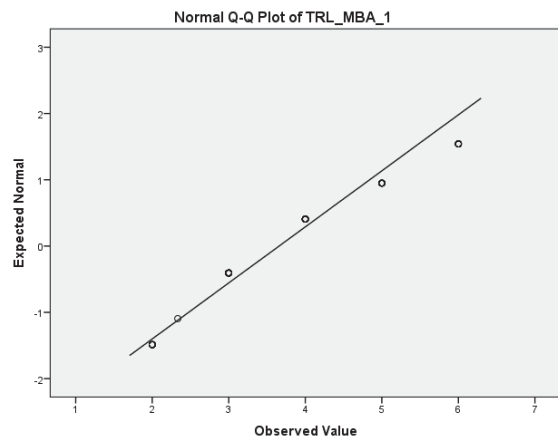
## Q-Q Plots for Distribution of 52 Variables

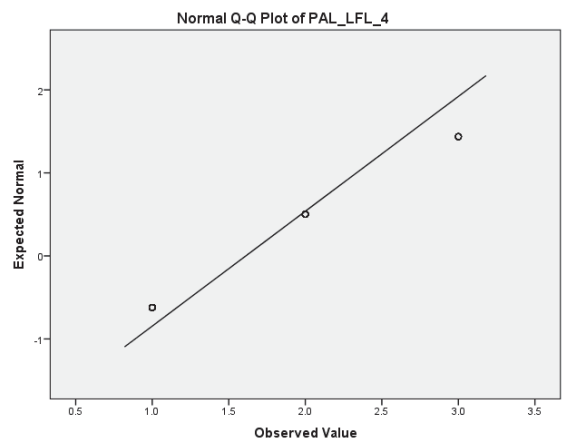
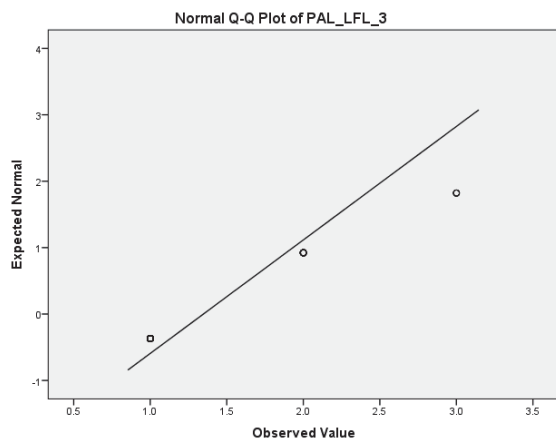
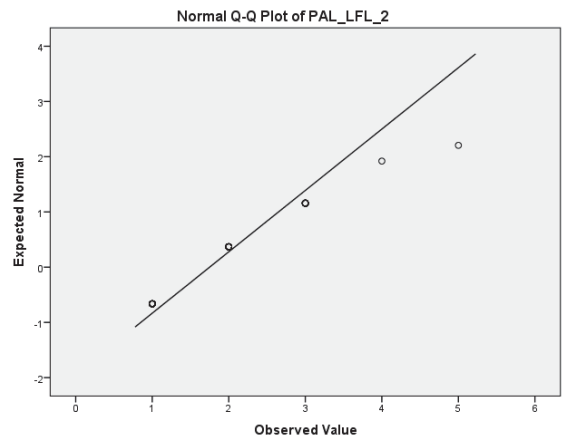
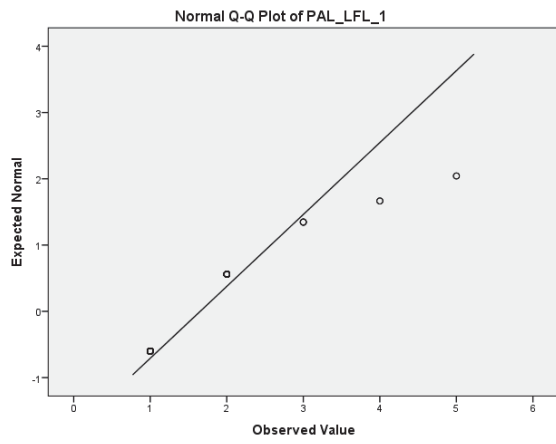
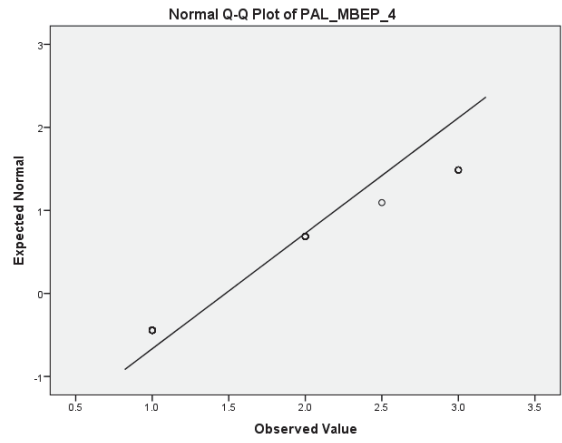
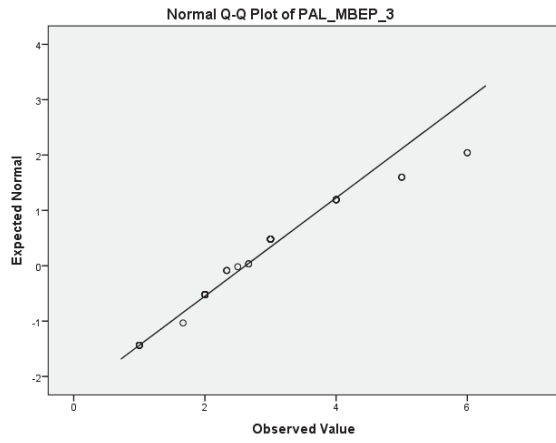


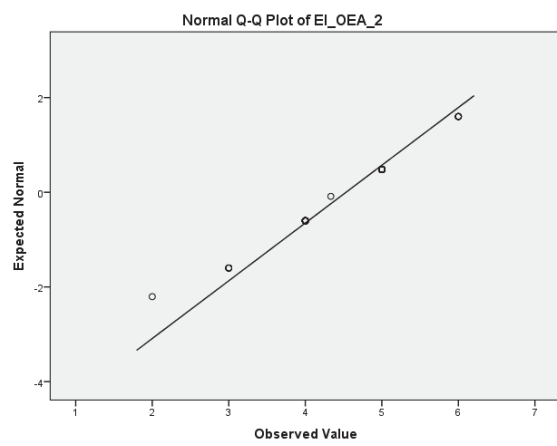
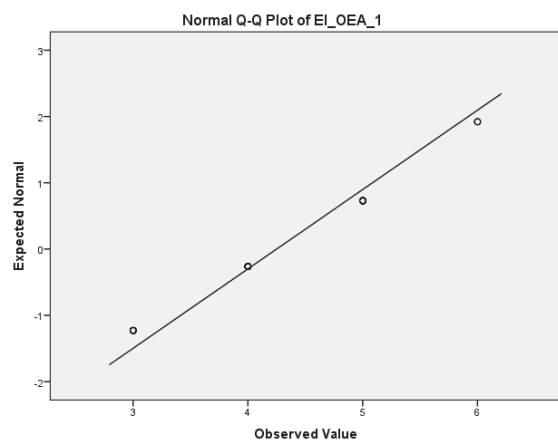
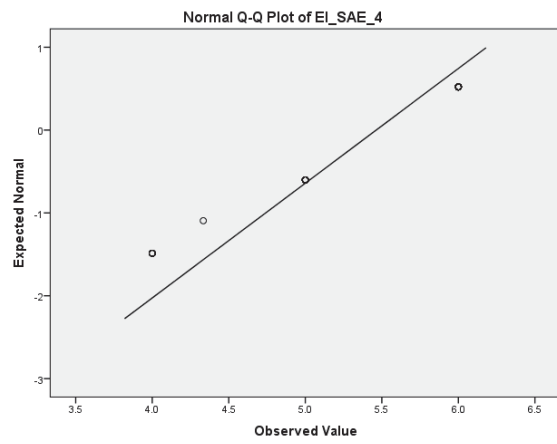
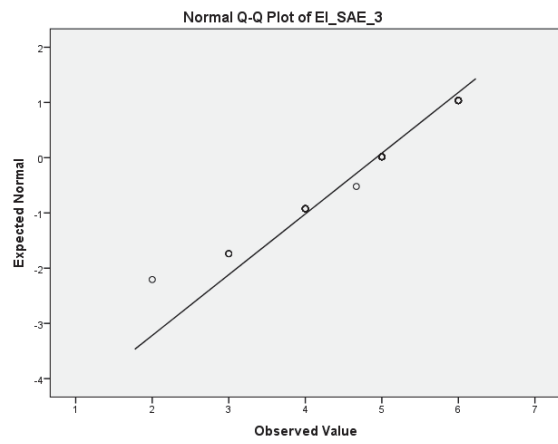
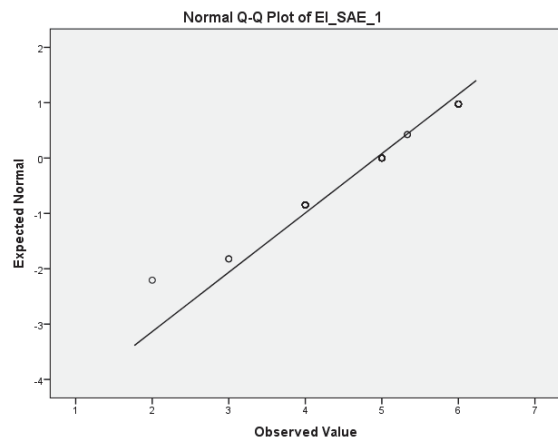




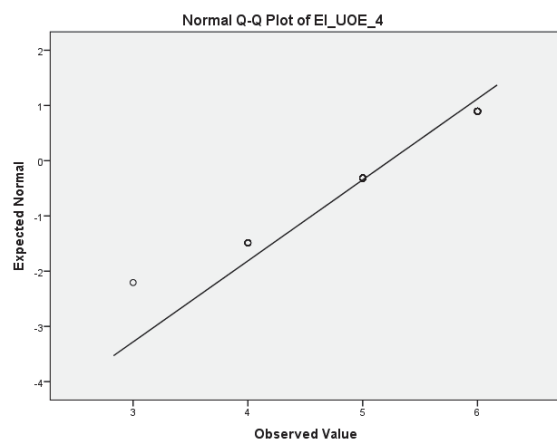
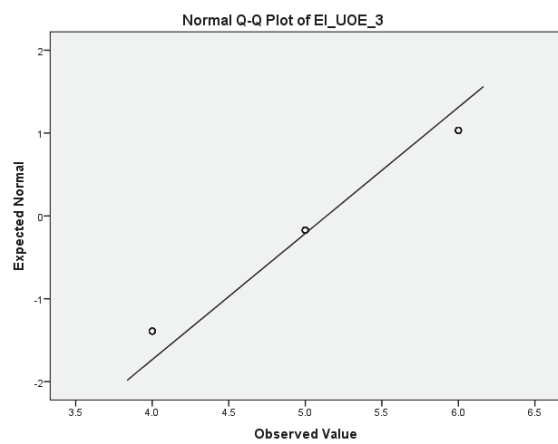
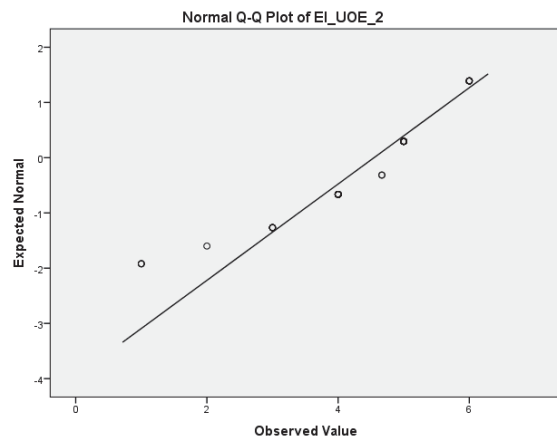
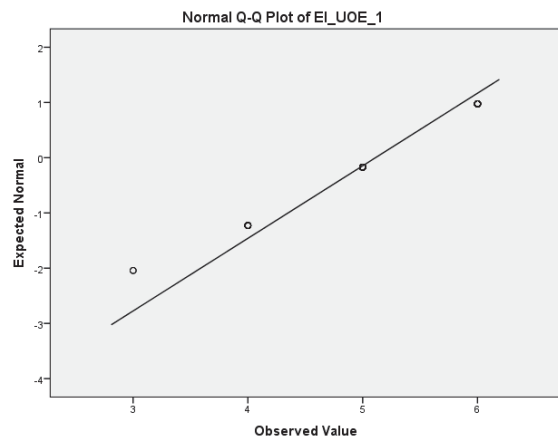
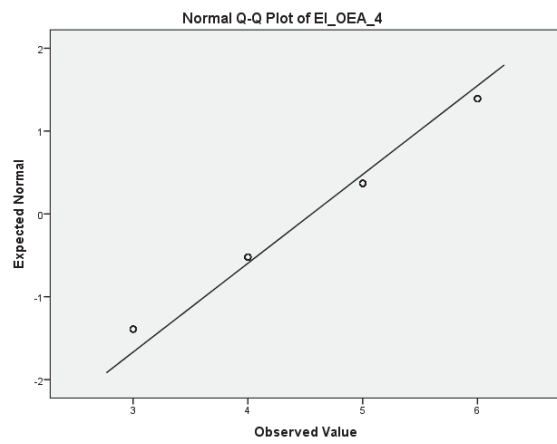
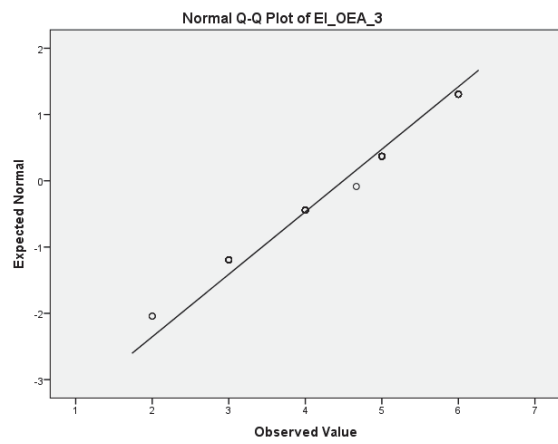


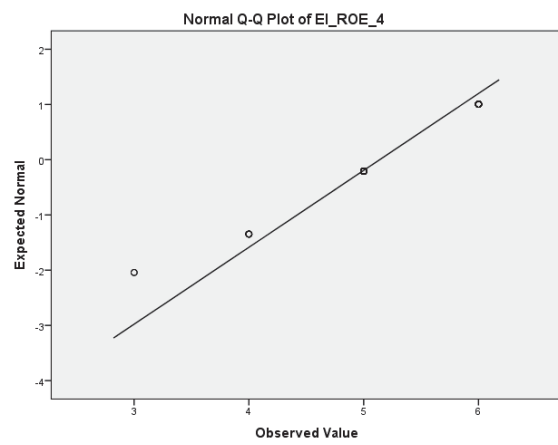
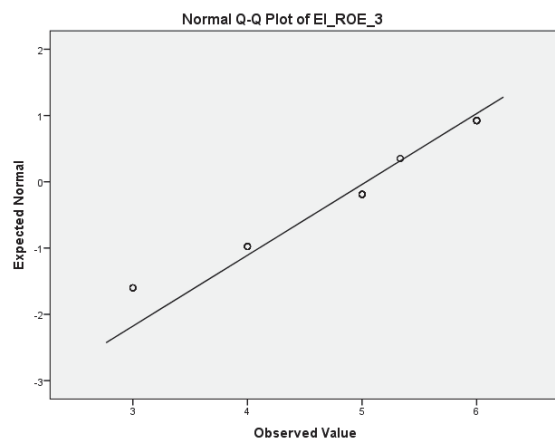
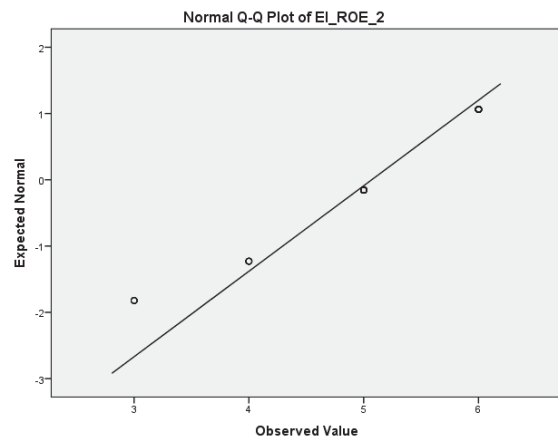
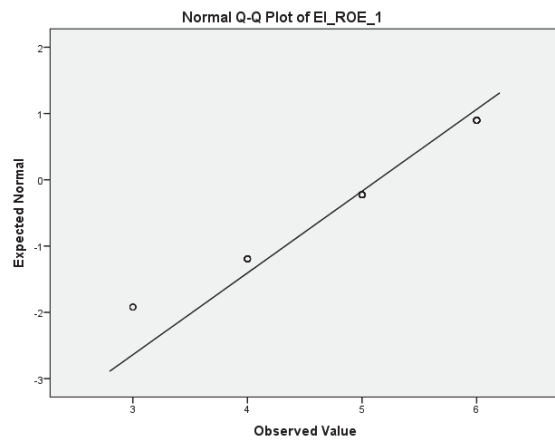




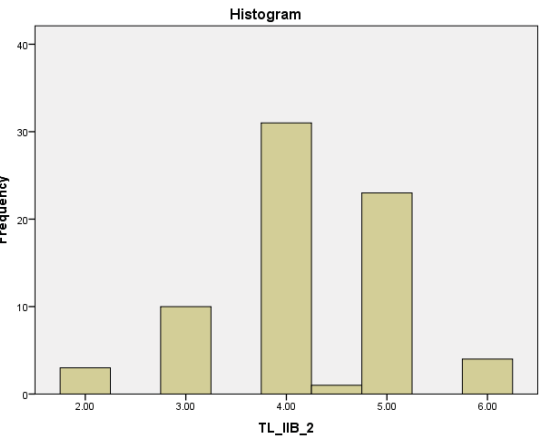
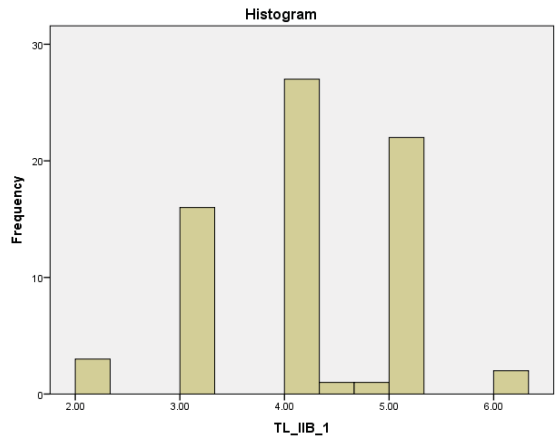
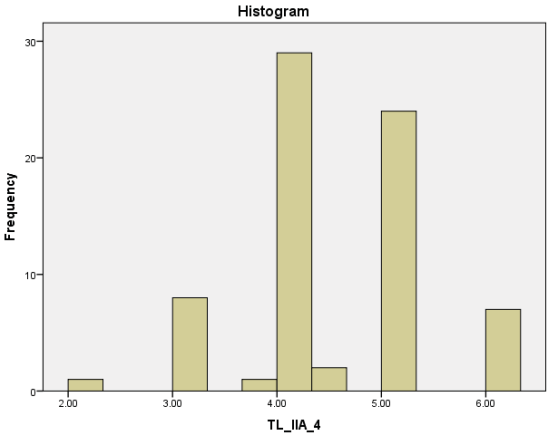
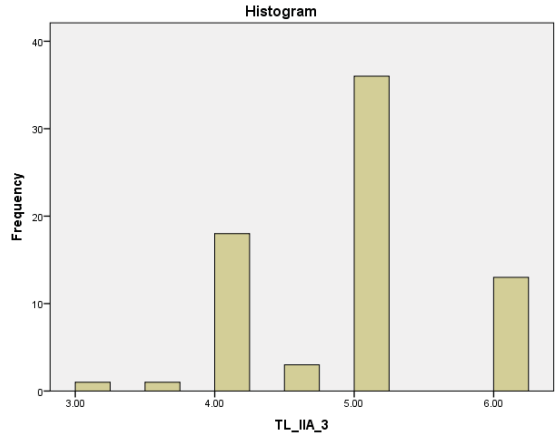
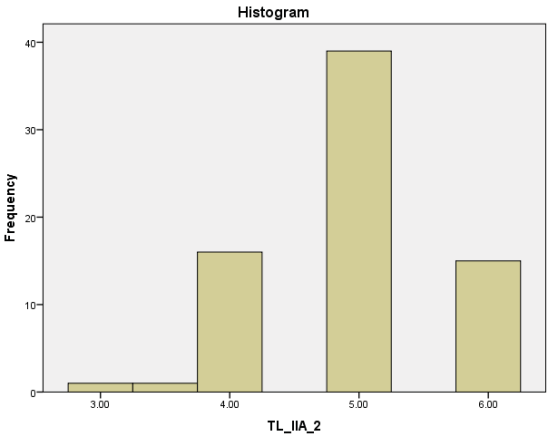
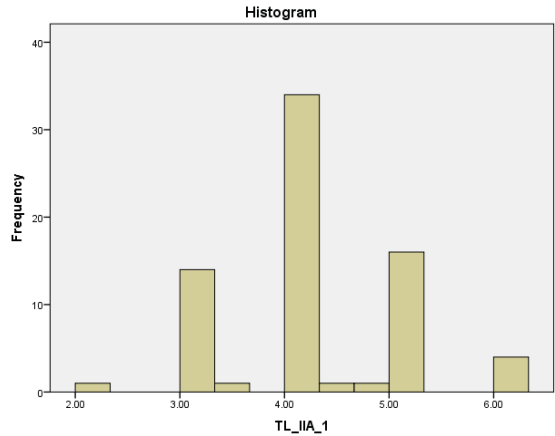


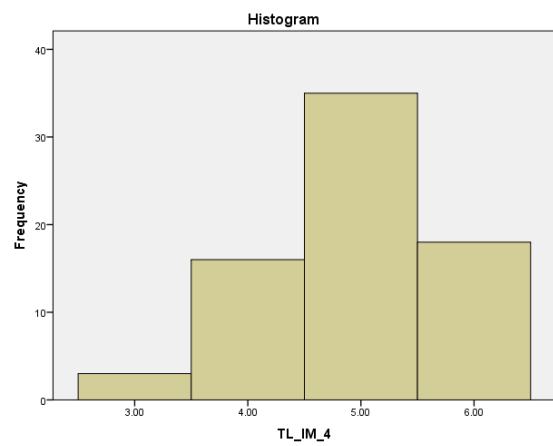
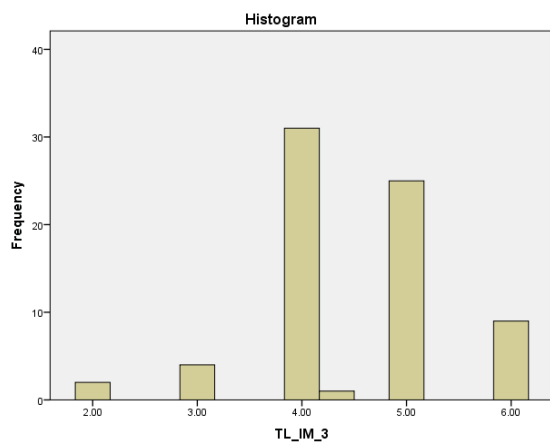
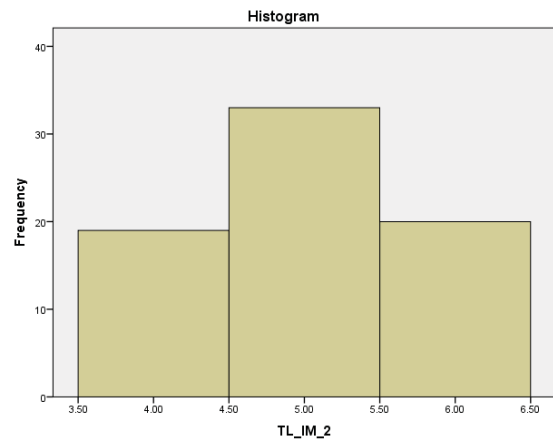
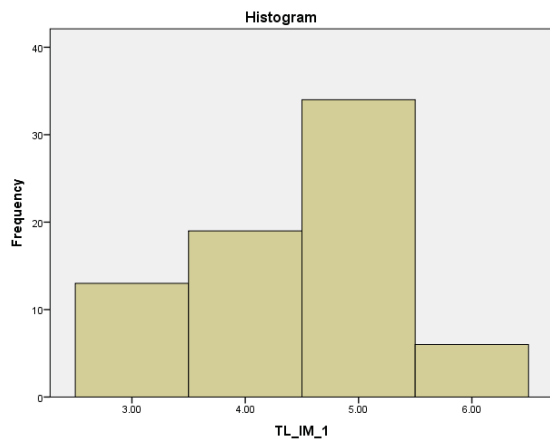
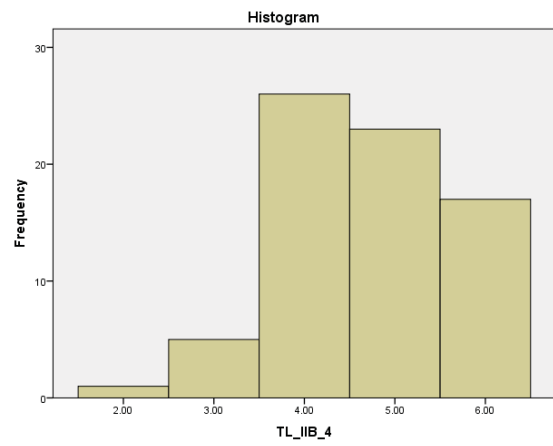
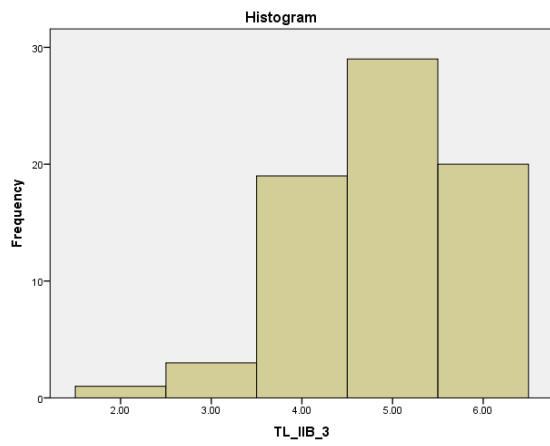


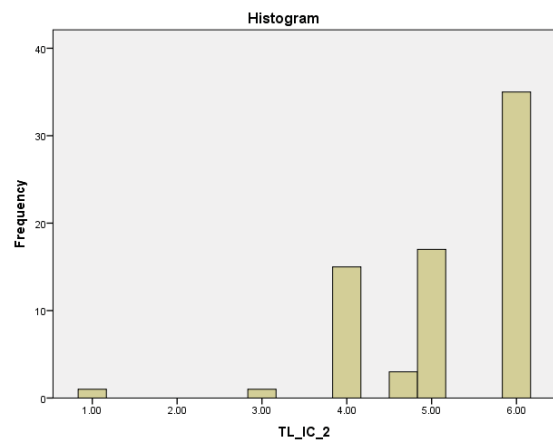
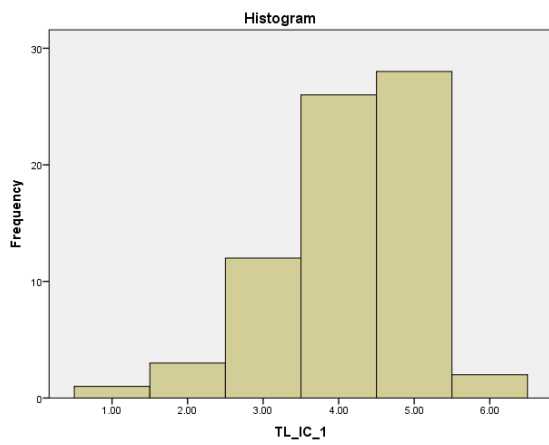
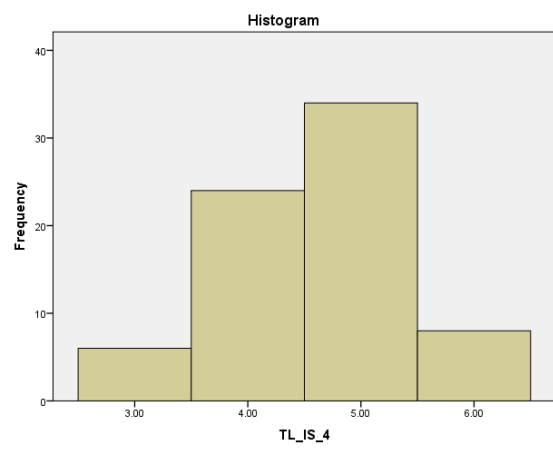
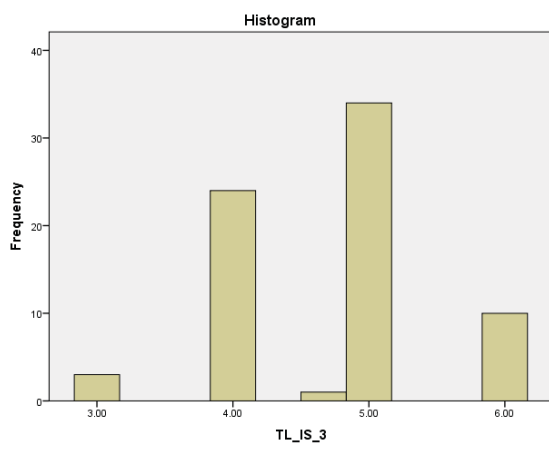
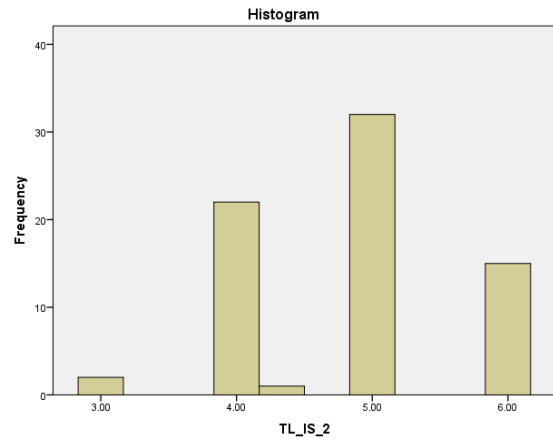
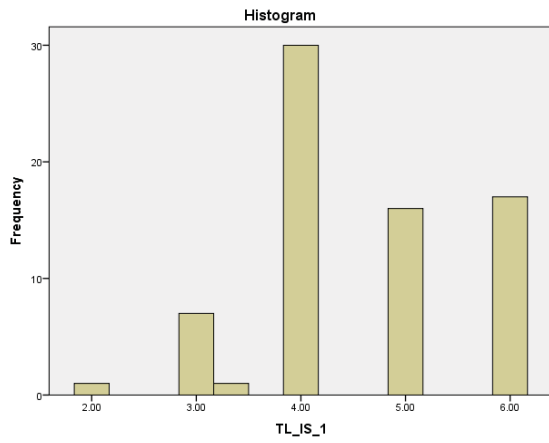


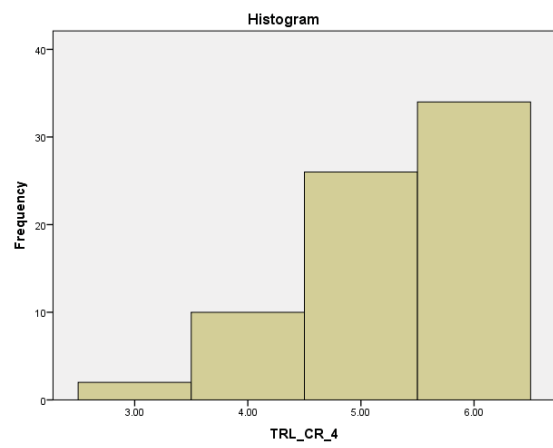
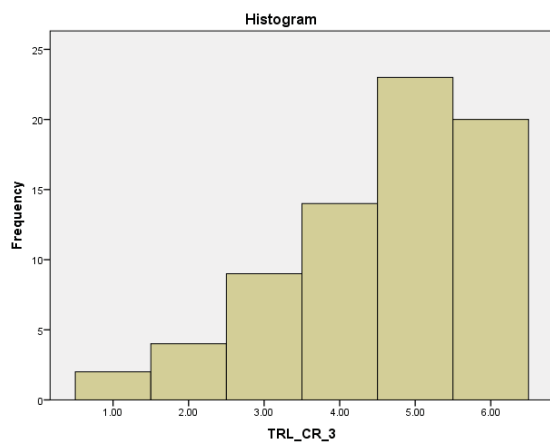
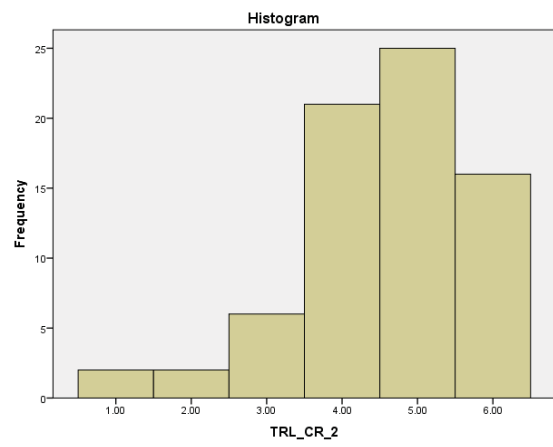
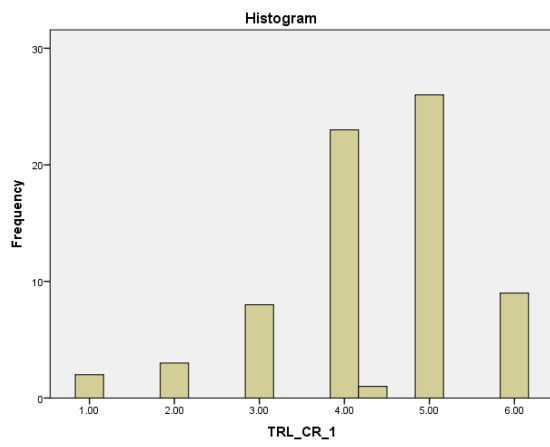
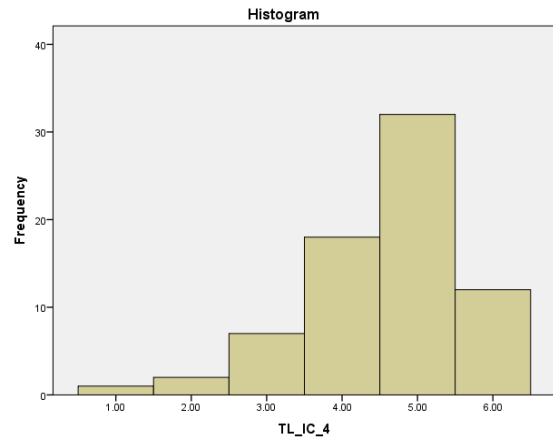
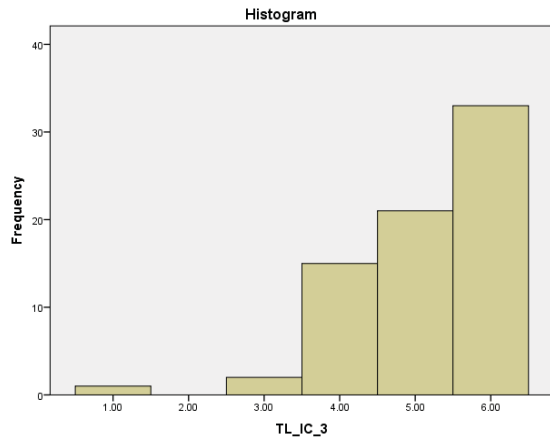


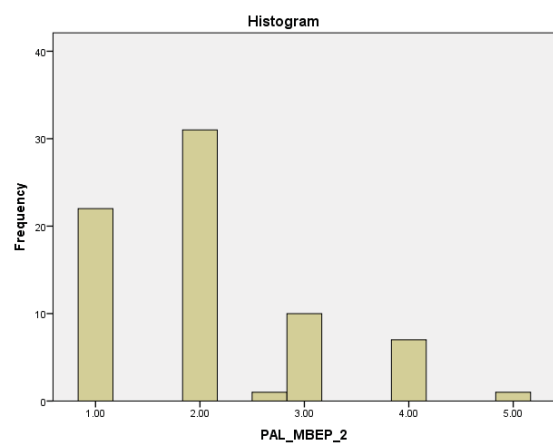
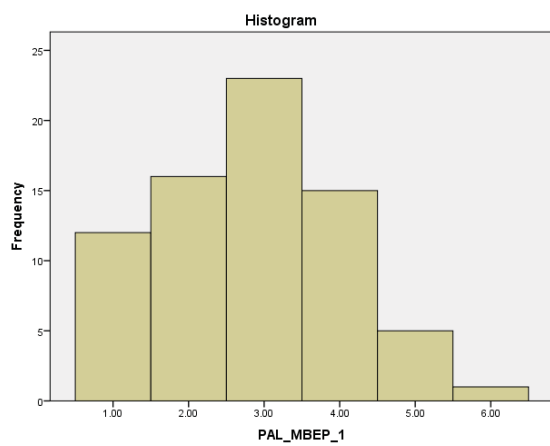
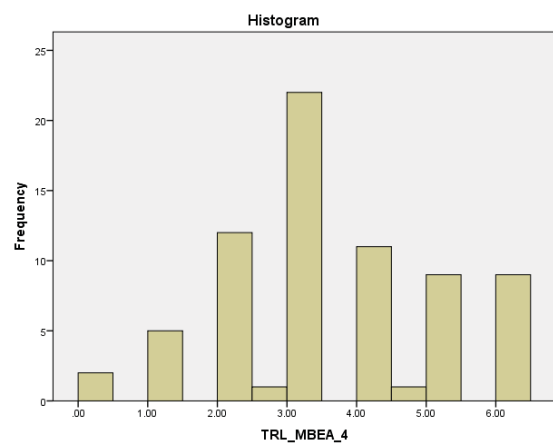
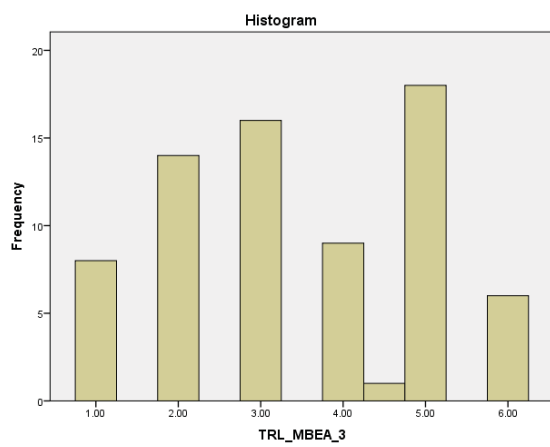
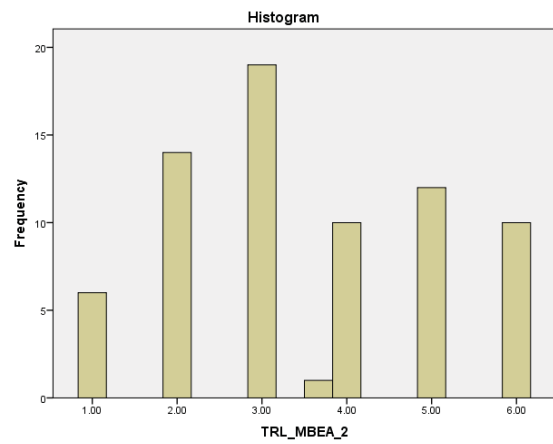
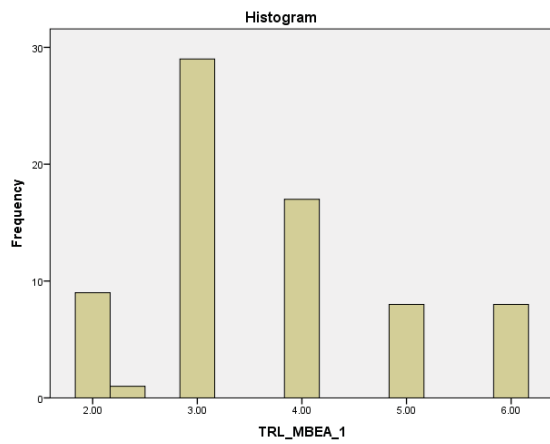
Histograms for Distribution of 52 Variables

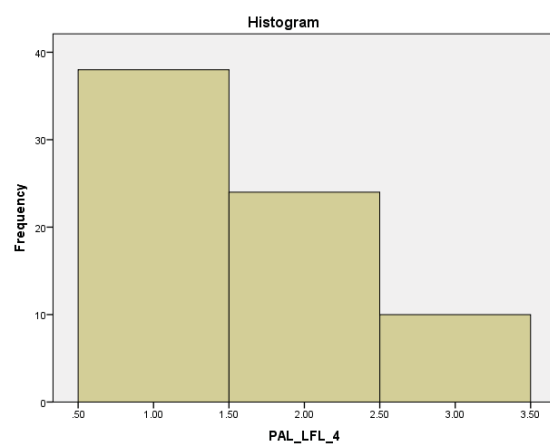
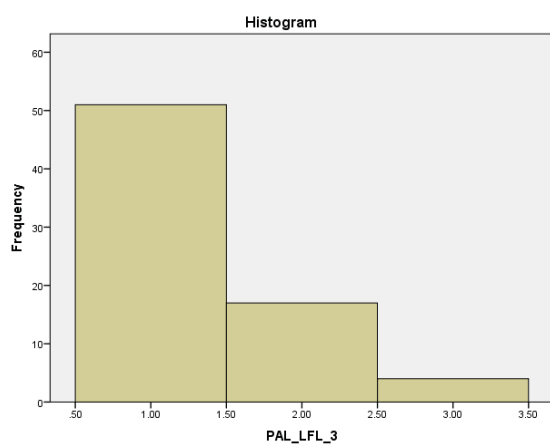
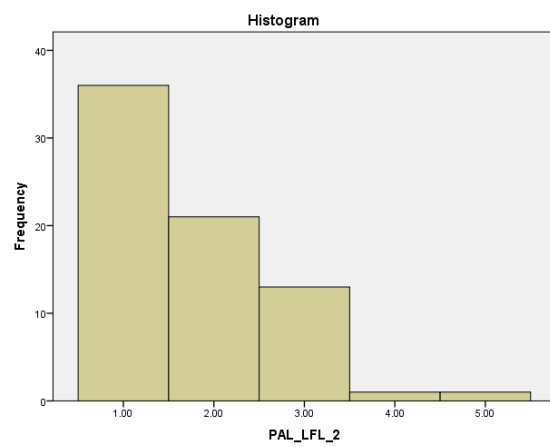
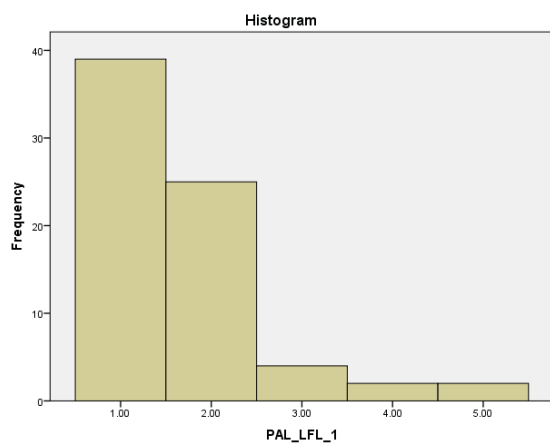
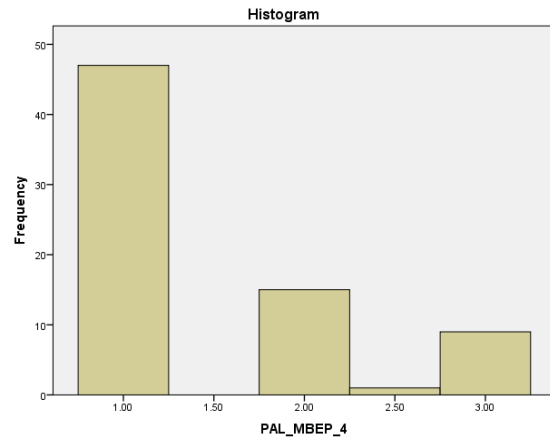
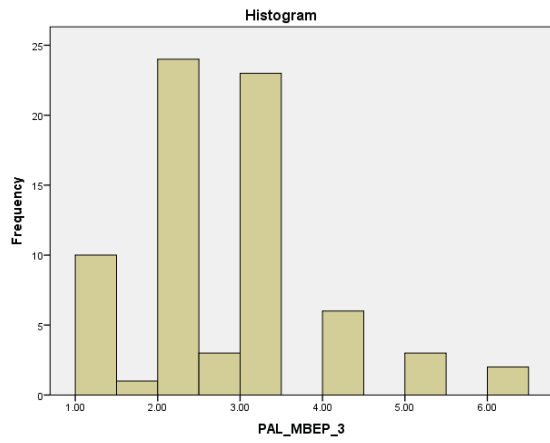




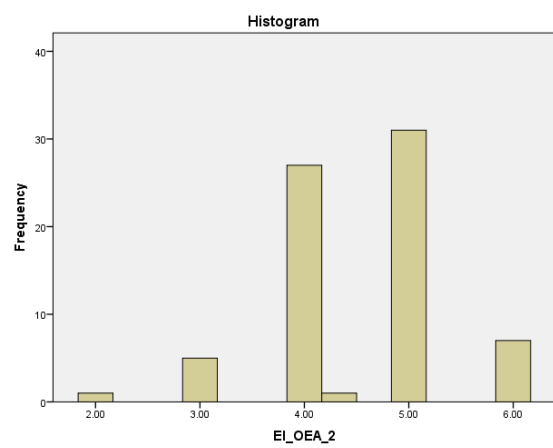
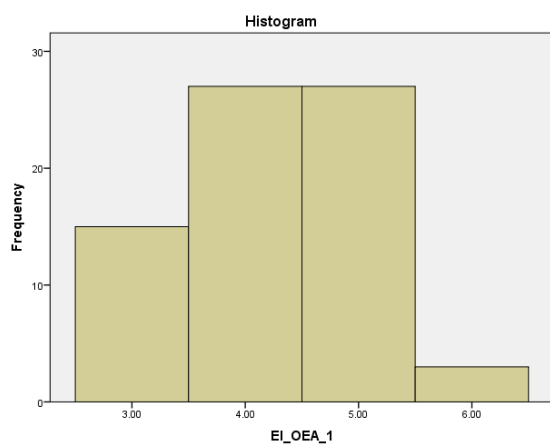
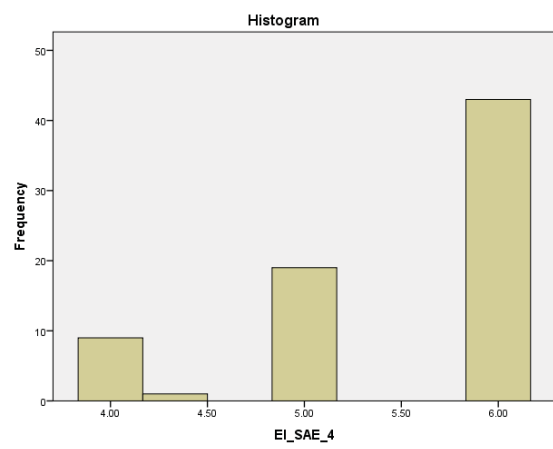
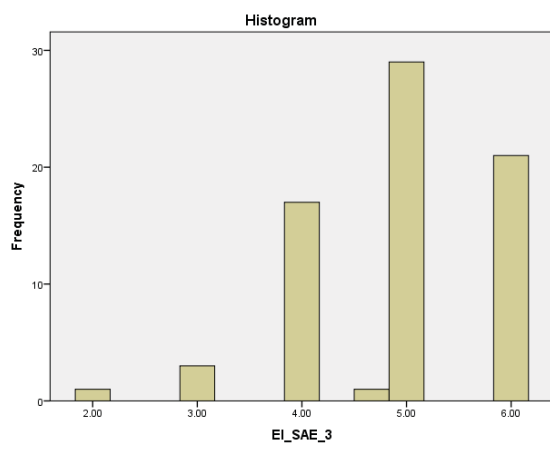
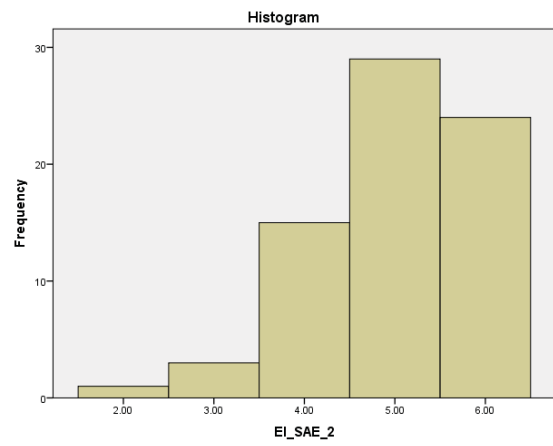
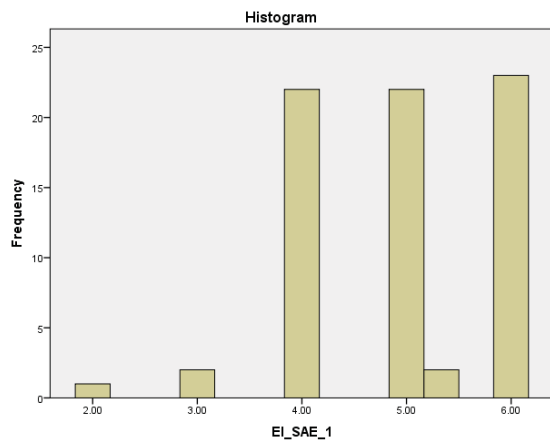


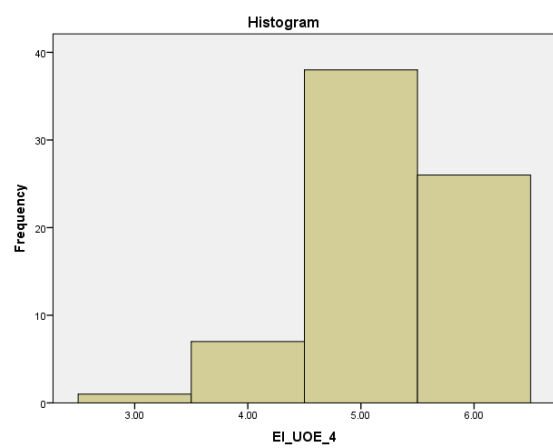
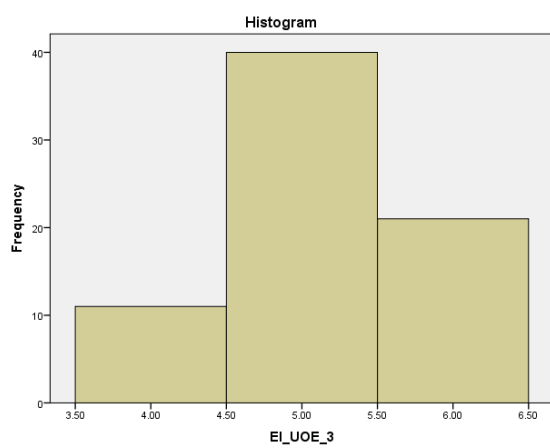
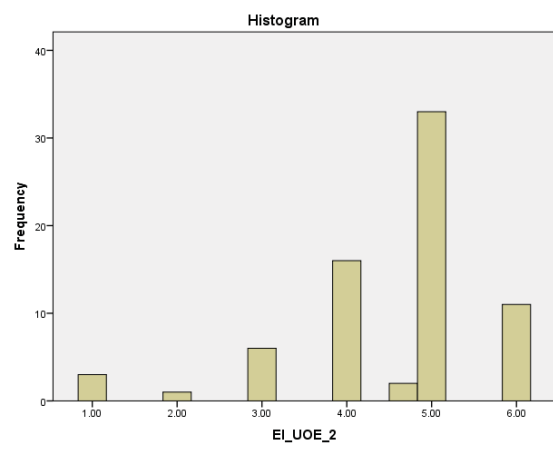
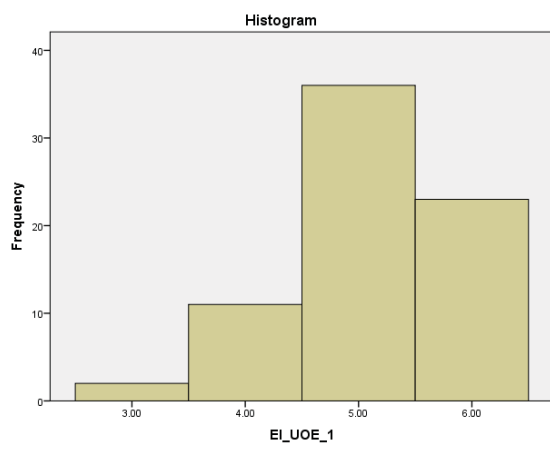
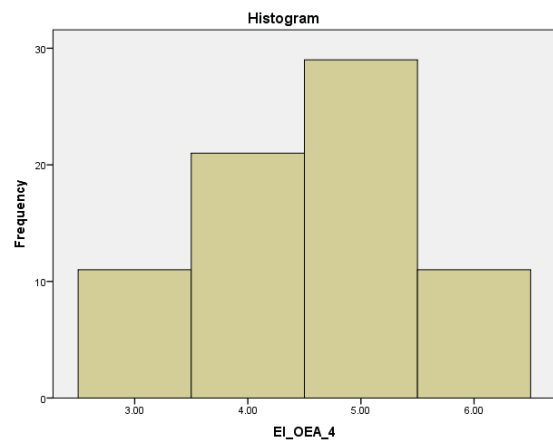
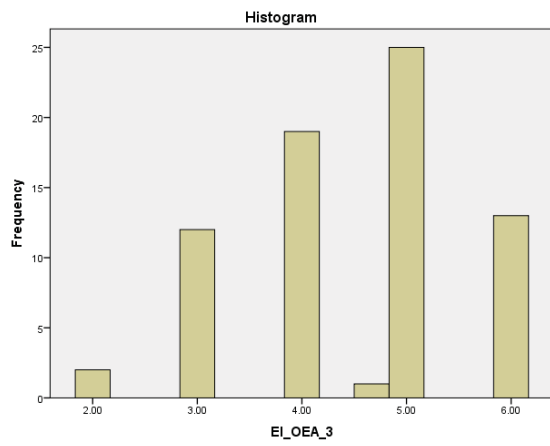


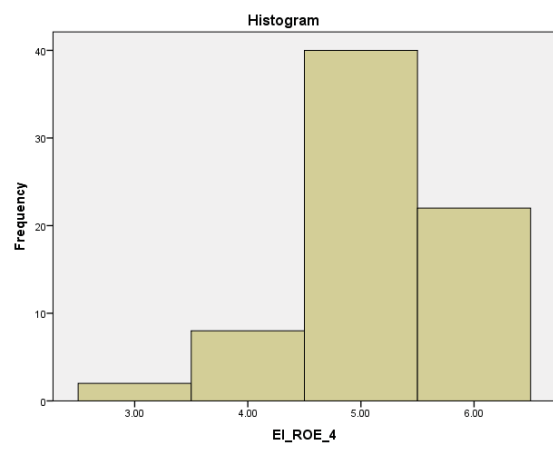
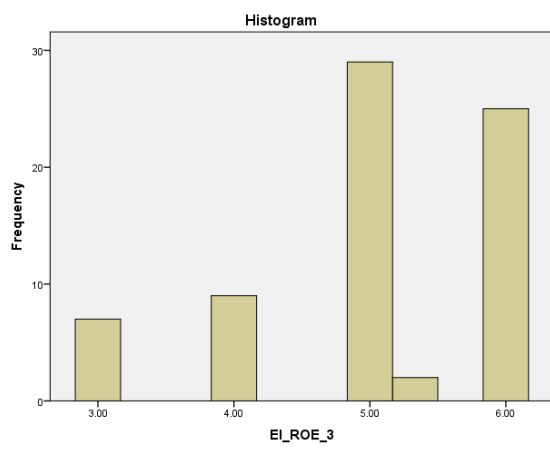
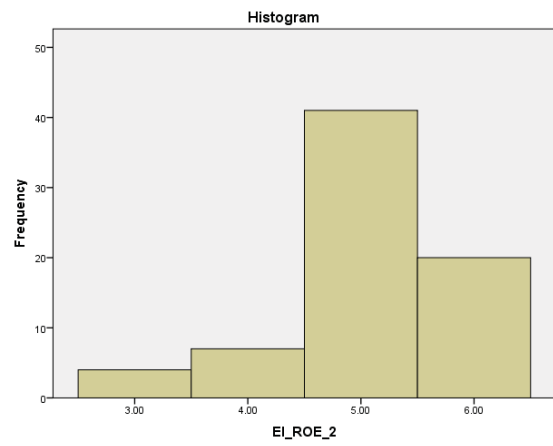
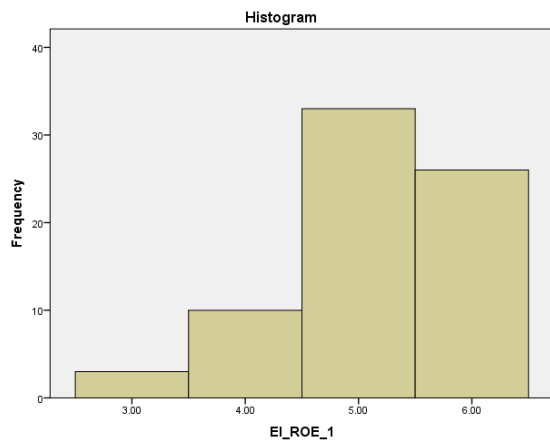




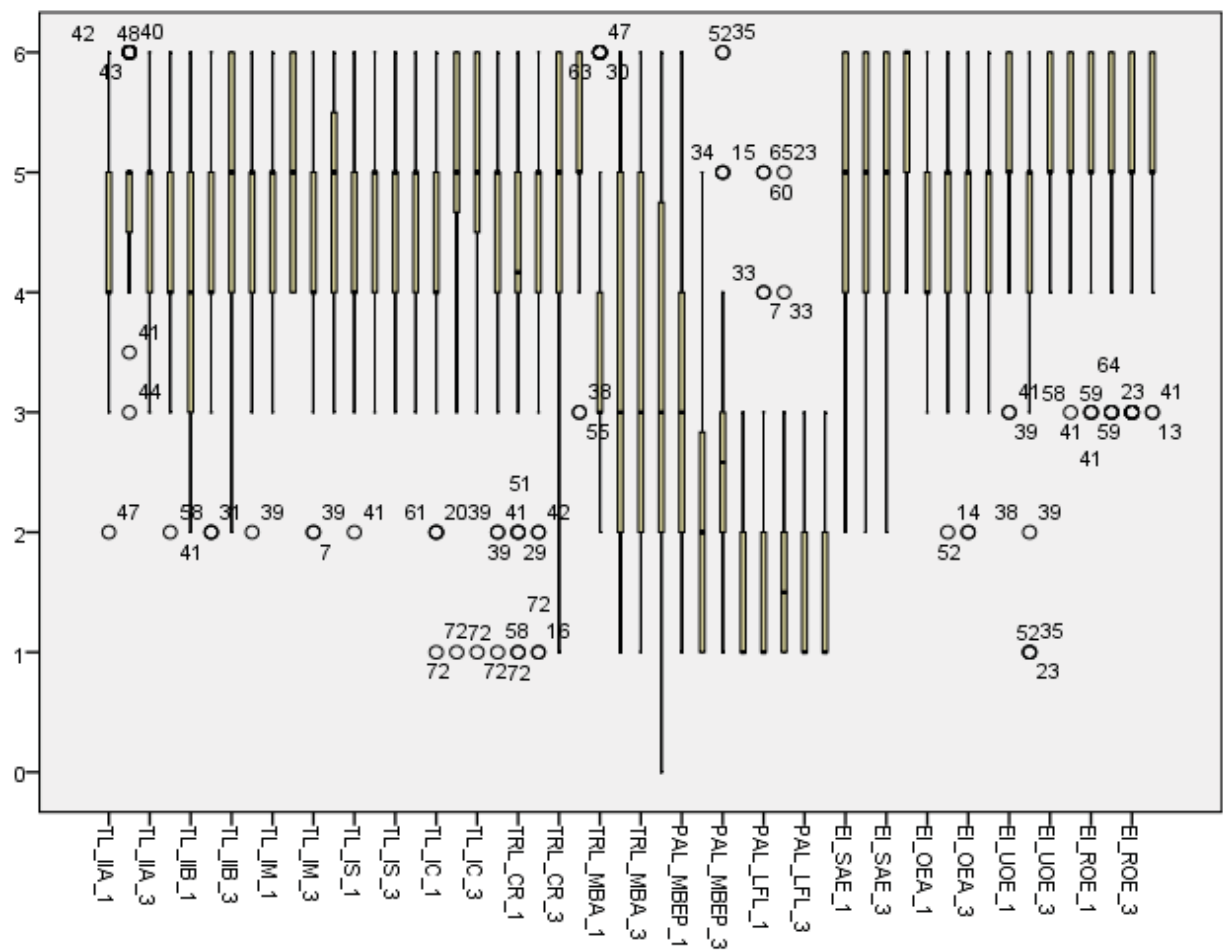








Box Plots for Distribution of 52 Variables



## **Appendix J : Skew and Kurtosis of Variables**

Table 20: Skew and Kurtosis of Variables

Skewness 95%					Kurtosis 95%			
	SK	SE	Z Value	True / False	KE	SE	Z Value	True / False
TL IIA 1	0.183	0.283	0.233	TRUE	0.027	0.559	0.293	TRUE
TL IIA 2	-0.209	0.283	0.037	TRUE	-0.314	0.559	0.1225	TRUE
TL IIA 3	-0.029	0.283	0.127	TRUE	-0.424	0.559	0.0675	TRUE
TL IIA 4	-0.102	0.283	0.091	TRUE	-0.002	0.559	0.2785	TRUE
TL IIB 1	-0.291	0.283	-0.004	TRUE	-0.393	0.559	0.083	TRUE
TL IIB 2	-0.334	0.283	-0.026	TRUE	0.173	0.559	0.366	TRUE
TL IIB 3	-0.576	0.283	-0.147	TRUE	0.19	0.559	0.3745	TRUE
TL IIB 4	-0.232	0.283	0.026	TRUE	-0.419	0.559	0.07	TRUE
TL IM 1	-0.306	0.283	-0.012	TRUE	-0.744	0.559	-0.0925	TRUE
TL IM 2	-0.022	0.283	0.131	TRUE	-1.149	0.559	-0.295	TRUE
TL IM 3	-0.283	0.283	0.000	TRUE	0.518	0.559	0.5385	TRUE
TL IM 4	-0.402	0.283	-0.060	TRUE	-0.257	0.559	0.151	TRUE
TL IS 1	0.023	0.283	0.153	TRUE	-0.753	0.559	-0.097	TRUE
TL IS 2	-0.055	0.283	0.114	TRUE	-0.642	0.559	-0.0415	TRUE
TL IS 3	-0.075	0.283	0.104	TRUE	-0.299	0.559	0.13	TRUE
TL IS 4	-0.204	0.283	0.040	TRUE	-0.309	0.559	0.125	TRUE
TL IC 1	-0.786	0.283	-0.252	TRUE	0.656	0.559	0.6075	TRUE
TL IC 2	-1.382	0.283	-0.550	TRUE	3.107	0.559	1.833	TRUE
TL IC 3	-1.338	0.283	-0.528	TRUE	2.737	0.559	1.648	TRUE
TL IC 4	-0.922	0.283	-0.320	TRUE	1.139	0.559	0.849	TRUE
TRL CR 1	-0.826	0.283	-0.272	TRUE	0.873	0.559	0.716	TRUE
TRL CR 2	-0.926	0.283	-0.322	TRUE	1.068	0.559	0.8135	TRUE
TRL CR 3	-0.822	0.283	-0.270	TRUE	0.057	0.559	0.308	TRUE
TRL CR 4	-0.883	0.283	-0.300	TRUE	0.089	0.559	0.324	TRUE
TRL MBEA 1	0.625	0.283	0.454	TRUE	-0.441	0.559	0.059	TRUE
TRL MBEA 2	0.147	0.283	0.215	TRUE	-1.015	0.559	-0.228	TRUE
TRL MBEA 3	-0.029	0.283	0.127	TRUE	-1.156	0.559	-0.2985	TRUE
TRL MBEA 4	0.054	0.283	0.169	TRUE	-0.539	0.559	0.01	TRUE
PAL MBEP 1	0.185	0.283	0.234	TRUE	-0.505	0.559	0.027	TRUE
PAL MBEP 2	0.831	0.283	0.557	TRUE	0.201	0.559	0.38	TRUE
PAL MBEP 3	0.88	0.283	0.582	TRUE	1.183	0.559	0.871	TRUE
PAL MBEP 4	1.156	0.283	0.720	TRUE	-0.105	0.559	0.227	TRUE
PAL LFL 1	1.866	0.283	1.075	TRUE	3.927	0.559	2.243	FALSE
PAL LFL 2	1.118	0.283	0.701	TRUE	1.085	0.559	0.822	TRUE
PAL LFL 3	1.493	0.283	0.888	TRUE	1.268	0.559	0.9135	TRUE
PAL LFL 4	0.749	0.283	0.516	TRUE	-0.715	0.559	-0.078	TRUE
EI SAE 1	-0.502	0.283	-0.110	TRUE	-0.147	0.559	0.206	TRUE
EI SAE 2	-0.783	0.283	-0.250	TRUE	0.475	0.559	0.517	TRUE
EI SAE 3	-0.654	0.283	-0.186	TRUE	0.343	0.559	0.451	TRUE
EI SAE 4	-0.956	0.283	-0.337	TRUE	-0.463	0.559	0.048	TRUE
EI OEA 1	-0.056	0.283	0.114	TRUE	-0.816	0.559	-0.1285	TRUE
EI OEA 2	-0.342	0.283	-0.030	TRUE	0.428	0.559	0.4935	TRUE
EI OEA 3	-0.316	0.283	-0.017	TRUE	-0.619	0.559	-0.03	TRUE
EI OEA 4	-0.166	0.283	0.059	TRUE	-0.794	0.559	-0.1175	TRUE
EI UOE 1	-0.585	0.283	-0.151	TRUE	0.108	0.559	0.3335	TRUE
EI UOE 2	-1.327	0.283	-0.522	TRUE	2.207	0.559	1.383	TRUE
EI UOE 3	-0.151	0.283	0.066	TRUE	-0.652	0.559	-0.0465	TRUE
EI UOE 4	-0.609	0.283	-0.163	TRUE	0.442	0.559	0.5005	TRUE
EI ROE 1	-0.752	0.283	-0.235	TRUE	0.209	0.559	0.384	TRUE
EI ROE 2	-0.868	0.283	-0.293	TRUE	1.01	0.559	0.7845	TRUE
EI ROE 3	-0.829	0.283	-0.273	TRUE	-0.079	0.559	0.24	TRUE
EI ROE 4	-0.683	0.283	-0.200	TRUE	0.756	0.559	0.6575	TRUE

## **Appendix K : Equality and Variance of Means**

Table 21: Equality of Variance and Means (NZ and UK)  
Table 22:

		Levene's Test		t-test for Equality of Means					95% Confidence	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Interval of the	
									Lower	Upper
TL	Equal variances assumed	.207	.651	1.831	69	.071	4.58267	2.50332	-.41132	9.57666
	Equal variances not assumed			1.828	67.952	.072	4.58267	2.50745	-.42093	9.58628
TRL	Equal variances assumed	.374	.543	1.863	69	.067	3.24775	1.74345	-.23035	6.72584
	Equal variances not assumed			1.869	68.998	.066	3.24775	1.73746	-.21839	6.71388
PAL	Equal variances assumed	.065	.800	-.363	69	.717	-.40567	1.11611	-2.63226	1.82092
	Equal variances not assumed			-.364	68.925	.717	-.40567	1.11359	-2.62727	1.81593
UOE	Equal variances assumed	1.415	.238	.048	69	.962	.02544	.53081	-1.03350	1.08437
	Equal variances not assumed			.048	63.788	.962	.02544	.53542	-1.04426	1.09514
ROE	Equal variances assumed	.686	.410	.968	69	.336	.61606	.63634	-.65341	1.88552
	Equal variances not assumed			.965	67.328	.338	.61606	.63831	-.65790	1.89001
OEA	Equal variances assumed	.173	.679	.729	69	.469	.54346	.74555	-.94388	2.03079
	Equal variances not assumed			.727	67.519	.470	.54346	.74755	-.94846	2.03537
SEA	Equal variances assumed	.131	.718	1.174	69	.245	.85718	.73038	-.59990	2.31426
	Equal variances not assumed			1.173	68.410	.245	.85718	.73061	-.60056	2.31492



## **Appendix L : Harman's Test for Common Method Variance**

Table 23: Harman's Test for Common Method Variance

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	15.487	29.784	29.784	15.487	29.784	29.784
2	6.471	12.444	42.228			
3	3.788	7.285	49.513			
4	3.429	6.594	56.106			
5	3.035	5.837	61.943			
6	2.394	4.605	66.548			
7	2.332	4.484	71.032			
8	1.979	3.806	74.838			
9	1.834	3.527	78.365			
10	1.512	2.908	81.273			
11	1.459	2.806	84.079			
12	1.150	2.211	86.291			
13	1.015	1.953	88.244			
14	.879	1.690	89.933			
15	.714	1.373	91.307			
16	.658	1.266	92.573			
17	.564	1.085	93.657			
18	.537	1.033	94.691			
19	.430	.826	95.517			
20	.394	.757	96.274			
21	.362	.696	96.970			
22	.281	.540	97.510			
23	.246	.474	97.984			
24	.210	.404	98.388			
25	.188	.362	98.750			
26	.144	.276	99.026			
27	.112	.215	99.241			
28	.093	.179	99.421			
29	.081	.156	99.577			
30	.069	.133	99.710			
31	.059	.113	99.824			
32	.037	.071	99.894			
33	.035	.067	99.961			
34	.014	.026	99.987			
35	.007	.013	100.000			
36	1.234E-15	2.374E-15	100.000			
37	1.010E-15	1.942E-15	100.000			
38	8.301E-16	1.596E-15	100.000			
39	5.821E-16	1.119E-15	100.000			
40	4.239E-16	8.153E-16	100.000			
41	3.669E-16	7.056E-16	100.000			
42	2.316E-16	4.454E-16	100.000			
43	2.019E-16	3.883E-16	100.000			
44	5.537E-17	1.065E-16	100.000			
45	-4.388E-17	-8.439E-17	100.000			
46	-1.145E-16	-2.202E-16	100.000			
47	-1.418E-16	-2.727E-16	100.000			
48	-2.164E-16	-4.162E-16	100.000			
49	-3.526E-16	-6.781E-16	100.000			
50	-4.726E-16	-9.089E-16	100.000			
51	-5.918E-16	-1.138E-15	100.000			
52	-8.774E-16	-1.687E-15	100.000			

## **Appendix M : Full Responses - Leadership Question**

## **Question 18 – Responses to the Qualitative Leadership Question** (as typed / inclusive of any grammatical errors).

- Make clear who is responsible for what and when.
- Setting an example for the team to follow.
- Setting goals. Motivate. Weekly meetings to ensure everyone on same page.
- Talking regularly & take in everybodys views on different decissions.
- By evaluating peoples strengths and making best use of their competencies. By listening to everyones input and not jumping to conclusions and solutions.
- Leading by example. Praise where praise is due, constructively approach failings.
- Consideration
- Give operatives a clear understanding of what is required.
- Regular meetings to plan, review and discuss how the objectives of the project will be achieved.
- establish goals and objectives to ensure team know what is required and when
- Lead by example, be supportive all the time. Engage when team mebers seem to be struggling with tasks. Face problems head on and involve the larger team (company) Be honest and open.
- By asking their opinion on the best ways to achieve the tasks Give positive feedback Help and support when they are struggling
- By reinforcing the need to display professionalism at all times
- Ensure all have an understanding of the end game and what is expected of them.
- Leading by example and working along side them.
- By Giving as much help and advice as possible and listening to the team, by rewarding success and collectively taking the responsibility of failure, so as not to create a blame culture. Setting realistic goals for the team.
- Praise and acknowledgement
- Setting out at start of the project what is expected of the team and what needs to be achieved. Encouragement. An open door policy. Stressing the importance of pride in product.
- Set clear SMART performance goals with time cost and quality tolerance to encourage personal responsibility to empower decision making within tolerances and encourage clear reporting.
- By emphasising that I am no more important than the "lowest" member of the team (chain only as strong as it weakest link)
- Recognise strengths and capabilities and set tasks/expectations accordingly. Set realistic targets, where necessary break activities in to smaller tasks to give a seance of achievement, provide challenges along the way
- Be fair
- Provide clear vision and goals for what is required to be achieved. Ensure that staff have the resources, equipment, capacity and time to achieve the deliverables. Ensure people are able to take responsibility and ownership for their tasks.COMMUNICATE at all stages to ALL PARTIES (i.e.client and staff).
- Provide feedback on quality and progress. If changes are required to improve delivery, implement asap.
- Encouragement, Assistance, Colaboration and Reward
- Motivation, trust, greater resonsibility, leading by example, clear concise instructions, unambiguous targets, improved rewards.
- I lead by example and with an open mind.
- Encouragement and enthusiasm
- Ensure they have clear objectives and are away of my expectations. Emphasis on Team work demonstrating I am part of the team not just the boss, regular feedback positive and negative. Showing appreciation, saying thank you. Having a consistent approach
- Gaining their trust and setting realistic goals that are achievable.
- Listening.
- Positive attitude. Show dedication and show my team members that I entrust them with responsibility and that I am prepared to back decisions they may make when required to do so.
- Define clear objectives with the individuals in the team, monitor and review achievement against objectives and any issues on a one-to-one basis and as a team formally on a weekly basis, and informally as and when required.

## Question 18 – Responses Continued

- Build strong relationships with my team members, understand individual's strengths, weaknesses and priorities and allocate work based on this understanding to develop and grow the ability of my team. Encourage an open and engaging atmosphere amongst the team.
- Start up meeting so the build team know what is expected of them.
- Common goals, motivation and accountability.
- Giving them the praise when a job is done well and getting the focus on a successful completion and enjoy looking forward to the next project.
- By going the extra mile to help out the build team. Giving clear instructions on what is required and expected. Treating each member of the team as an individual and as a team as a whole.
- By leading by example when on site and rewarding teams for achieving set goals and / or deadlines.
- Providing tasks that will challenge them to keep them focused and valued.
- I will try to make them feel that they are the real reason for the success or progress or achievement
  - I create the sense of OWNING of the project in to they mind - and also develop the same traits as integral part of team culture - always try to be in the front when crisis arises - Its just leading by example , empathy and collaboration
- review budget vs cost and customer's satisfaction
- The old phrase "There is no I in Team", When given credit for a project by senior management always back it up with credit to the Relevant project team member and make sure senior management are aware of the individuals performance and input. Share the love and let other bask in the glory.
- By acting as an equal with all members. Nobody is considered the boss.
- Communication. This is the single most important vehicle for creating an atmosphere for a cohesive trust based team. Daily, when possible, so you can understand perspectives, personal issues, and needs of team members. At the start, during the project work phases, at milestones, and during periods where difficulties and problems arise from internal operations and external work environmental concerns, to make sure adherence to the project plan is as close as possible.
- Understand the members who make up the team and provide support. Also try to encourage a good team environment to work in.
- Lead by example Demonstrate passion and confidence
- Motivate them with a shared vision of the project outcome expectation and properly brief and attend to them so that they can do their job well
- 110%
- Listen, listen and when I think I understand really listen - then I understand better and they feel of team worth. Have strong moral values that override situation ethic type decisions and look ofr that in prospective employees
- By instilling a happy team environment among all concerned. Ensure that all the team are confident about the work ahead.
- treat them as human beings
- Communicate, communicate, communicate. Emphasise that the best result will be team driven, no dumb questions. Social events every quarter
- foster a team culture
- Open and regular communication
- There is an expectation that this should not be necessary. They are all Professionals and paid as such.
- Recruiting good people, putting in place robust and simple systems around a Project Management Framework, articulating a vision, making sure the scope is clear, providing clear instruction on what needs to be done and what my expectations are; giving developmental feedback when projects have been done well or where there are improvements that could have been made.
- Good, open communication

## **Appendix N : Summarised Leadership Text Analysis**

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### Responses Relating To Clarity

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Make clear who is responsible for what and when.

Give operatives a clear understanding of what is required.

Set clear SMART performance goals with time cost and quality tolerance to encourage personal responsibility to empower decision making within tolerances and encourage clear reporting.

Provide clear vision and goals for what is required to be achieved. Ensure that staff have the resources, equipment, capacity and time to achieve the deliverables. Ensure people are able to take responsibility and ownership for their tasks. COMMUNICATE at all stages to ALL PARTIES (i.e. client and staff).

Motivation, trust, greater responsibility, leading by example, clear concise instructions, unambiguous targets, improved rewards.

Ensure they have clear objectives and are away of my expectations. Emphasis on Team work demonstrating I am part of the team not just the boss, regular feedback positive and negative. Showing appreciation, saying thank you. Having a consistent approach

Define clear objectives with the individuals in the team, monitor and review achievement against objectives and any issues on a one-to-one basis and as a team formally on a weekly basis, and informally as and when required.

By going the extra mile to help out the build team. Giving clear instructions on what is required and expected. Treating each member of the team as an individual and as a team as a whole.

Recruiting good people, putting in place robust and simple systems around a Project Management Framework, articulating a vision, making sure the scope is clear, providing clear instruction on what needs to be done and what my expectations are; giving developmental feedback when projects have been done well or where there are improvements that could have been made.

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### Responses relating to Encouragement

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Setting out at start of the project what is expected of the team and what needs to be achieved. Encouragement. An open door policy. Stressing the importance of pride in product.

Set clear SMART performance goals with time cost and quality tolerance to encourage personal responsibility to empower decision making within tolerances and encourage clear reporting.

Encouragement, Assistance, Collaboration and Reward

Encouragement and enthusiasm

Build strong relationships with my team members, understand individual's strengths, weaknesses and priorities and allocate work based on this understanding to develop and grow the ability of my team. Encourage an open and engaging atmosphere amongst the team.

Understand the members who make up the team and provide support. Also try to encourage a good team environment to work in.

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### Responses Relating to Expectations

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Ensure all have an understanding of the end game and what is expected of them.

Setting out at start of the project what is expected of the team and what needs to be achieved. Encouragement. An open door policy. Stressing the importance of pride in product.

Recognise strengths and capabilities and set tasks/expectations accordingly. Set realistic targets, where necessary break activities in to smaller tasks to give a sense of achievement, provide challenges along the way

Ensure they have clear objectives and are away of my expectations. Emphasis on Team work demonstrating I am part of the team not just the boss, regular feedback positive and negative. Showing appreciation, saying thank you. Having a consistent approach

Start up meeting so the build team know what is expected of them.

By going the extra mile to help out the build team. Giving clear instructions on what is required and expected. Treating each member of the team as an individual and as a team as a whole.

Motivate them with a shared vision of the project outcome expectation and properly brief and attend to them so that they can do their job well

There is an expectation that this should not be necessary. They are all Professionals and paid as such.

Recruiting good people, putting in place robust and simple systems around a Project Management Framework, articulating a vision, making sure the scope is clear, providing clear instruction on what needs to be done and what my expectations are; giving developmental feedback when projects have been done well or where there are improvements that could have been made.

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#### **Leading By Example Responses**

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Setting an example for the team to follow.

Leading by example. Praise where praise is due, constructively approach failings.

Lead by example, be supportive all the time. Engage when team members seem to be struggling with tasks. Face problems head on and involve the larger team (company) Be honest and open.

Leading by example and working along side them.

Motivation, trust, greater responsibility, leading by example, clear concise instructions, unambiguous targets, improved rewards.

lead by example and with an open mind.

By leading by example when on site and rewarding teams for achieving set goals and / or deadlines.

I will try to make them feel that they are the real reason for the success or progress or achievement - I create the sense of OWNING of the project in to their mind - and also develop the same traits as integral part of team culture - always try to be in the front when crisis arises - Its just leading by example , empathy and collaboration

Lead by example Demonstrate passion and confidence

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#### **Responses Relating to Listening**

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By evaluating peoples strengths and making best use of their competencies. By listening to everyones input and not jumping to conclusions and solutions.

By Giving as much help and advice as possible and listening to the team, by rewarding success and collectively taking the responsibility of failure, so as not to create a blame culture. Setting realistic goals for the team.

Listening.

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#### **Responses Relating to Motivation**

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Setting goals. Motivate. Weekly meetings to ensure everyone on same page.

Motivation, trust, greater responsibility, leading by example, clear concise instructions, unambiguous targets, improved rewards.

Common goals, motivation and accountability.

Motivate them with a shared vision of the project outcome expectation and properly brief and attend to them so that they can do their job well

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## **Appendix O : Responses Against the Constructs of Leadership**

Response	TL				TRL		PAL		
	II (A&B)	IM	IS	IC	CR	MBEA	MBEP	LFL	Other
Make clear who is responsible for what and when.									✓
Setting an example for the team to follow.	✓								
Setting goals. Motivate. Weekly meetings to ensure everyone on same page.		✓							
Talking regularly & take in everybody's views on different decisions.				✓					
By evaluating peoples strengths and making best use of their competencies. By listening to everyone's input and not jumping to conclusions and solutions.				✓					
Leading by example. Praise where praise is due, constructively approach failings.	✓	✓							
Consideration				✓					
Give operatives a clear understanding of what is required.									✓
Regular meetings to plan, review and discuss how the objectives of the project will be achieved.			✓						
establish goals and objectives to ensure team know what is required and when									✓
Lead by example, be supportive all the time. Engage when team members seem to be struggling with tasks.				✓					
Face problems head on and involve the larger team (company) Be honest and open.	✓								
By asking their opinion on the best ways to achieve the tasks Give positive feedback Help and support when they are struggling			✓	✓					
By reinforcing the need to display professionalism at all times									✓
Ensure all have an understanding of the end game and what is expected of them.									✓
Leading by example and working along side them.	✓								
By Giving as much help and advice as possible and listening to the team, by rewarding success and collectively taking the responsibility of failure, so as not to create a blame culture. Setting realistic goals for the team.		✓		✓					
Praise and acknowledgement				✓					
Setting out at start of the project what is expected of the team and what needs to be achieved.									✓
Encouragement. An open door policy. Stressing the importance of pride in product.									
Set clear SMART performance goals with time cost and quality tolerance to encourage personal responsibility to empower decision making within tolerances and encourage clear reporting.			✓						
By emphasising that I am no more important than the "lowest" member of the team (chain only as strong as it weakest link)		✓							
Recognise strengths and capabilities and set tasks/expectations accordingly. Set realistic targets, where necessary break activities in to smaller tasks to give a sense of achievement, provide challenges along the way			✓	✓					

Response	TL				TRL			PAL	
	II (A&B)	IM	IS	IC	CR	MBEA	MBEP	LFL	
Be fair									
Provide clear vision and goals for what is required to be achieved. Ensure that staff have the resources, equipment, capacity and time to achieve the deliverables. Ensure people are able to take responsibility and ownership for their tasks.COMMUNICATE at all stages to ALL PARTIES (i.e.client and staff).		✓							
Provide feedback on quality and progress. If changes are required to improve delivery, implement asap					✓				
Encouragement, Assistance, Colaboration and Reward				✓					
Motivation, trust, greater resonsibility, leading by example, clear concise instructions, unambiguous targets, improved rewards.	✓	✓	✓						
lead by example and with an open mind.	✓								
Encouragement and enthusiasm				✓					
Ensure they have clear objectives and are away of my expectations. Emphasis on Team work demonstrating I am part of the team not just the boss, regular feedback positive and negative. Showing appreciation, saying thank you. Having a consistent approach									
Gaining their trust and setting realistic goals that are achievable.				✓					
Listening.				✓					
Positive attitude. Show dedication and show my team members that I entrust them with responsibility and that I am prepared to back decisions they may make when required to do so.		✓		✓					
Define clear objectives with the individuals in the team, monitor and review achievement against objectives and any issues on a one-to-one basis and as a team formally on a weekly basis, and informally as and when required.				✓					
Build strong relationships with my team members, understand individual's strengths, weaknesses and priorities and allocate work based on this understanding to develop and grow the ability of my team.				✓					
Encourage an open and engaging atmosphere amongst the team.									
Start up meeting so the build team know what is expected of them.									
Common goals, motivation and accountability.		✓							
Giving them the praise when a job is done well and getting the focus on a successful completion and enjoy looking forward to the next project.				✓					
By going the extra mile to help out the build team. Giving clear instructions on what is required and expected. Treating each member of the team as an individual and as a team as a whole.				✓					
By leading by example when on site and rewarding teams for achieving set goals and / or deadlines.	✓								
Providing tasks that will challenge them to keep them focused and valued.			✓						



Key:

IIA/B - Ideal influence (attributes / behaviour)

IM - Inspired motivation

IS - Intellectual stimulation

IC - Individualised consideration

CR - Contingent reward

MBEA - Management by exception (active )

MBEP - Management by exception (passive)

LFL - Lessez - faire leadership

## **Appendix P : Full Responses to the Qualitative EI Question**

**Question 23 – Responses to the Qualitative Emotional Intelligence Question**  
(as typed / inclusive of any grammatical errors).

- Unsure
- It's important to be able to identify people's emotions to successfully manage them. i.e. Do they need an arm around them (figuratively), do they need a fresh approach to their work and so on.
- Its an important consideration because the way i am perceived.
- Your team performs better when thoughts feelings emotions and goals are in balance, you need to be aware that you are considering all.
- Identifying emotions is important im the workplace in order to manage individuals and optimise performance.
- High
- Need to keep personal and work Seperate if you want to succeed.
- Being able to identify peoples emotions is important in order to extract the best performance from the individual.
- High - this is required to understand the team and keep morale high
- The days of the sexist bully-boy is just about over but there are still some dinosaurs out there. Key to any project is take the team with you.
- Emotions can come in the way of carrying out your own tasks and can affect the teams moral. Staying professional at all time provides a stable platform to manage the project team successfully.
- emotions should not influence the way I behave with my team My emotions should not influence my decisions I am unable to make sound judgements if I am angry
- Very relevant in order to get the best from team working. I am a trained mediator but sometimes I recognise that in a stressful situation I am sometimes slow to use those skills to help me deal with a problem or help to direct those people around me. It is much easier to mediate from a distance in a situation that one is not involved in.
- A leader's emotions sets the tone of the project. Being too enthusiastic can be as offputting as being negative. I believe calm confidence and reassurance, with a willingness to listen are the way to handle the ups and downs people will feel during a project.
- Its important to be able to display both positive and negative emotion depending on the situation. if things are not going to plan you need to ensure you portray the relevant emotions to substantiate this and the need to get things back on track..equally if things are going well this needs to be shown and rewarded accordingly.
- Dictatorial behaviour only causes adversity it does not create a good working environment. Also by taking notice of other peoples emotions you are able to judge if a team member is struggling with a workload etc. and needs help.
- Important to understand so you can motivate your team
- Identifying emotional behaviour is relevant in everything we do. If a leader can identify particular traits in people they are able to manage in a more efficient and affective manner.
- Emotions are a natural part of our make up and can alert us to the levels of stress and success we are experiencing.
- It can be positive in pulling people along with you rather than an insensitive pushing people along
- There are different styles of PM - delivery PMs tend to focus on control, enabling PMs more on facilitation
- Managing stress and give a calm exterior is important to promote harmony within a team environment.
- Important to be able to control and not show emotion
- Need to recognise that emotions drive people especially if they are working under stressful or very physical conditions. PM Leadership, or any good leader will have the ability to be able to look at the situation in calm and balanced way and requires emotion to be able to be controlled from what the response or actions should be.
- Performance is key and unhappy colleagues tend to underperform. Emotions are key to performance and output.
- One should not confuse passion with emotion. Committment, singularity, purpose should be on show for all to see as drivers for success
- To encourage, and show leadership

## Question 23 – Responses Continued

- All managers need to be able to control their emotions in the work place. Others may take pleasure in goading you and 'pushing your buttons' this rarely ends well for anyone. This is different to having a passion for your work.
- Having the ability to learn from mistakes
- Understanding how others are feeling. My own emotions should not be relevant to the way I manage.
- Helps you maintain an honest perspective as well as try to be determined to accomplish your goals.
- You need to be able to appreciate that teams are made up of people and people have emotions. To get the best out of the team and its individuals it is important to create a sense of belonging and security, and when members of the team have emotional issues be they personal or otherwise it is important to be able to identify these issues and allow the individual leeway required to deal with the problems and become productive again.
- You need to understand the emotions of your team so that you can communicate with them properly.
- Being able to understand what is important to those around you. Note employees stress levels / capabilities. Thinking logically, not emotionally. Making calls for the greater good and considering all outcomes.
- You need to be able to show that you are passionate about the contract that you are involved with at the time but also be able to be very firm when required without too much emotion to make the more difficult decisions when required.
- Emotions are a driving factor of management roles within the industry.
- Leader is best when he is cool , have to be decisive when to express and when not to , should empathize every team member in every difficulty - A leader should address issues keeping his feet in the team member shoes - the best part of team work is the informal relation the share - professionalism and being formal and emotionless management might yield results in the beginning - but late the team members dis connect from the team - if it happens they cant align with the project goals ----so emotions has lot of importance in leadership
- Good EQ helps.
- Emotions can sink you and your career. Don't be the kid in the bath with the plug in hand and the water draining out screaming for Mommy to save you from being pulled down the drain. Don't let emotions get in the way. It's work, It's not personal
- To be angry with someone/something never solves an issue or problem, it only makes the matter worse. It will even escalate the issues. if you step back analyze the situation the solution is much easier to resolve.
- Emotions can cause one to deviate from the plan. Frustration leads to anger, and frustration usually has to do with aligning expectations too closely with the objectives of a plan being met exactly and execution being perfect. Arising each day, one should understand that "stuff happens" and that one is in control of their response to stimuli. If the only measure of ones success is how well they execute a plan, then they are neglecting (and frankly setting oneself up for failure) their ability to overcome adversity and possible failure.
- You must be able to keep your emotions under control, at least outwardly, so people can not tell how you feel. i.e where this could jeopardise a business transaction. Also you should not lose your temper with junior members of staff even when angry as this could affect confidence etc.
- Emotions are relevant in all aspects of business and social life. Allowing emotions to cloud your judgement has the same consequence in construction as any other industry
- Emotions evoke body language which is part of the tool kit of communication
- calmness
- There is no room for negative emotions to affect a team leaders interaction with others. - but there is fro positive emotion. Negative info that needs to be conveyed should be conveyed neutrally and objectively



## Question 23 – Responses Continued

- emotions are one the main differences between human beings and automatons and they should not be marginalised in favour of some notional value system based on quantity. that is to say, there is a distinction to be drawn between cost and value or quantity and quality and in many ways, they are at opposite ends of the spectrum. the building industry is predominantly left-brained (based on quantity) and there lies its Achilles heel - there is a lack of right-brained thinkers and consequently, quality suffers and this is a downward spiral, which perpetuates itself until there is some kind of crisis, such as the 'leaky building' crisis, which came as such a surprise to the industry, as it was too busy counting it's sheckles to notice anything was wrong. as a result, hundreds of thousands of people lost billions of dollars and the consequential EMOTIONAL devastation actually resulted in people taking their own lives, in some cases. now, the industry has to deal with the aftermath of that trauma and to succeed in this task, one needs a very clear idea of ones emotions (and how they can be either positive or negative... and how both are equally valid). rightly or wrongly, people have an emotional attachment to their investment and it would behove many people within the building industry (as well, perhaps, as other industries) that not only are their clients human beings with emotions, but they, too (although it is, admittedly, sometimes difficult to conceive) are also human - with human emotions... and, to return to the initial point, that is precisely what makes them different from a machine or automaton or mere economic unit - a cog in the wheel, 'just doing my job'... and, per chance, I don't need to remind of how many lives have been lost or how many people have suffered at the hands of people 'just doing their jobs'...?
- You need to be a calm , confident person to get those around you to act accordingly when things go wrong. Emotions are everything!
- Empathy for individual needs of all staff. All aspects of their life will have an effect on business outputs
- Raw emotions are rarely helpful in the construction industry. Work is hard enough without having to deal with other people's emotions as well
- alot... it is key to understand your own and others.
- Emotions should not be relevant and should not be displayed by a leader.
- Managment is all about dealing with people. Soft skills are very important.
- Like a lot of jobs Project Management relies on team work. In order to get the best out of people in a team, you have to control your emotions as a manager in order to influence team members in the most optimal way.

## **Appendix Q : Summarised EI Text Analysis**

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### Responses Relating to the Team

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Your team performs better when thoughts feelings emotions and goals are in balance, you need to be aware that you are considering all

High - this is required to understand the team and keep morale high

The days of the sexist bully-boy is just about over but there are still some dinosaurs out there. Key to any project is take the team with you.

Emotions can come in the way of carrying out your own tasks and can affect the teams moral. Staying professional at all time provides a stable platform to manage the project team successfully

emotions should not influence the way I behave with my team My emotions should not influence my decisions I am unable to make sound judgements if I am angry

Very relevant in order to get the best from team working. I am a trained mediator but sometimes I recognise that in a stressful situation I am sometimes slow to use those skills to help me deal with a problem or help to direct those people around me. It is much easier to mediate from a distance in a situation that one is not involved in.

Dictatorial behaviour only causes adversity it does not create a good working environment. Also by taking notice of other peoples emotions you are able to judge if a team member is struggling with a workload etc. and needs help.

Important to understand so you can motivate your team

Managing stress and give a calm exterior is important to promote harmony within a team environment.

You need to be able to appreciate that teams are made up of people and people have emotions. To get the best out of the team and its individuals it is important to create a sense of belonging and security, and when members of the team have emotional issues be they personal or otherwise it is important to be able to identify these issues and allow the individual leeway required to deal with the problems and become productive again.

You need to understand the emotions of your team so that you can communicate with them properly.

Leader is best when he is cool, have to be decisive when to express and when not to, should empathize every team member in every difficulty - A leader should address issues keeping his feet in the team member shoes - the best part of team work is the informal relation the share - professionalism and being formal and emotionless management might yield results in the beginning - but late the team members dis connect from the team - if it happens they cant align with the project goals ----so emotions has lot of importance in leadership

There is no room for negative emotions to affect a team leaders interaction with others. - but there is fro positive emotion. Negative info that needs to be conveyed should be conveyed neutrally and objectively

Like a lot of jobs Project Management relies on team work. In order to get the best out of people in a team, you have to control your emotions as a manager in order to influence team members in the most optimal way.

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### Responses Relating to Ability

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It's important to be able to identify people's emotions to successfully manage them. i.e. Do they need an arm around them (figuratively), do they need a fresh approach to their work and so on.

Being able to identify peoples emotions is important in order to extract the best performance from the individual.

Emotions can come in the way of carrying out your own tasks and can affect the teams moral. Staying professional at all time provides a stable platform to manage the project team successfully

emotions should not influence the way I behave with my team My emotions should not influence my decisions I am unable to make sound judgements if I am angry

Its important to be able to display both positive and negative emotion depending on the situation. if things are not going to plane you need to ensure you portray the relevant emotions to substantiate this and the need to get things back on track..equally if things are going well this needs to be shown and rewarded accordingly.

Dictatorial behaviour only causes adversity it does not create a good working environment. Also by taking notice of other peoples emotions you are able to judge if a team member is struggling with a workload etc. and needs help.

Identifying emotional behaviour is relevant in everything we do. If a leader can identify particular traits in people they are able to manage in a more efficient and affective manner.

Important to be able to control and not show emotion

Need to recognise that emotions drive people especially if they are working under stressful or very physical conditions. PM Leadership, or any good leader will have the ability to be able to look at the situation in calm and balanced way and requires emotion to be able to be controlled from what the response or actions should be.

All managers need to be able to control their emotions in the work place. Others may take pleasure in goading you and 'pushing your buttons' this rarely ends well for anyone. This is different to having a passion for your work.

You need to be able to appreciate that teams are made up of people and people have emotions. To get the best out of the team and its individuals it is important to create a sense of belonging and security, and when members of the team have emotional issues be they personal or otherwise it is important to be able to identify these issues and allow the individual leeway required to deal with the problems and become productive again.

Being able to understand what is important to those around you. Note employees stress levels / capabilities. Thinking logically, not emotionally. Making calls for the greater good and considering all outcomes.

You need to be able to show that you are passionate about the contract that you are involved with at the time but also be able to be very firm when required without too much emotion to make the more difficult decisions when required.

You must be able to keep your emotions under control, at least outwardly, so people can not tell how you feel. i.e where this could jeopardise a business transaction. Also you should not lose your temper with junior members of staff even when angry as this could affect confidence etc.

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### Responses Relating to Management

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It's important to be able to identify people's emotions to successfully manage them. i.e. Do they need an arm around them (figuratively), do they need a fresh approach to their work and so on.

Identifying emotions is important in the workplace in order to manage individuals and optimise performance.

Emotions can come in the way of carrying out your own tasks and can affect the team's moral. Staying professional at all times provides a stable platform to manage the project team successfully.

Identifying emotional behaviour is relevant in everything we do. If a leader can identify particular traits in people they are able to manage in a more efficient and affective manner.

All managers need to be able to control their emotions in the workplace. Others may take pleasure in goading you and 'pushing your buttons' this rarely ends well for anyone. This is different to having a passion for your work.

Understanding how others are feeling. My own emotions should not be relevant to the way I manage.

Emotions are a driving factor of management roles within the industry.

Leadership is best when they are cool, have to be decisive when to express and when not to, should empathize every team member in every difficulty - A leader should address issues keeping his feet in the team member shoes - the best part of team work is the informal relation the share - professionalism and being formal and emotionless management might yield results in the beginning - but later the team members disconnect from the team - if it happens they can't align with the project goals ----so emotions have a lot of importance in leadership.

Like a lot of jobs Project Management relies on team work. In order to get the best out of people in a team, you have to control your emotions as a manager in order to influence team members in the most optimal way.

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### Responses Relating to Control

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There are different styles of PM - delivery PMs tend to focus on control, enabling PMs more on facilitation.

Important to be able to control and not show emotion.

Need to recognise that emotions drive people especially if they are working under stressful or very physical conditions. PM Leadership, or any good leader will have the ability to be able to look at the situation in a calm and balanced way and requires emotion to be able to be controlled from what the response or actions should be.

All managers need to be able to control their emotions in the workplace. Others may take pleasure in goading you and 'pushing your buttons' this rarely ends well for anyone. This is different to having a passion for your work.

Emotions can cause one to deviate from the plan. Frustration leads to anger, and frustration usually has to do with aligning expectations too closely with the objectives of a plan being met exactly and execution being perfect. Arising each day, one should understand that "stuff happens" and that one is in control of their response to stimuli. If the only measure of one's success is how well they execute a plan, then they are neglecting (and frankly setting oneself up for failure) their ability to overcome adversity and possible failure.

You must be able to keep your emotions under control, at least outwardly, so people can not tell how you feel. i.e. where this could jeopardise a business transaction. Also you should not lose your temper with junior members of staff even when angry as this could affect confidence etc.

Like a lot of jobs Project Management relies on team work. In order to get the best out of people in a team, you have to control your emotions as a manager in order to influence team members in the most optimal way.

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### Responses Relating to the Industry

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Emotions are a driving factor of management roles within the industry.

Emotions are relevant in all aspects of business and social life. Allowing emotions to cloud your judgement has the same consequence in construction as any other industry.

Emotions are one of the main differences between human beings and automatons and they should not be marginalised in favour of some notional value system based on quantity. That is to say, there is a distinction to be drawn between cost and value or quantity and quality and in many ways, they are at opposite ends of the spectrum. The building industry is predominantly left-brained (based on quantity) and there lies its Achilles heel - there is a lack of right-brained thinkers and consequently, quality suffers and this is a downward spiral, which perpetuates itself until there is some kind of crisis, such as the 'leaky building' crisis, which came as such a surprise to the industry, as it was too busy counting its shekles to notice anything was wrong. As a result, hundreds of thousands of people lost billions of dollars and the consequential EMOTIONAL devastation actually resulted in people taking their own lives, in some cases. Now, the industry has to deal with the aftermath of that trauma and to succeed in this task, one needs a very clear idea of one's emotions (and how they can be either positive or negative... and how both are equally valid). Rightly or wrongly, people have an emotional attachment to. Raw emotions are rarely helpful in the construction industry. Work is hard enough without having to deal with other people's emotions as well.

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### **Responses Relating to Peoples Emotions**

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It's important to be able to identify people's emotions to successfully manage them. i.e. Do they need an arm around them (figuratively), do they need a fresh approach to their work and so on.

Being able to identify peoples emotions is important in order to extract the best performance from the individual.

Dictatorial behaviour only causes adversity it does not create a good working environment. Also by taking notice of other peoples emotions you are able to judge if a team member is struggling with a workload etc. and needs help.

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### **Responses Relating to Calmness**

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A leader's emotions sets the tone of the project. Being too enthusiastic can be as offputting as being negative. I believe calm confidence and reassurance, with a willingness to listen are the way to handle the ups and downs people will feel during a project.

Managing stress and give a calm exterior is important to promote harmony within a team environment.

Need to recognise that emotions drive people especially if they are working under stressful or very physical conditions. PM Leadership, or any good leader will have the ability to be able to look at the situation in calm and balanced way and requires emotion to be able to be controlled from what the response or actions should be.

calmness

You need to be a calm , confident person to get those around you to act accordingly when things go wrong. Emotions are everything!

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## **Appendix R : Constructs of Qualitative EI Responses**

Response	UOE	ROE	OEA	SEA	Other
Unsure					✓
It's important to be able to identify people's emotions to successfully manage them. i.e. Do they need an arm around them (figuratively), do they need a fresh approach to their work and so on.			✓		
Its an important consideration because the way i am perceived.					✓
Your team performs better when thoughts feelings emotions and goals are in balance, you need to be aware that you are considering all.			✓		
Identifying emotions is important im the workplace in order to manage individuals and optimise performance.			✓		
High					✓
Need to keep personal and work Seperate if you want to succeed.		✓			
Being able to identify peoples emotions is important in order to extract the best performance from the individual.			✓		
High - this is required to understand the team and keep morale high			✓		
The days of the sexist bully-boy is just about over but there are still some dinosaurs out there. Key to any project is take the team with you.					✓
Emotions can come in the way of carrying out your own tasks and can affect the teams moral. Staying professional at all time provides a stable platform to manage the project team successfully		✓		✓	
emotions should not influence the way I behave with my team My emotions should not influence my decisions I am unable to make sound judgements if I am angry		✓		✓	
Very relevant in order to get the best from team working. I am a trained mediator but sometimes I recognise that in a stressful situation I am sometimes slow to use those skills to help me deal with a problem or help to direct those people around me. It is much easier to mediate from a distance in a situation that one is not involved in.		✓		✓	
A leader's emotions sets the tone of the project. Being too enthusiastic can be as offputting as being negative. I believe calm confidence and reassurance, with a willingness to listen are the way to handle the ups and downs people will feel during a project.		✓		✓	
Its important to be able to display both positive and negative emotion depending on the situation. if things are not going to plane you need to ensure you portray the relevant emotions to substantiate this and the need to get things back on track. .equally if things are going well this needs to be shown and rewarded accordingly.	✓			✓	
Dictatorial behaviour only causes adversity it does not create a good working environment. Also by taking notice of other peoples emotions you are able to judge if a team member is struggling with a workload etc. and needs help.			✓		
Important to understand so you can motivate your team					
Identifying emotional behaviour is relevant in everything we do. If a leader can identify particular traits in people they are able to manage in a more efficient and affective manner.			✓		
Emotions are a natural part of our make up and can alert us to the levels of stress and success we are experiencing.				✓	
It can be positive in pulling people along with you rather than an insensitive pushing people along	✓				
There are different styles of PM - delivery PMs tend to focus on control, enabling PMs more on facilitation					✓
Managing stress and give a calm exterior is important to promote harmony within a team environment.		✓		✓	
Important to be able to control and not show emotion		✓		✓	
Need to recognise that emotions drive people especially if they are working under stressful or very physical conditions. PM Leadership, or any good leader will have the ability to be able to look at the situation in calm and balanced way and requires emotion to be able to be controlled from what the response or actions should be.		✓			
Performance is key and unhappy colleagues tend to underperform. Emotions are key to performance and output.					✓

Response	UOE	ROE	OEA	SEA	Other
One should not confuse passion with emotion. Commitment, singularity, purpose should be on show for all to see as drivers for success					✓
To encourage, and show leadership	✓				
All managers need to be able to control their emotions in the work place. Others may take pleasure in goading you and 'pushing your buttons' this rarely ends well for anyone. This is different to having a passion for your work.		✓			
Having the ability to learn from mistakes					✓
Understanding how others are feeling. My own emotions should not be relevant to the way I manage.			✓		
Helps you maintain an honest perspective as well as try to be determined to accomplish your goals.					✓
You need to be able to appreciate that teams are made up of people and people have emotions. To get the best out of the team and its individuals it is important to create a sense of belonging and security, and when members of the team have emotional issues be they personal or otherwise it is important to be able to identify these issues and allow the individual leeway required to deal with the problems and become productive again.			✓		
You need to understand the emotions of your team so that you can communicate with them properly.			✓		
Being able to understand what is important to those around you. Note employees stress levels / capabilities. Thinking logically, not emotionally.			✓		
Making calls for the greater good and considering all outcomes.					
You need to be able to show that you are passionate about the contract that you are involved with at the time but also be able to be very firm when required without too much emotion to make the more difficult decisions when required.	✓	✓			
Emotions are a driving factor of management roles within the industry.					✓
Leader is best when he is cool, have to be decisive when to express and when not to, should empathize every team member in every difficulty - A leader should address issues keeping his feet in the team member shoes - the best part of team work is the informal relation the share - professionalism and being formal and emotionless management might yield results in the beginning - but late the team members dis connect from the team - if it happens they cant align with the project goals ----so emotions has lot of importance in leadership		✓	✓		
Good EQ helps.					✓
Emotions can sink you and your career. Don't be the kid in the bath with the plug in hand and the water draining out screaming for Mommy to save you from being pulled down the drain. Don't let emotions get in the way. It's work, It's not personal		✓			
To be angry with someone/something never solves an issue or problem. it only makes the matter worse. It will even escalate the issues. if you step back analyze the situation the solution is much easier to resolve.		✓		✓	
Emotions can cause one to deviate from the plan. Frustration leads to anger, and frustration usually has to do with aligning expectations too closely with the objectives of a plan being met exactly and execution being perfect. Arising each day, one should understand that "stuff happens" and that one is in control of their response to stimuli. If the only measure of ones success is how well they execute a plan, then they are neglecting (and frankly setting oneself up for failure) their ability to overcome adversity and possible failure.		✓			
You must be able to keep your emotions under control, at least outwardly, so people can not tell how you feel. i.e where this could jeopardise a business transaction. Also you should not lose your temper with junior members of staff even when angry as this could affect confidence etc.		✓			
Emotions are relevant in all aspects of business and social life. Allowing emotions to cloud your judgement has the same consequence in construction as any other industry		✓			
Emotions evoke body language which is part of the tool kit of communication					✓
calmness		✓			



Response	UOE	ROE	OEA	SEA	Other
value system based on quantity. that is to say, there is a distinction to be drawn between cost and value or quantity and quality and in many ways, they are at opposite ends of the spectrum. the building industry is predominantly left-brained (based on quantity) and there lies its Achilles heel - there is a lack of right-brained thinkers and consequently, quality suffers and this is a downward spiral, which perpetuates itself until there is some kind of crisis, such as the 'leaky building' crisis, which came as such a surprise to the industry, as it was too busy counting it's shekles to notice anything was wrong. as a result, hundreds of thousands of people lost billions of dollars and the consequential EMOTIONAL devastation actually resulted in people taking their own lives, in some cases, now, the industry has to deal with the aftermath of that trauma and to succeed in this task, one needs a very clear idea of ones emotions (and how they can be either positive or negative... and how both are equally valid). rightly or wrongly, people have an emotional attachment to their investment and it would behove many people within the building industry (as well, perhaps, as other industries) that not only are their clients human beings with emotions, but they, too (although it is, admittedly, sometimes			✓		
You need to be a calm , confident person to get those around you to act accordingly when things go wrong. Emotions are everything!		✓			
Empathy for individual needs of all staff. All aspects of their life will have an effect on business outputs			✓		
Raw emotions are rarely helpful in the construction industry. Work is hard enough without having to deal with other people's emotions as well			✓	✓	
alot... it is key to understand your own and others.				✓	
Emotions should not be relevant and should not be displayed by a leader.		✓			
Management is all about dealing with people. Soft skills are very important.					✓
Like a lot of jobs Project Management relies on team work. In order to get the best out of people in a team, you have to control your emotions as a manager in order to influence team members in the most optimal way.	✓	✓		✓	

**Key:**

**UOE**- Constructive use of emotions to achieve direction / success.

**ROE** - Regulation and control of own emotions.

**OEA** - Others emotional appraisal, identifications and understanding of others emotions.

**SEA** - Self emotional appraisal. Understanding and expressing own emotions.