The influence of emotional intelligence and Locus of control on resistance to change within the essential services provision industry

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ABSTRACT

The aim of this study pertains to investigating potential factors that may have influenced the unsuccessful implementation of a new department structure in a service provision industry. The psychological aspects of emotional intelligence, Locus of control and their respective influence on levels of resistance to change are investigated. The proposed literature indicates that high resistance to change would typically be connected to low Emotional Intelligence and an external Locus of control. The perceived resistance to accepting the new structure of the department is hypothesised to perhaps be due to the existence of low levels of Emotional Intelligence and an external Locus of control. A quantitative approach was used in which standard questionnaires were used to determine the relationship between these three constructs namely high resistance to change, low levels of emotional intelligence and external Locus of control. Thirty-four (34) participants volunteered to take part in the study which pertains to 85% of the total employees in the engineering department. These employees form parts of various sub-engineering divisions including the new sub-engineering department. Cronbach's Alpha was used as an indication of the reliability and validity, the relationship between constructs was determined by Pearson's product-moment correlation coefficient and multiple regression was employed as both the forced-entry method as well as the step-wise method.

The results indicated that the psychological aspects measured did not contribute fully to the Resistance to Change experienced by employees however the regression model did indicate that 22.6% of the sub-construct RTC Cognitive Rigidity could be accurately predicted by ELOC and EI Self-Awareness. A suggested change framework is constructed from using various aspects from existing frameworks described in the literature and a balanced scorecard is recommended for implementation purposes.

It is recommended that further studies should be conducted to investigate the reason for high Resistance to Change, with the focus on the influence of leadership on the implementation of change.

Key terms:

Locus of control, Emotional Intelligence, Resistance to Change, change management, multiple regression.

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- Finally, to the Lord who has guided me and strengthened me during the entire degree – thank You.

III. ABBREVIATIONS

Abbreviation	Description
CEO	Chief Executive Officer
Df	Degrees of freedom
EI	Emotional Intelligence
ELOC	External Locus of Control
EVT	Expectancy-Value Theory
ILOC	Internal Locus of Control
IQ	Intelligence Quotient
LOC	Locus of Control
R^2	R square
RTC	Resistance to Change
SPSS	Statistical Package for the Social Sciences

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CHAPTER 1: NATURE AND SCOPE OF THE STUDY

1.1 INTRODUCTION

As part of continuous improvement approaches, change management has become an integral factor when it comes to company strategies (Catley, 2014). Studies have shown that in most organisations, up to 60% of transformation initiatives fail (Sirkin *et al*. 2005). These changes are primarily attributed to lack of assessment for organisation change capacity and proper implementation strategy (Pellettiere, 2006).

Most CEOs whose companies' have undergone certain changes have the same main concern and that is related to how the workforce will react to the change, and how best to lead the employees to embrace the change, while ensuring that the employees feel psychologically safe. It has been found that when the human aspect of change-management is not considered, the implemented changes are most likely to fail regardless of the effectiveness of the strategy (Jones *et al*. 2004). With successful change-management being a challenge that many companies struggle with, this study will investigate the human-related challenges faced by an organisation when a new department is introduced. The company identified as suitable for this case study is kept anonymous as a means of security because it is a state-owned company and the particular segment is rated as a National Key Point in South Africa. Hence, this study serves a purely educational purpose.

Various studies have been conducted to investigate what causes resistance to change (RTC) and it has been found in numerous studies that an individual's Emotional Intelligence (EI) influences RTC, and these studies have found that a positive relationship exists between these two constructs. This means that in general, one can deduce that a person, who displays high levels of EI, should also be more willing to accept changes and therefore indicate lower levels of RTC (Di Fabio, Berrnaud & Loarer, 2013; Schmidt, 2008). Similarly, various studies have indicated that a person who displays an internal Locus of control (ILOC) will be more susceptible to change than a person who displays an external locus of control (ELOC) and that LOC can be used as a basis as to how people perceive change (Lau & Woodman, 1995; Chen & Wang, 2007; Choi, 2011).

With this background, this study aims to determine the influence of emotional intelligence and locus of control on resistance to change in the company of study.

1.2 BACKGROUND

Since the company of study came into existence, numerous structural changes have been made, many of which have been beneficial to the company. The most recent change to the company's structure was the introduction of a new division to the engineering department, namely process-engineering. The rationale behind the introduction of a process engineering department was to allow for a more holistic way to analyse the plant area, taking various systems into consideration, as opposed to analysing the plant's component. It is the role of system engineers to identify plant problems that are related to the component level.

Before the introduction of the new department, a gap was identified in performance, analysis and optimisation, the reason being work overload of the system engineers. The plant being studied in this case is a very old plant, making use of older technologies. The maintenance of the plant in recent years has not been up to standard, leading to many challenges arising from the breakdown of machinery.

The aim of the new department is to improve the efficiency of the plant by studying the various processes of production and their integration with one another and to identify any process challenges. Ultimately optimisation opportunities are to be provided, with the aim of improving the reliability of machinery as well as availability, to the systems engineers.

The introduction of the process-engineering department was initiated in 2014 and currently (2018) there is still confusion (both within and outside this sub-engineering department), as to the nature of the new department's role. Boundaries between the various engineering departments are not clear, neither to what extent the process engineering department has authority to intervene in the plant's everyday activities. Thus, sub-engineering departments have shown signs of resistance towards the change and establishment of the new process-engineering department by being secretive when it comes to knowledge sharing and by generally not accepting the new department's role in the organisation.

The consequence of this is that the process-engineers are becoming despondent and, thus, demotivated when assigned tasks. The conflict has further been arising between

the various engineering departments due to boundary challenges. Thus, the effectiveness, as well as reputation of the process engineering department, is perceived as relatively low.

1.3 PROBLEM STATEMENT

A literature reviews has indicated that there are direct correlations between resistance to change and emotional intelligence (Di Fabio *et al*., 2013; Schmidt, 2008) as well as between resistance to change and locus of control (Hutchins & Estey, 1978:2; Julita & Rahman, 2016:6). The purpose of this study is to identify which (if any) and to what extent, emotional intelligence and locus of control have contributed to the current situation of resistance to change resulting from the introduction of the process engineering department. Out of the above theory and background review, the following problem statement could be derived: namely, that there is a gap in the change management strategy of the organization.

1.4 OBJECTIVES OF THE STUDY

1.4.1 General objective

The general objective of this study is to determine whether psychological constructs such as emotional intelligence (EI) and Locus of control (LOC) influence the levels of resistance to change (RTC) which are experienced during the implementation of a new structure.

1.4.2 Specific objectives and research questions

- To investigate the role that an individual's EI level plays on RTC.
- To determine whether a person's LOC affects his/her level of RTC.

The following research questions are formulated to achieve the above-mentioned objectives:

- To what extent does emotional intelligence influence the perceived resistance to change?
- To what extent does Locus of control influence the perceived resistance to change?

1.5 SCOPE OF THE STUDY

The study is conducted in an essential service industry focusing upon the newly constituted process-engineering department. It aims to deliberate the effect of the two selected constructs upon the employees' RTC by analysing their EIs.

1.5.1 Field of study

The field of this study falls within the subject of change-management (focusing on RTC, EI, and LOC). The study also forms part of Human Resource Management, Organisational Behaviour and Work Psychology.

1.5.2 Population

The study is limited to the process-engineering department of a specific branch of an essential service provider in South Africa.

1.6 RESEARCH METHODOLOGY

1.6.1 Literature/theoretical study

This study is cross-sectional survey design because more than one variable is studied at the same time. A literature study was conducted to determine the extent of research on this topic and to determine the relationship perceived in the literature between the three constructs. The research focuses on change management and lists certain frameworks that can be related to this research topic. It also describes the three constructs (EI, LOC and RTC) as well as their relationships with each other. The sources used include electronic journals, textbooks, previous NWU mini-dissertations and websites. Most of the searches were conducted electronically using the NWU library scientific databases such as EbscoHost.

1.6.2 Empirical study

This study follows a quantitative research approach; as it investigates the individual employee's relationship between LOC, EI and RTC with EI and LOC as the independent variables and RTC as the dependent variable. The problem elements are quantified through the means of existing questionnaires that are compared to results obtained from the literature.

The following questionnaires are used to test the specified constructs:

Table 1: Summary of questionnaires used

Construct	Questionnaire
Locus of Control (LOC)	Rotter's Locus of Control Scale (1954).
Emotional Intelligence (EI)	Leadership Toolkit Emotional Intelligence Questionnaire (2017).
Resistance to Change (ROC)	Shaul Oreg's (2003) Resistance to Change Questionnaire.

The LOC questionnaire was adapted from Rotter's (1954) Locus of Control Scale and consisted of four questions with a seven-point Likert scale (strongly disagree, disagree, mildly disagree, neither disagree or agree, mildly agree, agree and strongly agree) (McLeod, 2008).

The RTC questionnaire is designed to measure a person's inclination to resist change and is measured on a six-point Likert scale (strongly disagree, disagree, inclined to disagree, inclined to agree, agree and strongly agree).

The EI questionnaire was taken from an adaptation of Daniel Goleman's (2006) EI questionnaire that contains fewer questions without affecting the accuracy thereof. It is measured on a five-point Likert scale (strongly disagree, disagree, neutral, agree and strongly agree).

1.6.3 Study population

The employees studied consisted of a diverse population with ages ranging from 23 to 60 years. The engineering department consists of 40 employees that are part of various sub-engineering sections (process-, electrical-, control-, turbine-, and boiler-engineering). The gender of the population consists of 20% female and 80% male. Regarding race, 65% African, 10% Indian and 25% White participants with diverse cultures and religions formed part of the population. Given the small population, a census was done on the total population; however, full participation was not anticipated. To be able to offer conclusive information, a minimum of 75% participation from the group needed to be obtained. In actuality, 85% of the employees in the engineering department participated in this study.

1.6.3.1 Collection of data

Primary data was collected using existing questionnaires that have been used in similar studies. A copy of the questionnaires can be found in the Appendix Section 6.1 and Chapter 3 covers a detailed description of the questionnaires. The respondents' EI, RC and LOC were assessed using these questionnaires.

The self-administered questionnaires were completed via the use of hard copies that were delivered by hand. The time frame for completion of the questionnaires was two weeks; however, to accelerate the reaction time, reminders were sent out via email.

1.7 LIMITATIONS OF THE STUDY

Although there are many dimensions that play a role in an individual's willingness to accept change, this study focuses only on two constructs' influence upon the RTC levels in employees. For this study and simplicity, other factors and dimensions are not considered even though the role of leadership does play a significant role in change management and managing Resistance to Change. This does affect the validity of the results to the extent that should be noted and can be seen in the results of the study. The study was completed only at one branch of the company and, therefore, cannot be generalised throughout the company or any other company.

It is important to note that although the study is of quantitative nature that is generally perceived to be objective; the introspective nature of the questionnaire, allows for the presence of a level of subjectivity and, thus, the study cannot be perceived to be 100% objective. This lack of objectivity is due to the natural inclination of humans to see themselves in a better light than what reality may indicate.

1.8 LAYOUT OF THE STUDY

This document comprises the following structure:

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1.9 SUMMARY

This research was designed to explore the relationship between EI and an individual's LOC on levels of ROC.

CHAPTER 2: LITERATURE REVIEW

2.1 INTRODUCTION

This chapter aims to research the constructs that are related to the objectives listed in Chapter 1 to identify current findings in the field and relate them to this study. The constructs covered in this literature review are related to change management; specifically, EI, LOC and RTC.

2.2 CHANGE MANAGEMENT

For an organisation to compete successfully with other institutions, the management of change is critical. New requirements need to be adopted within a realistic period, since allowing the time frame of change implementation to run too long, may be unfavourable to the success of the change. Studies have indicated that generally only between 20% and 40% of change initiatives are implemented successfully (Fritzenschaft, 2013:4). Conversely, due to the diverse nature of change initiative failures, numerous studies have been conducted to determine what causes unsuccessful change implementation. It is imperative, therefore, for a manager to be aware of factors which aid in the successful implementation of change.

2.2.1 Definition of change management

The management of change deals with employing a systematic approach which is aimed at transitioning or transforming an organisation's goals, processes or technologies. It generally consists of a series of strategies that will effectively control and assist changes to take place successfully within an organisation, (Rouse, 2018). In short, change management aims at managing the people side of a required change to achieve the desired business outcome (Shaw, 2015). Change management mainly comprises a set of tools/structures that are used to control and implement change efforts efficiently and cost-effectively. A team (the change agents) is usually tasked to aid in the management of the changes to be undergone. Change leadership is imperative to focus on driving radical changes, together with the extensive visions and processes needed to implement a successful transformation (Forbes, 2011).

Changes in businesses are highly dependent on people and the following three human factors play a major role in change implementation:

1. Emotional challenges

Negative emotional reactions to change can severely influence the implementation thereof. People are easily scared and fear, if left unaddressed, will lead to resentment and rebellion against the proposed changes (Richards, 2013).

2. Communication challenges

As will be elaborated in Kotter's eight-point plan in section 2.2.2.1 of this chapter, appropriate communication is a key aspect of successful change implementation (Richards, 2013).

3. Execution challenges

To be effective, change management processes need to consider how the change with affect the organisational processes, systems and employees. Processes need to be put in place to plan, test, communicate, schedule, implement, document and evaluate the changes, Rouse (2018). Proper planning for change is therefore essential; however, the execution thereof is even more critical. Full engagement and dedication are needed from all parties to execute the new strategy (Richards, 2013).

2.2.2 Theoretical frameworks

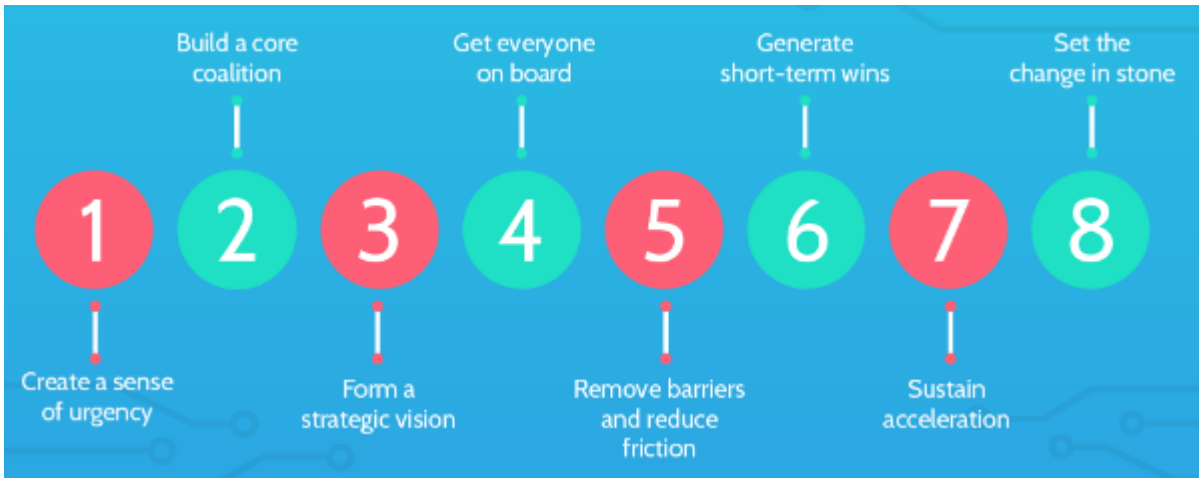
This section discussed various models of change which are popularly implemented in organisations which undergo similar structural changes.

2.2.2.1 Kotter's theory

Kotter's theory evolved after Dr John Kotter studied various organisations while they were attempting to execute change strategies. Stemming from his studies, Kotter (1995) suggests in his article *"Leading Change: Why transformation efforts fail"* the idea that individuals are generally not to blame for high levels of RTC, but rather that corporations are to take responsibility for the levels of RTC being experienced. He deduces that people resist the perceived potential of the results of such change, for example, loss of pay, comfort or status. He indicates that buy-in from employees plays a significant role in change management and high levels of resistance lead to implementation problems. He agrees with similar research articles which suggest that the system of change should be considered along with the change agents when considering RTC aspects.

In Kotter's research, he has identified eight critical elements which, when not considered, lead to the failure of the implementation of changes. These factors are discussed below:

Figure 2.1: Kotter's theory on managing change



Source: Kotter (2018).

1. Sense of urgency

Changes are generally brought about due to challenges that are being experienced or to make improvements. Very often a company aims to increase their competitiveness or efficiency by instigating changes. Whatever the reason for the changes, it is imperative to ensure that they are executed with a sense of urgency. People needed to be made aware of the urgency of the matter and provided with the reason for the proposed changes. They also need to be driven out of their comfort zones for them to accept these changes. For a total transformation, employees need to buy-in and realise both the consequence of not implementing the changes and the benefits of doing so. When they do not have this motivation, there will be no drive for change from most employees. In certain past cases, a crisis has been manufactured to achieve urgency to drive transformation. The idea behind this process is to make the status-quo seem more dangerous than implementing the proposed change (Kotter, 1995:60).

2. Powerful guiding coalition

A total reform needs leadership coalition with buy-in from various departments and ranks. The typical institutional hierarchy is not necessarily followed when implementing changes (Kotter, 1995: 62).

3. Vision

The guiding coalition discussed above is responsible for developing and communicating the vision to all the stakeholders. As the vision is developed, it will become more clear and focused. Without a sound vision, the transformation will dissolve into confusion and result in unsuccessful projects (Kotter, 1995: 63).

4. Communication

Effective communication is essential when implementing change and involves much more than a few speeches and emails. It lies in the guiding coalition team absorbing the new vision, incorporating it into everything they say and do with a great sense of urgency. When the change leaders act in a manner contrary to the vision, it leads to employees not taking the need for the proposed change seriously (Kotter, 1995: 64).

5. Removal of obstacles

Renewal requires the removal of obstacles that prevent the new vision from being instilled. Obstacles can include aspects such as organisational structure, performance appraisals, unwilling bosses and inconsistent demands. These large obstacles need to be dealt with as soon as they rise in ways that are consistent with the new vision (Kotter, 1995: 65).

6. Short-term ‘wins’

Short-term goals assist in keeping motivation high because people are inclined to continue when they have evidence that the expected results are being reached. It is, therefore, important to actively create short-term ‘wins’ instead of waiting for such short-term benefits to evolve naturally (Kotter, 1995:65).

7. Celebrating too soon

Victory should not be declared too soon. Short-term ‘wins’ can be celebrated, however, but it is important to make it clear to employees that their journey towards transformation is not yet complete. Over accentuating a premature victory can kill momentum which can be detrimental to the change implementation process (Kotter, 1995: 66).

8. Anchoring changes

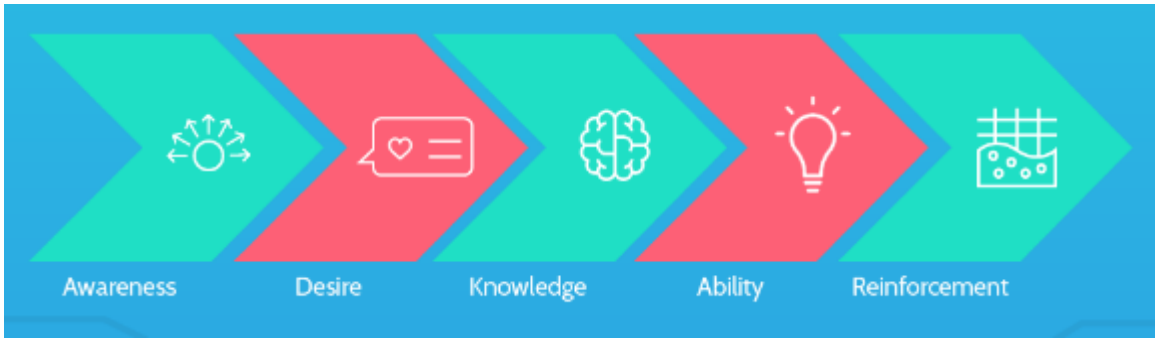
Changes will remain in place if they become the new norm in a company. New behaviours need to be rooted in the company's social norms and shared values otherwise the employees will fall back into old routines once the pressure is removed. To anchor the changed behaviour, deliberate attempts must be made to show the employees how the new system has improved performance. Time must be spent on allowing employees to personally identify with the new approach. This process involves proper succession planning and implementation (Kotter, 1995: 67).

Kotter's model focuses on creating a sense of urgency which is vitally important when implementing changes as it drives employees to enact the change. This approach is a top-down approach, and one draw-back of the approach is that does not consider individual feedback. When adopting this method, change agents should be aware of the risk of alienating employees and allow for individual participation to be incorporated into the model. This model works well if used as a guiding checklist. However, it would be advised to introduce employee participation to this model (Kotter, 2018).

2.2.2.2 The ADKAR model

The Prosci ADKAR model was founded by Jeff Hiatt and can be described as a goal-oriented change management model that aids in guiding individual as well as organisational changes by focusing on the individuals behind the change. ADKAR is an acronym (which consists of the following goals: Awareness, Desire, Knowledge, Ability and Reinforcement) and the model for successful change implementation is described below (Prosci, 2018).

Figure 2.2: The ADKAR model



Source: Prosci (2018).

The ADKAR model focuses on managing change on the individual level and provides direction through the change management journey.

1. Awareness – This step entails creating awareness within the organisation as to why a change is necessary for the business and is deeply rooted in proper communication and persuasion. The focus in this step is on ensuring that employees understand the need, and change agents should justify the change instead of forcing it (Prosci, 2018).
2. Desire – Creating a desire to change within employees is one of the more challenging goals in this model and the focus should be on addressing both the logical and emotional side of employees by promoting the benefits which are relevant to the particular group of employees. This can be done by describing the situation after the change has been implemented and comparing it to the employees' current situation (Prosci, 2018).
3. Knowledge – The next goal is to ensure that all employees understand the change process and where they fit in, how they can fulfil their role in the change and where they will benefit from the change (Prosci, 2018).
4. Ability – Each employee's ability should be assessed as to whether they will need additional knowledge or experience to be able to successfully adapt to the change (Prosci, 2018).
5. Reinforcement – This goal requires the implementation of incentives which will reward employees for adopting and maintaining changes (Prosci, 2018).

Since the ADKAR model is a bottom-up approach which focuses on employees, goals can be set-up in a flexible and customizable manner to suit each individual's specific need. This model works well for implementing small, incremental changes however it can be challenging to implement for large-scale alterations. The model is simplistic in the sense that it avoids large and complicated setups and rather goes straight to managing employees' resistance as well as reactions to change. The basis of this model is for change agents to fully comprehend the change which needs to take place, and then to drive it from the individual level, (Prosci, 2018).

2.2.2.3 Satir's change model

Virginia Satir developed this change model which focuses on transformation through improvement and the concept is based on transforming the way people see and express themselves. This model was formed based on certain patterns which she identified to be present during therapy sessions with family groups. It can be applied to any group of people who are experiencing change. It consists of five stages which assist in helping people to process and accept change. The five stages are briefly discussed below and portrayed in a group environment (Smith, 2015).

1. Late Status Quo

This is the general state of a group before a change is implemented. In this stage, the group is in a stable and familiar environment in the sense that they are aware of what is expected of them, how they should behave and react and the group has a sense of comfort and belonging. Each person understands his/her role and can conduct their responsibilities accordingly. Since the group understands what is expected of them, situations may arise in which pressure is put on the group to achieve their goals even when unforeseen circumstances occur. While pressure can be a good thing at times, constant situations like this may lead to poor group behaviours such as blame placing, placating, poor communication, and frustration, stress and health issues. At this stage, the group needed to be made aware of the situation and introduced to new information and concepts that are generally employed elsewhere. The group needs to be encouraged to seek continuous improvement and information from outside the group (Smith, 2015).

2. Resistance

This stage describes the general reactions of a group who is captured in a state of Late Status Quo when a change is introduced. Since the change will threaten the familiar and stable environment, most of the group members may resist the change by denying it, avoiding the change, blaming the change agents and employing various other blocking methods. Psychologically, the group members' feelings towards the change can be identified through studying their general body language such as closed posture positions. When a person is actively resisting a change, their general perceptions can become warped and they may not be able to discern the value of the implemented change. Since most people's first reaction is generally to resist change; creating an

environment in which the group members can be made aware of and overcome the natural reaction to resist change is of utmost importance (Smith, 2015).

3. Chaos

When a group is in the Chaos stage, their general feeling is one of uncertainty. The familiar environment has been disrupted and feelings of anxiousness and vulnerability rise high. Chaos usually follows the initial resistance and change agents should typically plan for a performance loss to occur during this stage until the group members accept the change. Individuals need to be motivated to acknowledge their feelings and fears and support systems should be set up which allow for employees to realize the new environment is not a threatening one but rather a safe one in which they can focus on and understand their feelings. Psychological tells of members experiencing the chaos stage can be seen in displays of dizziness, uncertainty, ticks, unproductivity and general rebelliousness (Smith, 2015).

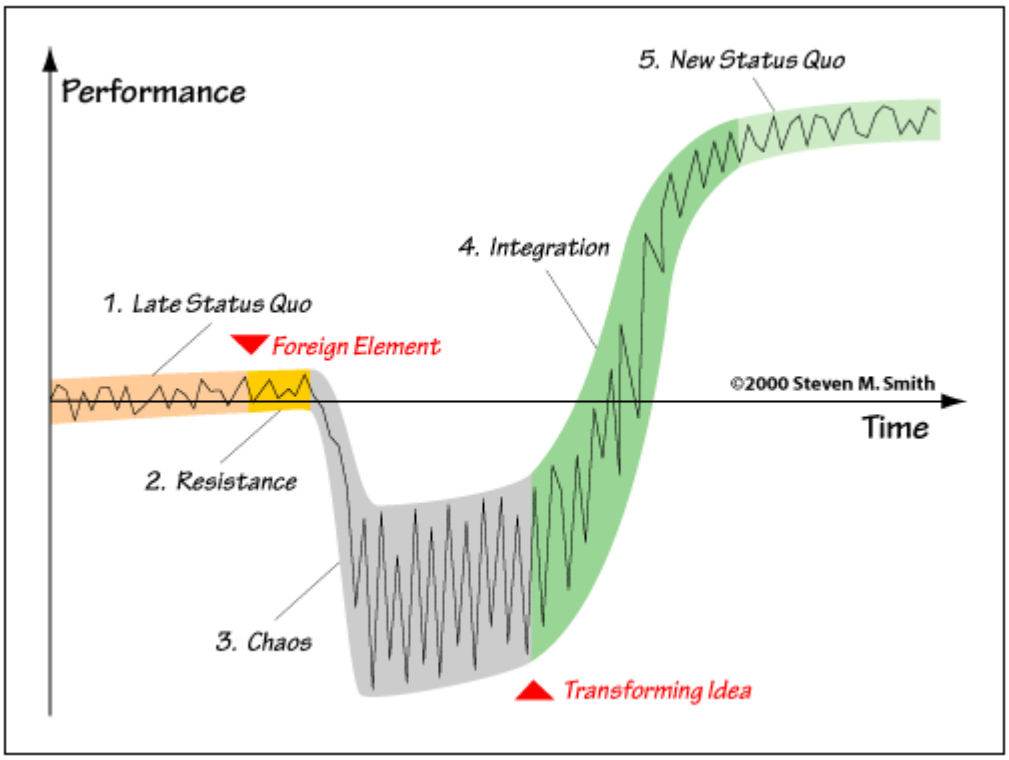
4. Integration

At this stage, the group members discover the value that lies behind the implemented change and buy into the new way of doing things. The realization of the value of the change may lead to much excitement and drive employees to accept and implement the endeavour. During this stage, the group members need to be supported in the event of temporary set-backs. Members will need to be reassured and rewarded for implementing and accepting the changes and supported by the change agents when difficulties arise (Smith, 2015).

5. New Status Quo

When the New Status Quo is reached, the group is at a stage where the change has been accepted and implemented successfully and the general feeling is of a safe environment in which the group can function. The group is calm and alert and can easily discern what is really happening. They generally experience a feeling of accomplishment and change agents need to be diligent in encouraging the members to remain in pursuit of the change implementation and they need to focus on any imbalances which may occur in the group’s environment concerning the change (Smith, 2015).

Figure 2.3: The five stages of the Satir Change Model



Source: Smith (2015).

This model is relevant as it focuses on monitoring employees throughout change implementations at the individual level and it aims at analysing individual behaviour and enforces a certain type of psychological evaluation as well. It allows for a psychologically based coping mechanism to be employed within a safe environment.

2.2.2.4 Kübler-Ross five-stage model

Another model which is worth mentioning and is similar to Satir's change management model that is discussed in the section above is the Kübler-Ross five-stage model. In 1969, Elizabeth Kübler-Ross published this model and it was originally used to describe the five stages of grief that a person generally experiences however it has been recognized to be used beneficially as a business change model since the 1980's (Shaw, 2015). It follows a psychodynamic approach to change in the sense that it focuses on the idea that an individual can experience a variety of internal psychological states when changes are implemented in their lives (Cameron & Green, 2015:31). The original study was done upon terminally-ill patients and Kübler-Ross studied the different psychological stages which the patients would go through to come to terms

with their ailment. The five stages are described in the form of a change curve which promotes empathizing with employees as changes are introduced. The five steps of the model are described below.

1. Denial

Severe changes can cause individuals to become apathetic in a way as they will tend rather to deny that the change exists than face the implications thereof. Individuals will tend to "shut down" when faced with changes and refuse to acknowledge the change initiative (Cameron & Green, 2015:32).

2. Anger

This stage can be seen as a continuation of an individual's reluctance to accept change and the individual will typically become angry once they acknowledge the change and behave in a dysfunctional manner such as (Cameron & Green, 2015:33). This is similar to the Resistance and Chaos stages of Satir's Change Model as both those stages can be driven by angry behaviour.

3. Bargaining

Once individuals realize that their anger is fruitless and they have had time to reason with themselves, they would typically enter a stage where they try to regain some sense of control of the situation. This stage is termed the bargaining stage and is also a reflection of true acceptance of the change since the person is still trying to remedy the situation (Cameron & Green, 2015:33).

4. Depression

When individuals realize that no amount of resistance, anger, denial or bargaining will change their current situation, they are inclined to enter the next stage of the Change Model which is deemed 'Depression'. At this stage, individuals may become despondent, apathetic or enter a disassociated state as they come to terms with the loss of the status quo (Cameron & Green, 2015:33).

5. Acceptance

As people move out of their depressed state, Kübler-Ross found that they would generally enter a state of acceptance in which they have come to terms with the reality of the situation and have made peace with it. In this stage, people are perhaps still not entirely convinced of the advantages of the new situation but have found a way to

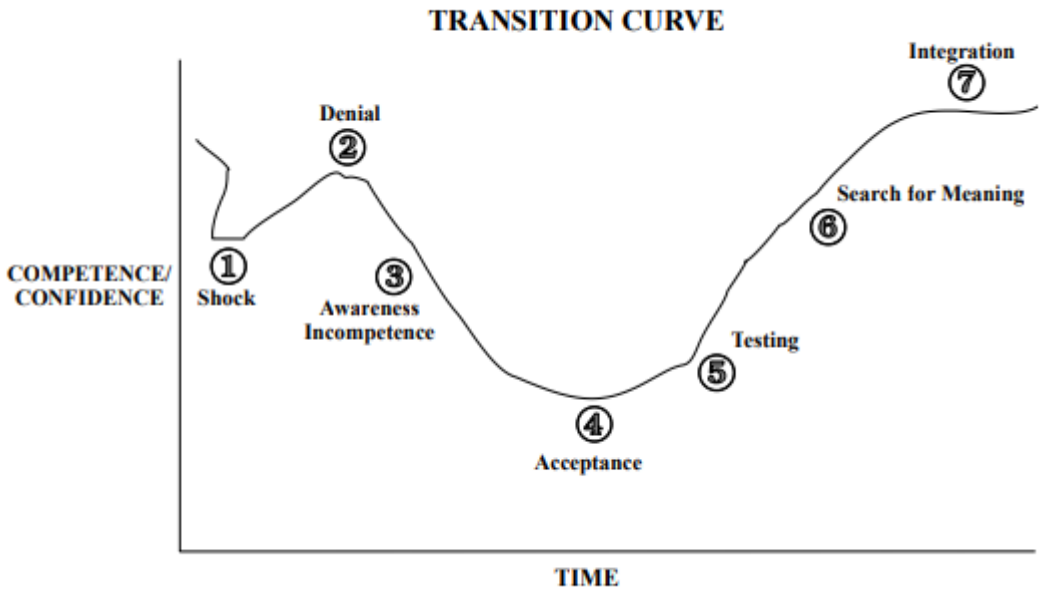
accept and adhere to it. At this point the individuals are in touch with their feelings and their hopes, fears and anxieties are clear to them (Cameron & Green, 2015:34).

Figure 2.4: The Kübler-Ross Change Curve

Source: Shaw (2015).

Further research by John Adams, John Hayes and Barrie Hopson has added to this initial model which will not be discussed further in this research section however it is interesting to take note of the expanded curve below where the added stages are shock, experimentation, discovery and integration. This curve was deemed the 'Transition Curve' (Young & Lockhart, 1995).

Figure 2.5: Adams, Hayes and Hopson's expanded change curve



Source: Young and Lockhart (1995).

2.2.2.5 Lewin's change management model

Kurt Lewin, a physicist and social scientist, proposed this change management model in the 1940's and the model is still relevant today. The model describes change management as three distinct stages:

1. Unfreeze
2. Change
3. Refreeze

The general idea behind the model is to unfreeze a situation to make it amendable, then mould it into the desired condition and then refreeze it in the new and desired state. As seems to be the consensus in the previously discussed models, a comprehensive understanding as to why a change is needed must be present. Therefore, people need to be motivated to change by re-examining the current circumstances (Mulholland, 2017).

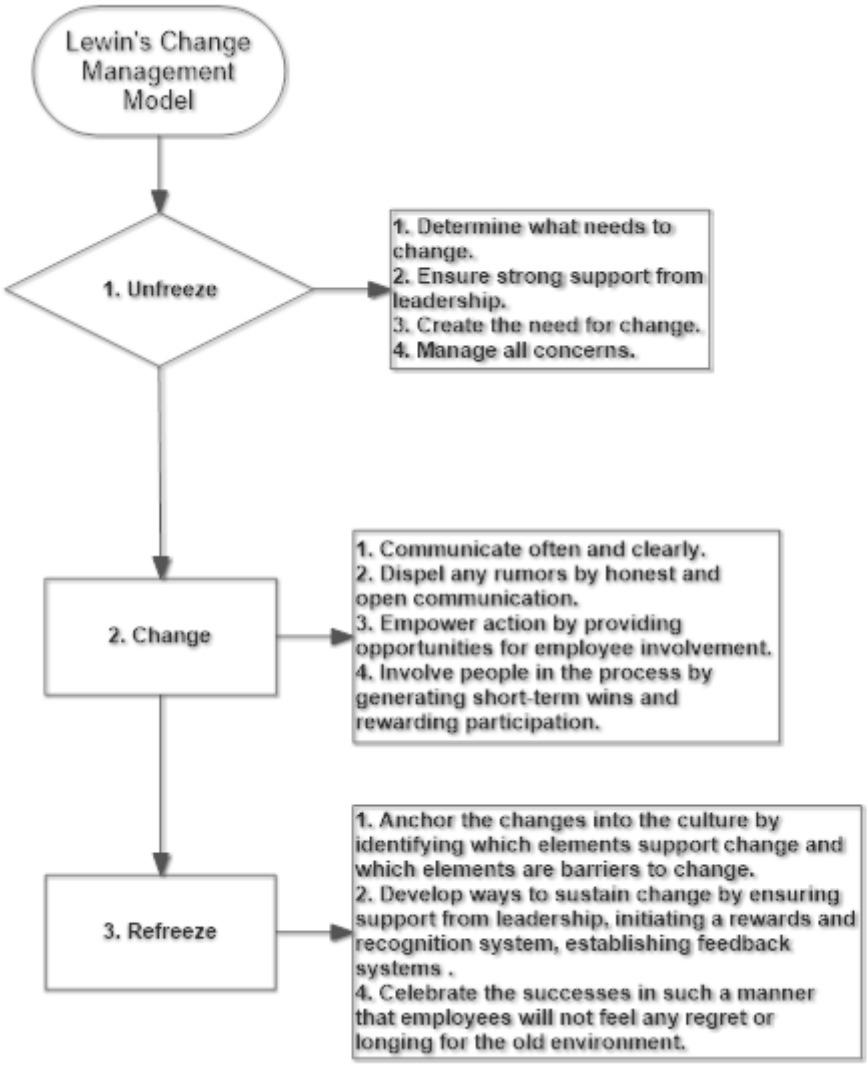
The first stage, "Unfreeze", involves preparing the organisation for the change initiative by allowing the individuals to understand and accept that change is necessary. This step, as the name may allude to, involves breaking down the current status quo and promoting the concept as to why the current status quo will not

suffice. To effectively disrupt the status quo, the core beliefs, values, behaviours and attitudes need to be challenged. Sometimes the foundational beliefs will need to be addressed and this is mostly the more challenging step in change management since this step leads to increased stress levels. This step can cause people to react strongly and resistively. If an organisation can be led to re-examine its core in a controlled environment, it will more likely be more successful at seeking out a new equilibrium in the sense that the employees will display higher levels of buy-in (Mulholland, 2017). The “Unfreeze” stage relates somewhat to the “Chaos” stage in Satir’s Change Model and similarly, this stage needs to be coaxed towards the next stage.

The next stage, titled “Change”, indicates the point where individuals begin to look for and understand the new ways of doing things. At this point they start to adopt the new methods and embrace the new direction which the organisation has chosen. During this transition, Kübler-Ross’ Change Curve can be incorporated to understand the specific transition challenges which individuals may experience. The fact that people need to understand how a proposed change will benefit them cannot be stressed enough and is crucial in any change endeavour’s success. Therefore, sufficient time and communication are key aspects (Mulholland, 2017).

The last phase, “Refreeze”, occurs when changes have taken shape and the employees have accepted the new working environment. Equilibrium has been achieved and the organisation is ready to “Refreeze” regarding documentation. This may include documents such as a new organisation chart, clear and concise job descriptions, roles and responsibilities and coherent boundaries. Changes need to be incorporated into everyday business to ensure that employees have adapted the new environment completely. In short, a new sense of stability is created, a new equilibrium is reached and employees have exited the transition stage. The successful change implementation should be celebrated and it is imperative for employee participation rewarded (Mulholland, 2017).

Figure 2.6: Lewin's Change Management Model



Source: Mulholland (2017).

2.2.2.6 McKinsey's 7-S Framework

McKinsey's 7-S Framework is a little different than the previously discussed frameworks in the sense that it is generally used as a tool to analyse how well an organisation is positioned to achieve its goal. However, this method is also beneficial to determine whether an organisation is ready to accept a certain change; or, in the case where changes have already been implemented, it can be used to indicate which aspects need to be focused on to point the organisation towards effectiveness (MindTools, 2018). The reason for this is because this framework outlines the various

factors that generally influence the ability of an organisation to change (McKinsey, 2008).

This framework was first introduced in the 1970's by two employees of the popular consulting firm, McKinsey and Company. These two consultants, Tom Peters and Robert Waterman, proposed seven internal aspects of an organisation which need to be aligned for it to be successful (MindTools, 2018). This framework addresses the vital role of coordination within an organisation and the seven S's are described briefly below (McKinsey, 2008).

1. Shared Values

As can be seen in the depiction of the framework in Figure 2.7, the Shared Values aspect is the interconnecting centre of the framework. Does it represent asking the question: What does the organisation stand for? It is the evaluation of the core beliefs and values of the organisation and encompasses the organisation's mission and vision (Free Management Books, 2018)

2. Strategy

This sub-construct refers to the reality that an organisation needs a clearly defined strategy. The strategy details what the company's competitive advantage is and how they are to grow the company. Having a good strategy is imperative as it relates directly to the company's success (Free Management Books, 2018).

3. Structure

The company's structure is a crucial aspect as it also relates to the strategy of the company and aids towards the goals of the organisation. The structure needs to be clear regarding roles of leadership, and regarding responsibilities and boundaries within the company. This clarity in the structure must stretch to provide insight on who may make decisions on given matters so that time is not wasted on trying to determine these types of roles (Free Management Books, 2018).

4. Systems

The systems which are in place should include procedures and processes which indicate how the operations should occur within an organisation. These systems should ideally be as efficient as possible and it should be evaluated whether employees are conducting redundant tasks, whether tasks are being outsourced unnecessarily or

whether improvement can be made to provide more efficient systems (Free Management Books, 2018).

5. Staff

The staff sub-construct refers to the number of employees within the organisation and under this sub-construct, it is good to analyse the employee situation and determine which skills they have and which skills they lack. Employees need to be developed to obtain the outstanding skills. Retention of employees is also important as their knowledge is retained along with them (Free Management Books, 2018).

6. Style

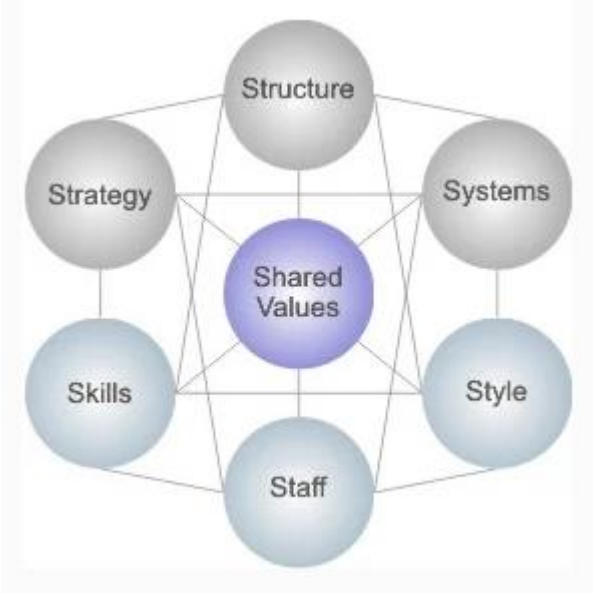
The leadership style that is employed by a company is an important part of the strategy and allows for employees to know what to expect and what is expected of them. The leadership style can form a large part of the culture of an organisation (Free Management Books, 2018).

7. Skills

The seventh S relates to the skills within an organisation. An analysis of the skills present in an organisation will indicate what is lacking and what employees are capable of. This aspect allows one to understand which skills need to be developed and aids in determining which type of employees to hire (Free Management Books, 2018).

To evaluate an organisation based on this framework will allow one to gain an overall understanding of the company and its current status. It points out what the weak points may be in an organisation and can assist in providing a better strategy with clear organisational goals (Free Management Books, 2018). Upon implementing changes, or analysing an implemented change, this framework can be used to determine possible shortfalls or stumbling blocks and aid in enforcing a stronger strategy.

Figure 2.7: McKinsey's 7-S Framework



Source: McKinsey (2008).

2.2.2.7 Stakeholder analysis

Another framework which is commonly used when determining whether an organisation is ready for a change is a stakeholder analysis. Such an analysis would typically determine who the stakeholders are that are impacted by the change and it will align the expectations and individual impact of the change. Part of such analysis generally includes a "needs and expectations" risk planning and risk response activity in which these topics are clearly outlined and response strategies are formed. The project communication strategies also need to be planned properly and in such a manner as to clearly communicate to, as well as encourage employees to participate in the proposed project. Conducting a stakeholder analysis includes using various techniques to identify the needs and expectations of the major interests (stakeholders) that will be affected by the project change. This allows the change agents to understand the attributes, interfaces and interrelationships between the affected employees who are beneficial to strategic planning initiatives. Generally, such an analysis should be conducted before a project (or change) is undertaken by the project team or the change agents. A basic stakeholder analysis approach is described below as a guideline on how such an analysis can be conducted (Smith, 2000):

1. Identify project stakeholders

A project stakeholder is a person who has some sort of interest or is affected in some way by the proposed project or change. Stakeholders generally can influence the project if their needs are not met. A method to identify stakeholders would be to conduct a brainstorming activity in which the project team should consider all possible stakeholders and eliminate some of them at stages of the analysis. A high-level stakeholder interest and impact table can be constructed in which the stakeholder, interest, project impact and priority are listed (Smith, 2000).

2. Identify stakeholder interests, impact level and relative priority

After the stakeholders have been identified, this step is used to refine the list of stakeholders. Their key interests, project impact and priority in relation to other stakeholders should be listed. Interests can be determined by asking the stakeholders about their expectations, potential perceived project benefits and potential conflict of interests with other stakeholders. Once the interests have been identified, the impact on the project can be determined by allocation a low, medium and high annotation with a positive or negative impact. A rough level of priority can be assigned based on each stakeholder and interest (Smith, 2000)

Table 2.2: Example stakeholder interest and impact table

Stakeholder	**Interests**	**Estimated impact on the project**	**Priority**
Owner/Sponsor/Team members etc.		Low, medium, high	

Source: Smith (2000).

3. Assess stakeholders for importance and influence and outline assumptions and risks

This step of the assessment is imperative as it allows one to determine whether stakeholders with strong influence may have negative interests which could cause detriment to the project success. A formal assessment should be conducted of each of the identified stakeholders' influence and importance. In this sense, influence refers to the stakeholder's power over the proposed project (change) and importance refers to the impact of not meeting the stakeholder's needs and expectations. Key risks need

to be outlined by clarifying stakeholder roles and responsibilities, identifying conflicting needs and expectations, identifying scenarios in which needs and expectations are not met and determining the plausibility of all the assumptions which have been made during this analysis. An interest-influence diagram can be constructed to track these aspects during the analysis (Smith, 2000).

Table 2.3: Proposed headings for an interest-influence classification diagram

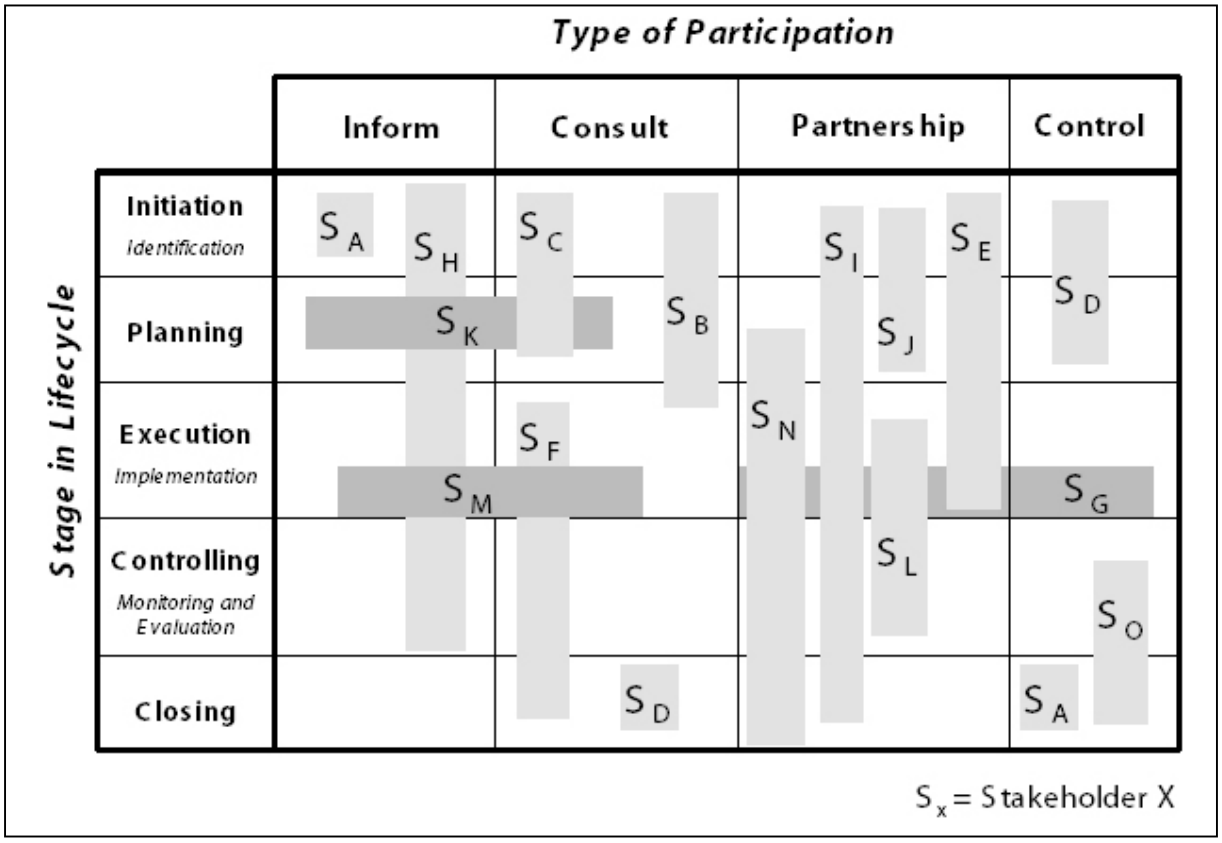
Stakeholder	Estimated project influence	Estimated project importance	Assumptions and risks

Source: Smith (2000).

4. Define stakeholder participation

Once there is a comprehensive understanding as to who the stakeholders are and where their interests are, their level of participation should be determined. This part of the analysis should determine who will participate at which stage of the project/change. A tool that is helpful for this section of the analysis is a participation matrix in which the stakeholder strategy can be categorized regarding lifecycle stages (phases of the project/change initiative) and types of participation (Smith, 2000).

Figure 2.8: Example of a participation matrix



Source: Smith (2000).

2.2.2.8 Balanced scorecard

A balanced scorecard is a business framework that is used to describe and measure an organisation's strategy, as well as track its strategic actions. It assesses the balance between the leading and lagging indicators (drivers and outcomes) of the organisation goals. These indicators show whether an organisation is on the right track to accomplish its goals. In this sense, leading indicators show futuristic views and lagging indicators show historical views (such as financial reports). The basic framework of a balanced scorecard consists of four perspectives (Jackson, 2018):

1. Financial goals
2. Customer goals
3. Process goals
4. People goals (learning and growth)

The financial goals typically list any goals which impact the organisation. Customer goals include aspects which are important to customers that have an impact on the

financial position of the company. Process goals allude to what needs to be done internally to meet customer goals and improve financial position and people goals are indicative of the capabilities available within the organisation to execute the strategy (Jackson, 2018).

Balanced scorecards are generally visualized in a strategy map which depicts the entire scorecard and shows how the four perspectives described above are connected. Using a balanced scorecard is beneficial to bringing new life into an existing strategy, communicating a strategy to the organisation as well as to track performance and is usually used by the leadership of an organisation (Jackson, 2018).

This section has looked at the definition of change management as well as various change management strategies which can and generally should be employed when changing the company. The following sections will look at an important aspect which can affect change management namely Resistance to Change (RTC). Two constructs which may influence RTC have been identified to be Emotional Intelligence and Locus of Control. These two constructs are also discussed in the sections to follow.

2.3 RESISTANCE TO CHANGE

Resistance to Change can be defined as the rejection of, or the hesitance to comply with, a change implemented by an outside force. When employees resist organisational changes; either by not participating or by purposely opposing change, the success of a change initiative can be severely hindered. Resistance can generally be classified as a cognitive, emotional and/or behavioural state. The cognitive state of resistance lies in a person's negative mind-set towards the change. The emotional state refers to the general emotion a person may feel towards the change such as fear, frustration or confusion. In terms of the behavioural state, a person may deliberately rebel to impede the implementation of a change (Caneda & Green, 2007).

There are various aspects which can lead to resistance to organisational changes such as a lack of clear communication from the change agents, and a lack of trust (in leadership or the organisational change) (Caneda & Green, 2007).

2.3.1 Communication

People tend to function better in situations where changes have been properly communicated and all confusion and fears have been addressed (Caneda & Green,

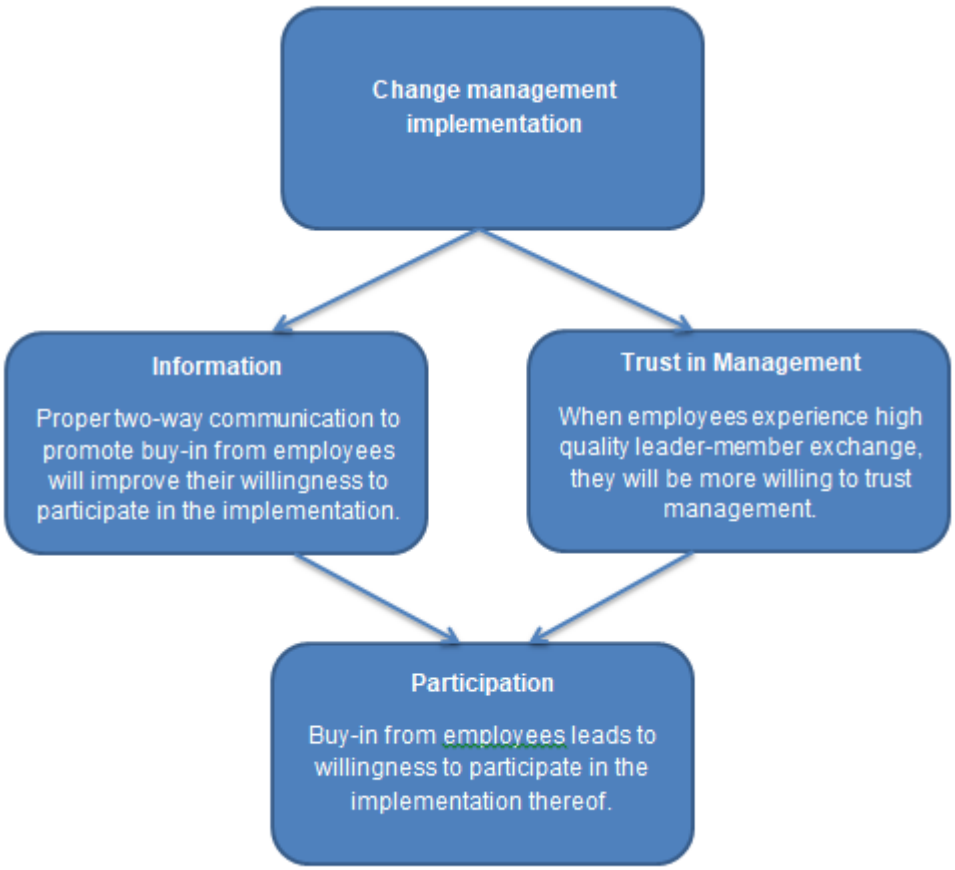
2007). A study conducted by Chonko, Roberts and Jones (2006) on diagnosing sales forces change resistance, concluded that where a positive outcome is expected; higher motivation to implement change is experienced. Klonek *et al.* (2014*)* highlight in their study on the dynamics of resistance to change that for change management to be implemented successfully, the necessary changes need to be communicated properly via the change agents. Their literature indicates that although the change recipients play a role in successful change management; the implementation of a change will easily fail if the change agent is unable to motivate the employees to adopt the intended change. This study complements the study conducted by van Dam, Oreg and Schyn (2008) which indicate the importance of an effective leader-member relationship which will briefly be addressed in the next section. This latter study indicates how the verbal behaviour of the change agent may affect the change recipient. Simply put, positive language leads to positive results and negative language leads to negative results. This result is confirmed by Lundy and Morin (2013), who indicate empirically that the project team plays a vital role in change management. Their study indicates the importance of an engaging leadership style and appropriate communication to reduce resistance to change. Lines (2004) determined in a study on the influence of participation in strategic change, that using careful communication techniques to elaborate the threats and opportunities of the change, an organisational members' perceptions of the need for that change can be altered.

2.3.2 Trustworthiness

In addition to proper communication, trustworthiness is another important factor when it comes to mediating levels of resistance to change and the change agents should typically be influential individuals which have the ability to build trust relations with the people undergoing the changes. This entails creating specific and clear outcomes which stipulate the anticipated results (Caneda & Green, 2007). Research conducted by van Dam *et al.* (2008) indicated the benefits received by employees who experience a high-quality leader-member exchange (the relationship between the manager and team members), which include the provision of more information and participation opportunities, resulting in greater trust in management. These findings, therefore, indicate that organisational changes are prone to occur more smoothly when a high-quality leader-member exchange is experienced by employees (van Dam *et al.,* 2008).

Therefore, when changes have been properly communicated by trusted leaders, people will generally be encouraged to participate (and take ownership) in change initiates and should be rewarded or recognized for doing so (Caneda & Green, 2007). Lines (2004) indicates in his empirical study that if those employees who are affected by a deliberate strategic change participate and are involved in the change process, the implementation of the said change is more likely to be successful. Participation is indicated to be negatively related to Resistance to Change. Per Weick (cited by Msweli-Mbanga & Potwana, 2005), an individual's immediate reaction to change, is resistance, regardless of the manner that the idea is introduced. Msweli-Mbanga and Potwana (2005) further argue that the best way to combat this RTC is to implement employee participation. They developed a model of RTC in their study, which integrates participation with organisational citizenship behaviour, by studying the employees' access to participation, willingness to participate and RTC as well as organisational citizenship behaviour.

Figure 2.9: Summarised resistance to change mediation factors



Source: Caneda and Green (2007).

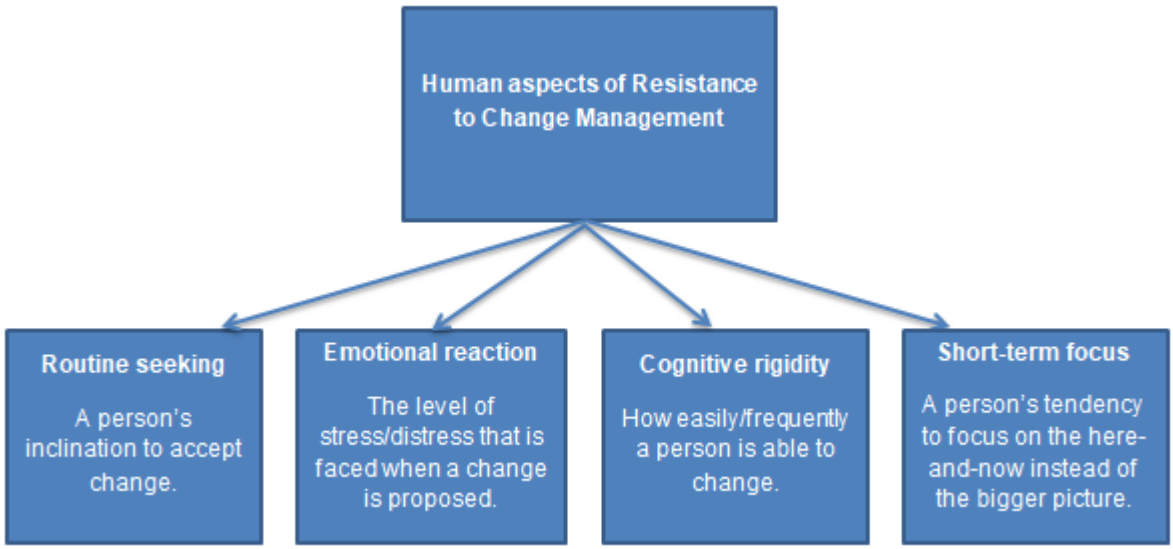
This particular construct is complex because it is influenced by both individual and contextual variables. For example, EI and certain personality traits can influence an individual's RTC; however, the organisational change management system can also affect the levels of RTC an individual might experience (Michel & Burnes 2013).

2.3.3 Factors which generally results in RTC

An exploratory factor analysis conducted by Oreg (2003), indicated four factors which generally result in a disposition to resist change, i.e. routine-seeking, Emotional Reaction, Cognitive Rigidity and Short-Term Focus. Routine Seeking is a behavioural component of RTC and indicates a person's inclination to adopt routines. Emotional Reaction refers to the amount of stress, uneasiness or fear which is caused by a change initiative and is classified as an affective component of RTC. Another affective component to RTC is the sub-construct Short-Term Focus and this refers to the extent to which people tend to focus on short-term inconveniences that can be associated

with the change. Cognitive Rigidity is the cognitive component of RTC which indicates how easily a person can adapt to an environment subjected to change (Oreg, 2003).

Figure 2.10: Factors that influence RTC



Source: Oreg (2003).

These four aspects form the four sub-constructs of resistance to change, and when these aspects are not foreseen and/or handled, a detrimental impact on a change management process can be foreseen.

2.3.4 The psychology behind change management

Lawson and Price (2003) state in an article posted on the McKinsey website titled "The Psychology of Change Management", that the attitudes and behaviour of a company's employees can be transformed by using a psychological approach. CEO's are to alter the mind-sets of their employees in order to successfully implement a change. According to this article, there are three basic levels of change complexity. The first level is a basic change where a direct change is made without affecting the way employees do things. The second level, slightly more complex, is a situation where employees may need to adjust their ways slightly or adopt a few minor new practices. The third and most complex level is a level where a cultural change is needed – a fundamental change in employee mind-set and behaviour. Such cases require a psychological approach, especially in cases where the change needs to be rolled out on a large scale over possibly thousands of employees (Lawson & Price, 2003). There have been many breakthroughs made which attempt to explain human behaviour and

provide insights into organisational culture and Lawson and Price (2003) put together a four piece guideline to change employee mind-sets. Their basic concept is that employees are more inclined to alter their mind-set if they buy into the idea and value of the change. The change environment should be one which employs structures which motivate change – such as a rewards and recognition system. These change incentives should be aligned with what the organisational change is trying to achieve. A third aspect is that employees need to possess the correct skills to implement the change, this means that they may need to be equipped if they do not already possess the correct skill set. The change agents will need to determine these types of needs before and/or during the change initiative. Lastly, Lawson and Price (2003) determine that the employees need to be influenced by people they admire and respect; they need to see the changes being implemented by their role-models in the working environment. Figure 2. 11 summarizes the above-mentioned briefly, and the figure is thereafter unpacked for more clarity.

Figure 2. 11: The psychology behind change management

Source: Lawson and Price (2003).

2.3.5 Cognitive dissonance

In 1957, Leon Festinger proposed a theory which he termed cognitive dissonance theory. This theory suggests that all people possess an inner drive to hold their

attitudes (beliefs) and behaviours in harmony. When disharmony exists (cognitive dissonance) in the sense of conflicting attitudes, beliefs or behaviours, people will typically try to eliminate the dissonance by either changing their behaviour or their belief, acquire new information which will outweigh the disharmony or reduce the importance of the cognitions. This stems from a discomfort experienced from the conflict and leads to people altering their attitudes, beliefs or behaviours to restore the balance and attempt to reduce the uncomfortable feeling they experience (McLeod, 2014). This theory ties in well with the concept of changing people's mind-set – it can be deducted from this theory, that to get people to change their behaviour, one will need to create a buy-in, or rather instil a new belief system in employees. If the employees believe in the purpose of a change, they will automatically adapt their behaviours to promote that change; otherwise they will suffer from cognitive dissonance (Lawson & Price, 2003).

2.3.6 Positive reinforcement

Perhaps one of the better known theorists that are in favour of positive reinforcement is B.F. Skinner, who conducted a series of tests on rats. His tests indicated that the rats responded well to the right incentives which included a system of rewards and punishments. This theory has since been applied to organisational behaviour and has been found to prove true. Setting incentive structures into place is a key aspect to implementing change successfully (Lawson & Price, 2003).

2.3.7 Upskilling

In terms of upskilling, David Kobb proposed a theory in the 1980's which depicted an adult-learning cycle. This learning-cycle indicated that adults would typically need to learn new skills by first absorbing the new information, putting it to use and then integrating it into their behaviours. This alludes to the fact that time is needed when teaching employees new skills and these skills need to be sustained and practiced in order for employees to adopt them into their way of work (Lawson & Price, 2003).

2.3.8 Role models and RTC

There has been extensive clinical work published which indicates that role-models are important in changing the behaviour of human beings, be it children or adults. People tend to model their behaviour on those whom they respect or admire and this is

especially true in the organisational environment. People who are in positions of influence can be on varying levels and it is imperative to identify these types of role-models, and get them on-board (Lawson & Price, 2003).

Since numerous studies as mentioned above have indicated that there is a definitive relationship between psychology and change management, especially when it comes to levels of Resistance to Change, the following sections will address two constructs and their influence on the RTC construct; namely EI and LOC.

2.4 EMOTIONAL INTELLIGENCE

EI refers to a person's ability to understand both their own feelings and other people's emotions. EI links directly to mental health, job performance and relationship maintenance. EI is similar to Empathy in that it allows people to express themselves and to understand the behaviour of others (Open Path, 2017).

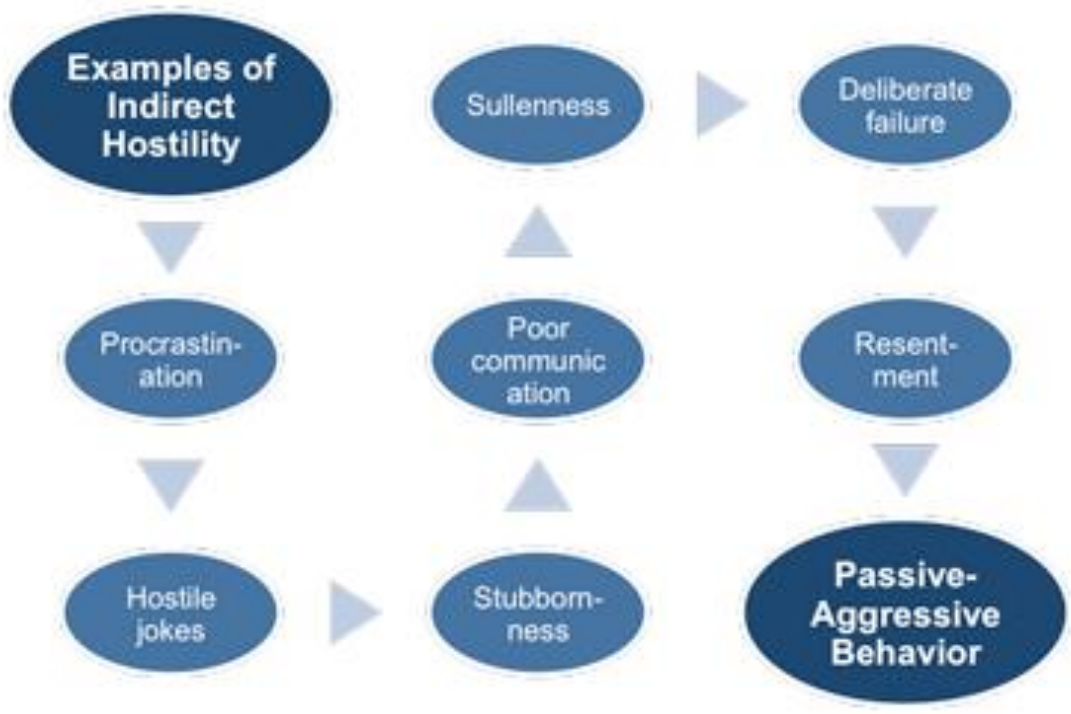
Daniel Goleman conceived the concept of EI and in 1995 he released his highly-respected text, "*Emotional Intelligence*". His research indicates how people who have a high IQ sometimes flounder whilst those with modest IQs are often more successful in life. EI redefines the meaning of being intelligent and takes numerous aspects into account, including culture, education, upbringing and psychological mindsets, (Goleman, 2006).

The following sub-constructs are associated with EI:

2.4.1 Self-Awareness

Self-Awareness refers to an individual's ability to recognize and understand how his/her emotions affect his/her interactions with other people. A person who has a low Self-Awareness may have a negative mindset and can be challenging to work with. Negative emotions can be expressed in a variety of ways as the diagram below portrays (Free Management Books, 2016):

Figure 2.12: Methods by which individuals typically express their negative emotions



Source: Free Management Books (2016).

Developing Self-Awareness will allow an employer to openly identify and address the behaviours reflected in Figure 2.12 in his/her employees, together with the underlying emotions that accompany them. Commonly, a person with low Self-Awareness will generally not take responsibility for his/her behaviour. It is, important for employers or managers to understand the cause of certain behaviours and in that way, address them, therefore raising both their own and their employee's Self-Awareness and emotional quotient (Free Management Books, 2016). Generally, a person with a high self-confidence, realistic self-assessment and a self-depreciating humour will display high levels of Self Awareness (James, 2015).

2.4.2 Managing Emotions

To manage ones' emotions means to think before acting, especially in difficult situations and can also be termed emotionally independent. Such employees will typically demonstrate integrity in the workplace and are also more susceptible to accepting changes. Such employees will show self-control which is a fundamental part of Managing Emotions. They will be trustworthy and conscientious (James, 2015).

Self-Regard plays a significant role in Managing Emotions, which pertains to an individual's perception of themselves. Employees who see themselves in a positive manner are more likely to communicate more effectively and work better in a team. A high self-regard relates directly to a higher EI level. To be able to self-regulate means to be flexible and adopt changes more easily and therefore display lower levels of RTC (Jorfi, Jorfi, Yaccob & Shaw, 2010). Flexibility pertains to an individual's ability to adapt to change and forms part of a person's ability to manage their emotions. People with high levels of EI are generally more receptive to change and are less inclined to portray high levels of RTC (Günsel & Açikgöz, 2011). Emotionally independent people are self-directed in their thoughts, feelings and actions. They tend to be self-reliant and do not depend emotionally on others. The general characteristics that emotionally independent individuals display are self-confidence, inner strength and motivation to meet their obligations. Emotional independence links directly to high levels of EI (Davey-Winter, 2014).

2.4.3 Motivating Oneself

A person who can motive themselves is able to commit to goals, achieve them, drive them and take initiative on activities. This type of person will have a high level of personal drive and will be assertive. Assertiveness involves the ability to accept and express one's feelings openly and to stand up for oneself in a constructive and non-aggressive manner whilst displaying sensitivity to the needs of others. This behaviour also links to Self-Awareness because people with a low level of Self-Awareness usually display poor levels of assertiveness (Defoe, 2015). When employees have reached their full potential and are operating at their best capability, self-actualization has been reached. Such individuals are known to embrace the unknown, accept their flaws, prioritize effectively and exhibit motivation and a sense of purpose. They are also resilient to setbacks and generally perform exceptionally well in their lives (Sze, 2015).

2.4.4 Empathy

Empathy relates to a person's ability to understand other people's thoughts and feelings. These individuals display stronger and more meaningful relationships and tend to obtain greater success in the working environment than people who lack this

characteristic. High levels of Empathy are usually linked to high levels of EI (Schmitz, 2016).

2.4.5 Social Skill

Interpersonal relationships refer to the relations that a person has with others and is an essential Social Skill as it is the bond between people. It is imperative to display positive interpersonal relationships with others in the working environment and it is also a necessary construct for a person to function in society. Positive interpersonal relations generally relate to higher levels of EI (Hybels & Weaver, 2016). Social responsibility is an individual's commitment to ethical behaviour, and a desire to improve the quality of life not only in the workplace but also in the community. This aspect also forms part of Social Skill. Generally, a sense of belonging will lead to a person displaying higher levels of corporate social responsibility (Sheykhjan, Jabari, & Rajeswari, 2014).

2.4.6 Relationship between Emotional Intelligence and Resistance to Change

As it can be seen from the above comments, the flexibility construct of EI relates directly to levels of RTC and indicates a link between RTC and EI.

Di Fabio *et al*. (2013) investigated the role of personality traits and EI on change management and the resistance thereof. They found that EI significantly affected levels of RTC beyond the influence of personality traits. Their study also indicates that since EI can be raised through certain training methods, it can be a beneficial tool for reducing RTC. It is highlighted that people with a higher EI are less likely to adopt a routine, are more able to manage stress and are thus more open to changes. The study also indicates how an individual's awareness of his emotions, strengths and weakness, in tandem with an optimistic perspective, can aid him/her in accepting and adopting changes in the environment (Di Fabio *et al*. 2013).

Schmidt (2008) pointed out an interesting construct which impacts change-management and this is the concept that an individual's EI plays a vital role in his/her RTC. Schmidt (2008) also indicated that those managers who had a higher level of EI than their subordinates were also less resistant to change; however, this behaviour was also due to the fact that they had more insight into all aspects regarding the

change. He pointed out that managers are generally able to accept change easier than their subordinates and that RTC is experienced on an emotional as well as cognitive level, whilst the change itself is only experienced on an emotional level. His study suggested the need for further research that measures the EI of the managers and the RTC of the employees reporting to those managers, in order to further explain the relationship between managing RTC and EI. Another study which was conducted by Michel *et al*. (2013) indicates that there exists a lack of recognition of the negative relationship between EI and the Cognitive Rigidity sub-construct of RTC. This omission is mainly because in Oreg's (2003) RTC modelling, this sub-construct was placed separately from the emotional component. Similarly, a study was done using Multiple Regression methods in order to investigate the predictability of RTC by looking at EI and Psychological Capital. This study indicates that EI has a negative relationship to RTC and is also able to predict RTC significantly (p=0.001) (Masood, 2015:485-496).

A high level of EI is widely viewed as the basis for success in life since it indicates a wide range of adaptive behaviour in people whereas low EI is associated with social and personal problems among people. A person with a low level of EI will find it challenging to manage his/her emotions and will typically delay gratification (Prakash, Sharma, Singh, Sengar, Chaudhury & Ranjan, 2015:41).

2.5 LOCUS OF CONTROL

Julian Rotter (1954) developed the concept of Locus of control (LOC) during his research on an approach he termed Expectancy-Value Theory (EVT). The basic idea behind EVT is that an individual's behaviour is not only determined by the value or presence of reinforcement, but also by the beliefs of the individual about what the results of the behaviour might be. Rotter's (1954) view was that some people held certain mental expectancies and that those expectancies would influence their behaviour. The term he uses for these beliefs is a person's 'Locus of control' (LOC). People with an internal (low) LOC (high general expectancy) would believe that they had control over their circumstances; whilst people with an external (high) LOC (low general expectancy) would believe that their behaviour did not affect the results they experienced (Rotter, 1954).

2.5.1 Relationship between Locus of control and Emotional Intelligence

Mohapatra and Gupta (2010) indicate in their study that the differences between internal and external LOC people are significant in the work area. They include that people with an internal LOC believe their actions have an influence over their fate and, therefore, may be more likely to be hard drivers. They may tend to overthrow others in the workplace to get ahead. They will also be more likely to internalize certain aspects and focus on learning lessons from events that occur. People with an external LOC believe that their fate cannot be controlled and, therefore, will be more likely to become stressed and depressed in the workplace, which will affect their motivation and drive. This study also indicates that a high correlation exists between an internal LOC and certain aspects of EI, such as utilizing and Managing Emotions and social skills (Mohapatra & Gupta, 2010).

2.5.2 Relationship between Locus of control and Resistance to Change

A study was conducted on the experience of American prisoners of war in 1978 in which the prisoners' LOC was measured against the resistance that they gave towards the enemy's demands. It was discovered that the prisoners who coped successfully with the stress of captivity were those who experienced an internal LOC while those who did not cope very well were those who experienced an external LOC. This observation relates directly to whether an individual believes that his own well-being comes from within himself or from others (Hutchins & Estey, 1978:2).

People's LOC influences their problem-solving methods, how they deal with promotions and cope with change within an organisation and/or their personal lives (Julita & Rahman, 2016:6). Lau and Woodman (1995) indicated in their study that people who have an internal LOC believe that they have the power to change events and if they are able to understand and buy-into the reason for a change, they will not be afraid to change. People with this type of mind-set will generally accept change even if they attribute it to an external cause. However, this behaviour does not mean that such people will not resist change. People with this type of mind-set need to be convinced of the value of the change for them to accept and implement it. In contrast, people with an external LOC may accept changes based on their perception of the external forces that are trying to implement the change. People with this type of mind-set may not accept change as readily as people with an internal LOC and may not be

able to cope with changes, regardless of their perceptions of the external source (Lau & Woodman, 1995: 539).

The above-mentioned study concluded that people's attitude towards a change is formed from their understanding of the change, but guided by their change schema and that LOC contributes directly to people's attitude towards specific changes (Lau & Woodman, 1995: 549). Another study by investigates the predictability of RTC from LOC and job autonomy found through Multiple Regression that there is a negative correlation between LOC and RTC which can be used to significantly predict RTC ($p<0.01$) (Vershure, 2017).

2.6 SUMMARY

To summarise the views expressed in the literature review delineated in this chapter, it can be concluded that in general, people who have high levels of EI and an internal LOC, tend to be more accepting towards changes under the right circumstances than those people without these qualities and, therefore, will portray lower levels of RTC. The literature indicates that in general, these three constructs can be related to one another by multiple regression

Although much research has been done to determine the relationship between two of the following constructs at a time (some research contains additional constructs): EI, RTC and LOC, the literature survey was unable to produce any study which had investigated all three of these constructs simultaneously.

CHAPTER 3: EMPIRICAL STUDY

3.1 INTRODUCTION

The purpose of this study is to identify whether a relationship exists between the employees' EI, LOC and RTC by using multiple regression. The literature review indicates that such relationships do exist. The literature indicates that higher levels of EI in individuals are generally linked to lower levels of RTC. An internal LOC is related to lower levels of RTC and an external LOC is generally related to a higher level of RTC in an individual. Although there are many factors which lead to high levels of RTC, this study focuses mainly on the above-mentioned constructs with the aim of determining whether EI and LOC contributed to the higher levels of RTC within the organisation.

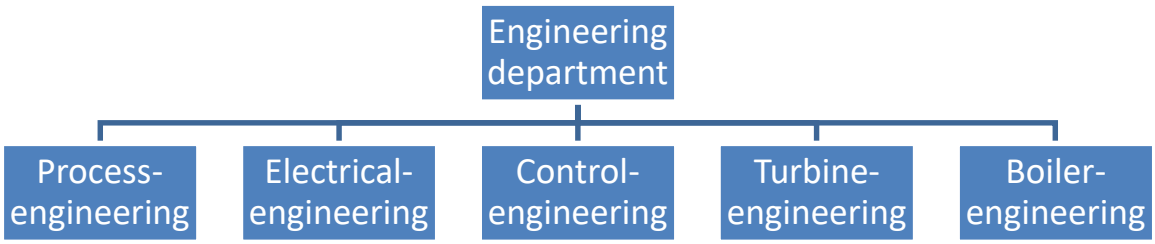
3.2 OVERVIEW OF THE STUDY

A brief overview of the study is discussed in this section to deliver some background on the study.

3.2.1 Population

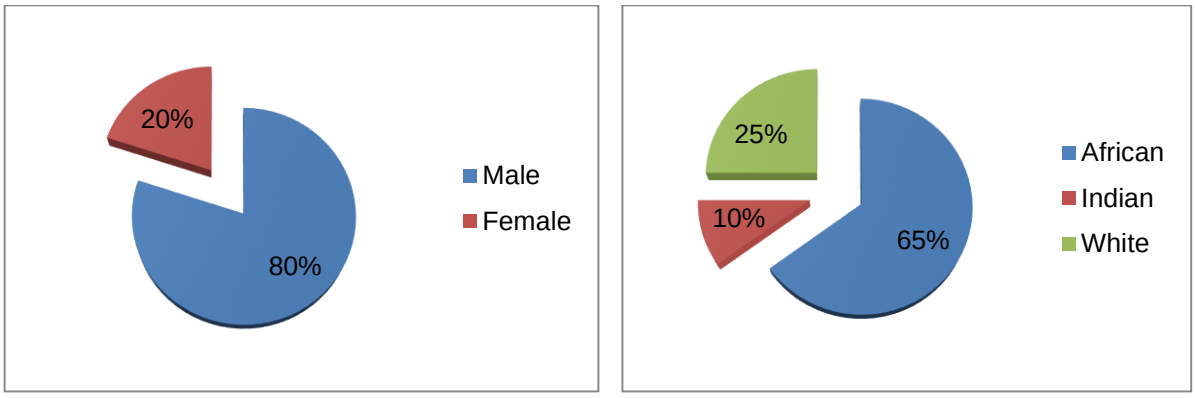
The study focuses on the engineering department employees within the organisation. The engineering department consists of 40 employees which are part of various sub-engineering sections (process-, electrical-, control-, turbine-, and boiler-engineering).

Figure 13: Breakdown of engineering department of studied population



The gender of the population consists of 20% female and 80% male. Regarding race, 65% African, 10% Indian and 25% White participants with diverse cultures and religions formed part of the population. The population were tested on their levels of EI, LOC and RTC and the entire population were issued questionnaires. Given the small population, a further departmental breakdown was not issued in the questionnaire (in order to determine which questionnaire came from which department) as this would affect the anonymity (some departments would typically consist of five members only).

Figure 14: Biographical breakdown of the entire population of the engineering department



3.3 RESEARCH DESIGN

3.3.1 Approach

Two types of research approaches exist, namely qualitative and quantitative approaches. The differences between these two approaches are summarised in the table below:

Table 4: Qualitative versus Quantitative Research Approaches

Qualitative	Quantitative
Aims to gain an understanding of human behaviour from an individual's perspective as close as possible to what their experience is as possible (Minichiello, 1990:5).	Aims to gain understanding of social phenomena using a measurable reality (Minichiello, 1990:5).
Data is collected through a personal interview and/or participant observation (Minichiello, 1990:5).	Data is collected through measurable means such as questionnaires (Minichiello, 1990:5).
Data is generally analysed by identifying themes from the interviews or observations (Minichiello, 1990:5).	Data is analysed through numerical comparisons that can be sorted into categories, ranks or measured in units of measurement (Minichiello, 1990:5).
Data is generally reported directly and as accurately as the participant has stated (Minichiello, 1990:5).	Data is generally reported using statistical analyses techniques (Minichiello, 1990:5).
Qualitative research usually involves an interpretive and naturalistic approach (Denzin & Lincoln, 1994:2)	Quantitative research generally aims to establish laws of behaviour across a variety of settings (McLeod, 2017)

To summarise, generally, if data is (or can be) displayed in numerical form, it is termed as quantitative. If not, the research can be termed as qualitative research (McLeod, 2017). This study follows a quantitative approach to the levels of EI, LOC and RTC are desired to be measured objectively.

3.3.2 Objectives and research questions

The general objective of this study is to determine whether psychological constructs such as Emotional Intelligence (EI) and Locus of control (LOC) influence the levels of Resistance to Change (RTC) which are experienced during the implementation of a new structure. The research objectives and questions stated in section 1.4 are reiterated below.

3.3.2.1 Specific objectives and research questions

- To investigate the role that an individual's EI level plays on RTC.
- To determine whether a person's LOC affects his/her level of RTC.

The following research questions are formulated to achieve the above-mentioned objectives:

- To what extent does Emotional Intelligence influence the perceived Resistance to Change?
- To what extent does Locus of control influence the perceived Resistance to Change?

3.3.3 Dependent and independent variables

This research studies three constructs namely EI, LOC and RTC. In this case, multiple regression is applied with EI and LOC forming the independent variables and RTC the dependent variable.

3.3.4 Survey measuring instruments and data collection procedures

The instruments used in this research were three different questionnaires. The questionnaires used were analysed to determine whether they would be suitable for this study and given the practical limitations of the study, the three questionnaires were deemed to be acceptable. Using questionnaires is considered to be advantageous in this situation since the participants could remain anonymous, even to the researcher who allowed them privacy. This aids in providing objectivity as people tend to answer more honestly when their identity is kept anonymous as was found by Ong and Weiss (2000). Therefore the use of questionnaires aims to reduce response bias via anonymity.

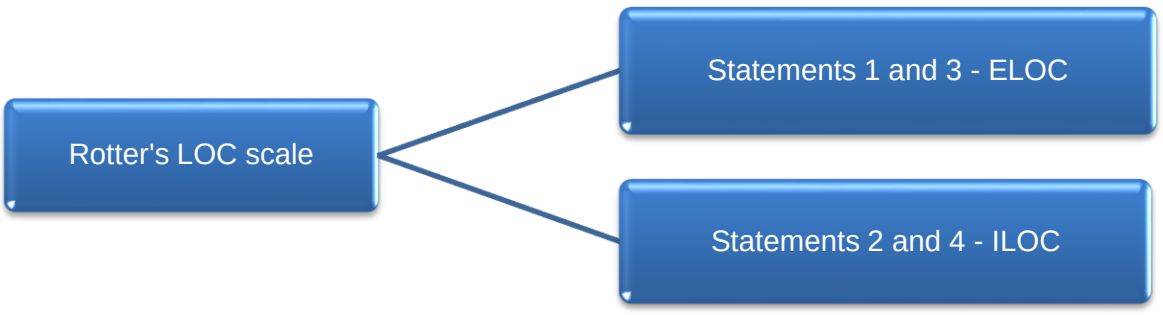
The standard questionnaires were printed and handed out on hard copies to the employees and even though the questionnaires were handed out in person, anonymity, as well as confidentiality, was assured to the participants.

The three questionnaires used were Rotter's Locus of Control Scale (1954), Leadership Toolkit Emotional Intelligence Questionnaire (2017) and Shaul Oreg's Resistance to Change Questionnaire (2003).

All questionnaires use various Likert scales. In 1932, Rensus Likert invented the Likert scale to measure attitudes as the scale motivates people to respond to statements as per their level of agreement/disagreement. In doing so, one can tap into the cognitive and affective components of attitudes. Likert scales vary between five and seven point scales and allow individuals to express to which extent they agree with the statements made (McLeod, 2008).

The LOC Questionnaire consists of four statements which participants had to rate on a seven-point Likert scale (1 being strongly disagree and 7 being strongly agree). A high rating of statement 1 and 3 indicate whether participants have an External LOC (ELOC) and a high rating of statement 2 and 4 indicate whether participants have an Internal LOC (ILOC).

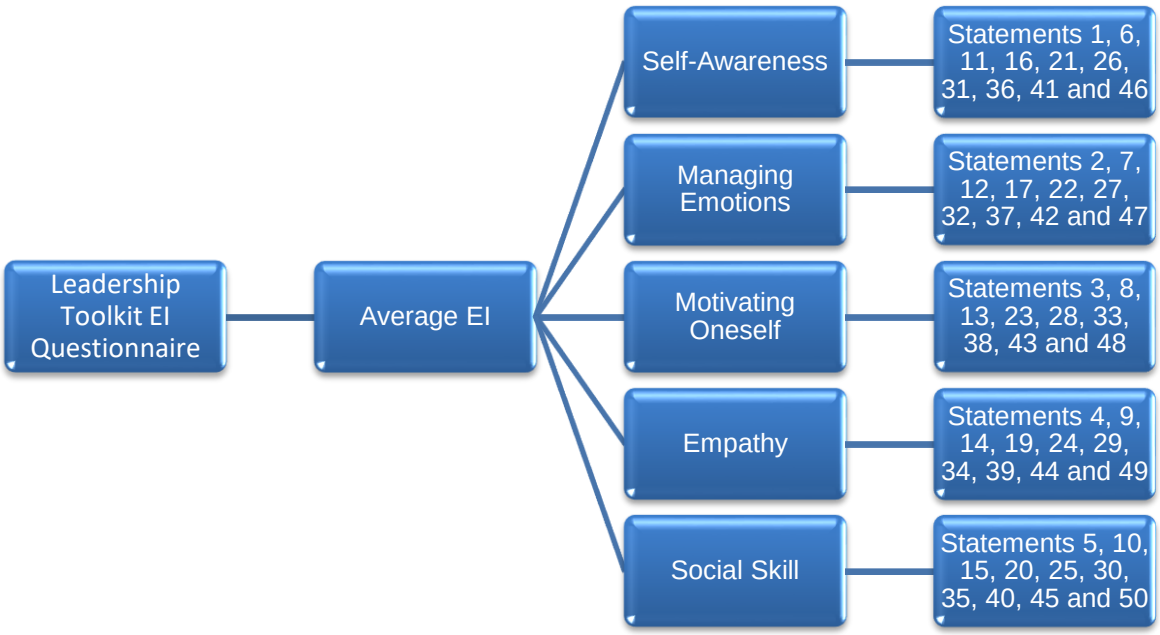
Figure 15: Breakdown of Rotter's LOC scale Questionnaire and its sub-constructs



The EI Questionnaire was selected from an adapted version of the Bar-On Emotional Intelligence Questionnaire which obtained information for the following categories: Self-Awareness, Managing Emotions, Motivating Oneself, Empathy and social skill using a five-point Likert scale and 50 statements. The Likert scale is set up with 1 being the lowest rating and 5 being the highest rating.

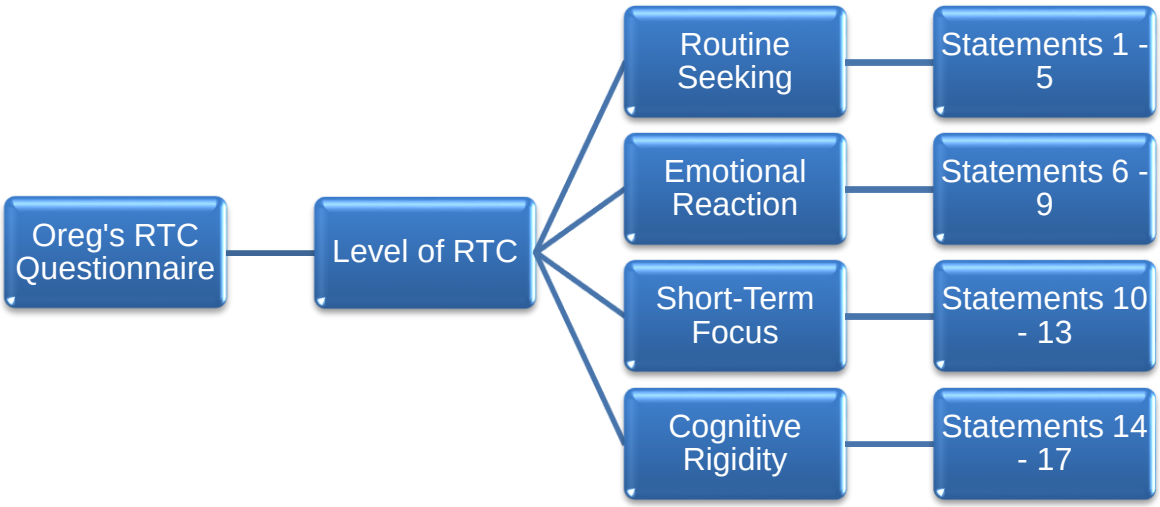
Statements 1, 6, 11, 16, 21, 26, 31, 36, 41 and 46 relate to the Self-Awareness sub-construct. Statements 2, 7, 12, 17, 22, 27, 32, 37, 42 and 47 relate to the Managing Emotions sub-construct. Statements 3, 8, 13, 23, 28, 33, 38, 43 and 48 relate to the Motivating Oneself sub-construct. Statements 4, 9, 14, 19, 24, 29, 34, 39, 44 and 49 relate to the Empathy sub-construct. Statements 5, 10, 15, 20, 25, 30, 35, 40, 45 and 50 relate to the social skill sub-construct. In all the questions, the higher the rating on the Likert scale, the higher the level of the sub-construct. An average rating overall sub-constructs added together indicated the average EI of the participant.

Figure 16: Breakdown Leadership Toolkit's EI Questionnaire and its sub-constructs



The RTC Questionnaire is measured on a six-point Likert scale and consists of 17 statements with 1 being the lowest rating and 6 the highest rating. Statements 1 to 5 refers to the Routine Seeking sub-construct. Statements 6 to 9 refer to the Emotional Reaction sub-construct. Statements 10 to 13 refer to the Short-Term Focus sub-construct. Statements 14 to 17 refer to the Cognitive Rigidity sub-construct. A higher rating per statement indicates a higher affinity for the selected sub-construct.

Figure 17: Oreg's RTC Questionnaire and its sub-constructs



3.3.4.1 Construction of the questionnaires

The three constructs mentioned above were combined into one questionnaire and distributed by hand in a hard copy to the engineering department at the company described in Chapter 1. The employees of the new engineering process department, as well as the previously existing engineering departments, were all invited to participate in the study. The questionnaire used for this study comprises four sections and is attached in the Appendix Section 6.1.

- Section 1: Biographical information

  This section collected the biographical information of the participants in this study. This information allows for an overall understanding of the sample group's age, race, and level of employment, qualification and work experience.

- Section 2: LOC

  The LOC section is aimed at determining the participants' level of LOC, whether it is internal or external.

- Section 3: RTC

  This section assesses the participant's levels of RTC by using Oreg's (2003) RTC assessment questionnaire.

- Section 4: EI

  Section 4 of the questionnaire assesses the various aspects of which EI is comprised.

3.3.4.2 Validity and reliability of measuring instruments

To determine whether the measuring instruments are reliable to use, the Cronbach's Alpha for each construct and sub-construct found in other studies is summarised below.

Table 5: LOC Cronbach's Alpha values from another study

	ILOC	**ELOC**
Cronbach's Alpha	0.74	0.76

Source: Kourmousi, Xythali & Koutras (2015:1072).

The Cronbach's Alpha from a study done by Kourmousi *et al.* (2015:1072) on the reliability and validity of the multidimensional Locus of control scale in a sample of 3668 Greek educators found that the ILOC questions had a Cronbach's Alpha of 0.74 whilst the ELOC Questions had a Cronbach's Alpha of 0.76. The LOC scale was therefore found to display satisfactory psychometric properties and was deemed appropriate to evaluate the LOC in the Greek teachers (Kourmousi *et al.,* 2015:1067).

Table 6: EI Cronbach's Alpha values from another study

	EI
Cronbach's Alpha	0.85

Source: Jonker and Vosloo (2009:24)

Jonker and Vosloo (2009:24) investigated and summarised the psychometric properties of various EI scales and found that the Bar-on EI scale indicated a Cronbach's Alpha of 0.85 and it did not specify to which sub-constructs this value pertains.

Table 7: RTC Cronbach's Alpha values from another study

	Routine Seeking	Emotional Reaction	Short-Term Focus	Cognitive Rigidity
Cronbach's Alpha	0.89	0.86	0.71	0.68

Source: Oreg (2003:682)

Shaul Oreg developed the Oreg RTC scale which was used in this study and found that four reliable factors could be identified when analysing RTC. The Cronbach's Alpha's for the four factors are shown in the table above. Routine Seeking was found to have a Cronbach's Alpha of 0.89; Emotional Reaction was found to have a Cronbach's Alpha of 0.86, Short-Term Focus was found to have a Cronbach's Alpha of 0.71 and the fourth sub-construct, Cognitive Rigidity had a Cronbach's Alpha of 0.68 (Oreg, 2003:682).

The consistency with which the questionnaires were answered is measured by the reliability and aids in determining the accuracy of the correlation between the various constructs. For this, the Cronbach's Alphas need to score above 0.5 (Cortina, 1993: 101) and in the case where Cronbach's Alpha cannot be used; the mean inter-item correlation must be above 0.15 (Briggs & Cheek, 1986: 140).

3.3.4.2.1 Internal and external LOC

The Cronbach's Alpha for the internal LOC questions was too low (0.29) and, therefore, the mean inter-item correlation was calculated as is recommended for questionnaires that have less than 10 items (Briggs & Cheek, 1986:140). The inter-item correlation was also found to be too low (0.17) and therefore the ILOC questions were unusable. After consulting statistical services, the decision was made to only use the responses to Question 2 of the internal LOC questionnaire as a measure that indicated a mean of 4.82.

Regarding the external LOC, a low Cronbach's Alpha was also calculated and, therefore, the calculated mean inter-item correlation was used as a measure of reliability instead, which indicated a mean of 3.41.

Table 8: Reliability summary of LOC sub-constructs

	N	Minimum	Maximum	Mean	Std. Deviation	Cronbach's Alpha	Mean inter-item correlation
ILOC	34	2.00	7.00	4.8235	1.69617	0.29	0.17
ELOC	34	1.00	6.00	3.4118	1.36776	0.542	0.372

These Cronbach's Alpha values are low in comparison to Table 5. For further analysis, only ELOC was used since ILOC did not indicate any significant reliability. This questionnaire with the disregarded questions as indicated can, therefore, be deemed to be reliable in this case.

3.3.4.2.2 EI

a. Self-Awareness

The majority (mean = 4.03) of participants believe that they are self-aware and possess the ability to recognise and understand how their emotions affect their interactions with other people. The reliability of this construct was high with a Cronbach's Alpha of 0.711.

b. Managing Emotions

The EI factor when it comes to Managing Emotions scored the lowest of the five groupings. However, it was still rated highly with a mean of 3.29. Many employees indicated that they struggled to manage their emotions in certain circumstances. The reliability of this construct was high with a Cronbach's Alpha of 0.689.

c. Motivating Oneself

Employees indicated that they can motivate themselves even when external circumstances deterred motivation (mean = 3.64). The reliability of this construct was high with a Cronbach's Alpha of 0.654.

d. Empathy

The participants generally seem to possess the ability to understand other people's thoughts and feelings (mean = 3.74). The reliability of this construct was high with a Cronbach's Alpha of 0.783.

e. Social skills

When it comes to social skills, most participants indicated that they possess high social skills and can adapt to and work with, various types of personalities (mean = 3.53). The reliability of this construct was high with a Cronbach's Alpha of 0.801.

Table 9: Reliability summary of EI sub-constructs

	N	Minimum	Maximum	Mean	Std. Deviation	Cronbach's Alpha	Mean inter-item correlation
EI Self-Awareness	34	3.30	4.90	4.0376	0.47695	0.711	0.209
EI manage emotions	34	2.30	4.70	3.2941	0.56939	0.689	0.198
EI Motivating Oneself	34	2.50	4.60	3.6412	0.44797	0.654	0.157
EI Empathy	34	2.80	4.80	3.7353	0.50084	0.783	0.259
EI social skills	34	2.30	4.90	3.5324	0.62654	0.801	0.289
EI total	34	3.06	4.64	3.6481	0.42743		

Since the literature was unable to deliver a breakdown of EI sub-construct reliability figures but rather only a figure for the EI, the EI in Table 9 is compared to the 0.85 found in literature and only EI Social Skills compares well to this figure. However, since all the Cronbach's Alpha values are above 0.6, this questionnaire can be deemed to be reliable in this case.

3.3.4.2.3 RTC

Regarding RTC, it was found that on average, the participants were less likely to form routines (mean = 2.45), focus on short-term goals (mean = 2.27) and display signs of cognitive rigidity (mean = 2.71). Participants were more likely to display emotional reactions to change (mean = 3.04). The reliability of the Routine Seeking sub-construct was high with a Cronbach's Alpha of 0.788. The reliability of the Emotional Reaction sub-construct was also high with a Cronbach's Alpha of 0.788. The Short-Term Focus sub-construct's Cronbach's Alpha was high at 0.86 and for Cognitive Rigidity, the reliability was lower at 0.53 and was considered inadequate for this study since the rule of thumb is that any Cronbach's Alpha lower than 0.6 should be excluded from the final data analysis (Tavakol & Dennick, 2011).

Table 10: Reliability summary of RTC sub-constructs

	N	Minimum	Maximum	Mean	Std. Deviation	Cronbach's Alpha	Mean inter-item correlation
RTC routine seeking	34	1.00	4.40	2.4529	0.85040	0.788	0.44
RTC Emotional Reaction	34	1.25	5.00	3.0441	0.99138	0.788	0.467
RTC Short-Term Focus	34	1.00	4.25	2.2721	0.86025	0.77	0.475

The Cronbach's Alphas compare quite well to those indicated in Table 7 with Routine Seeking, Emotional Reaction and Short-Term Focus all ranging in high values in both cases. Cognitive Rigidity showing low values in both cases however it was excluded from this study due to the Cronbach's Alpha being lower than 0.6 in this case. The similar comparison adds to the reliability of using this measuring instrument.

3.3.5 Study population

Forty questionnaires were distributed which comprised the entire engineering department (management included) and 34 questionnaires were returned. The questionnaires were hand delivered and had a cover page that indicated the nature of the study and guaranteed total anonymity. Upon request, the option for total anonymity was changed in case the participant wished to receive his/her results. However, total confidentiality was guaranteed. Many participants were intrigued by the topic and thus opted to receive their results.

The time frame for the collection of questionnaires was two weeks. However, all questionnaires were retrieved within a week. The response rate was therefore 85%. To determine whether the 85% response rate is satisfactory, the following method was used to indicate what can be allowed. The assumptions are stated below and it should be noted that this method is merely used as an indication of minimum sample size (and thence, minimum allowable response rate).

The minimum sample size was calculated by using the following equation (Ramshaw, 2018):

$$n = \left(\frac{Z\,\sigma}{E}\right)^2$$

Where n is the minimum sample size, Z is the confidence level in the sample size, s is the standard deviation of the sample and E is the maximum allowable error in the sample. For this study, a confidence level of 75% was chosen (lower confidence level to allow for the small population size), which relates to a Z value of 1.15 (assuming a normal curve distribution). From the questionnaires' statistical analyses, the standard deviations were extracted and added together per the equation below (Wolfram Mathworld, 2018):

$$\sigma_{1+2+\cdots+n} = \sqrt{\sigma_1^2 + \sigma_2^2 + \cdots + \sigma_n^2}$$

The table below summarises the results from the calculated sample size (and standard deviation)

Table 11: Calculated minimum acceptable response rate

Confidence level relating to 75%	**1.15**
Margin of error	0.5
Variance	5.699
Standard deviation	2.387258
Minimum sample size	30.14771
Number of responses	34
Number of questionnaires sent out	40
Actual response rate	85%
Minimum acceptable response rate	75%

Therefore, the 85% response rate was deemed acceptable for this study.

3.3.6 Ethical considerations

All participants were volunteers and no employees were pressured into participating in this study. Due to the nature of the questionnaires, participants were encouraged to participate as they could request their results and assured total confidentiality. The objectives of the study were explained in detail to the participants in person. The employees seemed eager to participate and this is also confirmed by the number of questionnaires returned.

The biographical questionnaire was structured specifically to retain anonymity to those who chose not to receive their results. Due to the small nature of the sub-departments of the engineering department, the biographical data does not include a departmental breakdown as this would affect the anonymity. The group was analysed to ensure that employees could not be identified. Completed questionnaires were placed at random in a box.

3.3.7 Data analysis and overview of statistics used

The questionnaires were re-worked into a table consisting of the raw data by the researcher and after that sent to the North-West University Statistical Consultation Services who conducted the data analysis. The statistical analyses included descriptive statistics, normality tests (Kolmogorov-Smirnov and Shapiro-Wilk) and multiple regression. A multiple regression analysis was chosen to indicate whether a relationship exists between the three constructs which are tested since it enables one to predict the future based on the predictive variables (Field, 2009:198). Two independent variables are considered in this study namely EI and LOC. The dependent variable, in this case, is RTC.

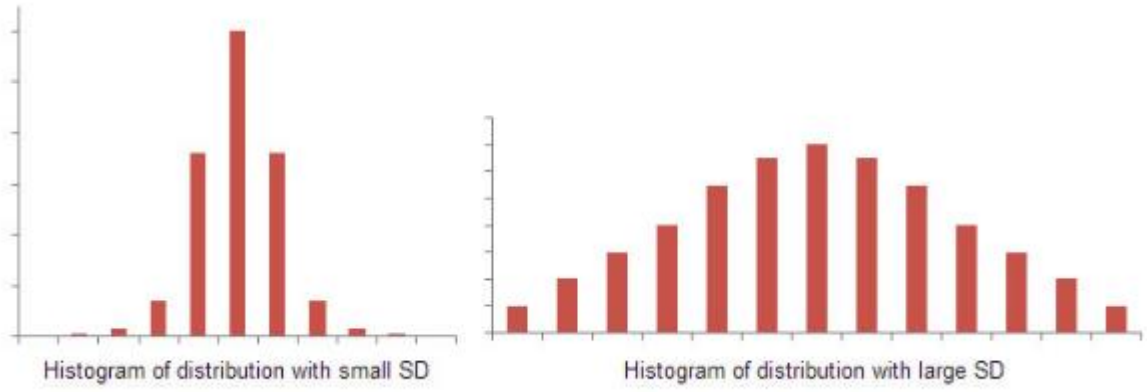
- The first independent variable mentioned, EI, related to the first research question: To what extent does Emotional Intelligence influence the perceived Resistance to Change?
- The second independent variable mentioned related to the second research question: To what extent does Locus of control influence the perceived Resistance to Change?

The methods used are briefly described below:

3.3.7.1 Descriptives

The descriptives display a table of a number of observations of the variables of the analysis, among which are the mean, standard deviation, skewness and kurtosis (Field, 2009:233). The standard deviation value indicates how widespread the distribution is around the mean (therefore it indicates the shape of the distribution). A large standard deviation indicates a wider spread and a small deviation indicates a more clustered spread around the mean (DataStar, Inc., 2013).

Figure 18: Visual representation of small and large standard deviations in a distribution



Source: DataStar, Inc. (2013)

The standard error indicates how close the sample mean is to the population's mean and therefore indicates how accurate the statistics in this situation are (DataStar, Inc., 2013).

The descriptives also indicate a correlation matrix which contains Pearson's correlation coefficient between every pair of variables as well as the two-tailed significance of each correlation. The Pearson's correlation coefficient is a standardised method used to indicate whether two variables are linearly correlated positively (+) or negatively (-). These values vary between -1 and +1 and a coefficient of zero will indicate no correlation between variables. Pearson's correlation coefficient also measures the size of the relationship between constructs. A value larger than 0.5 (positive or negative) indicates a large effect, a value between 0.3 and 0.5 (positive or negative) indicates a medium effect and values below 0.3 (positive or negative) indicate a very small effect (Field, 2009:170).

To determine reliability, the Cronbach's Alpha's are calculated. Cronbach's Alpha is the most common way to measure reliability and is calculated by the equation below (Field, 2009: 674):

$$\propto = \frac{N^2\overline{Cov}}{\sum S^2_{item} + \sum Cov_{item}}$$

Where:

α = Cronbach's Alpha

N = Sample size

$\overline{Cov}$ = Average covariance between items

S^2 = variances

Cronbach's Alpha should generally be higher than 0.7 (Cortina, 1993: 101) to indicate reliability, however, small numbers of items on the scale will generally lead to small Cronbach's Alpha values and therefore a value of 0.5 and higher can be considered reliable in this research. When there are a small number of items and Cronbach's Alpha cannot be used, it is better to use the mean inter-item correlation as a reliability test. Generally, this value should be between 0.2 and 0.4 (Briggs & Cheek, 1986: 140).

The normality of distributions is described in more detail below.

3.3.7.2 Normality

It is important to note that for research using regression models, the assumption of normality is made. This means that if the sample data is approximately normal, the assumption is made that the sampling distribution is also normal (this is referred to as the central limit theorem). This assumption is important for regression modelling as well as the assumption that errors in the model are also normally distributed. Normality is generally tested by analysing the skewness and kurtosis of distribution and comparing them to normal distributions (Field, 2009:134).

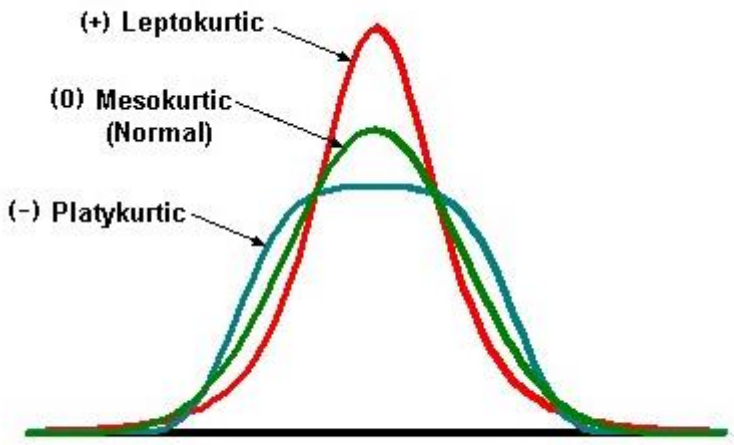
The Kolmogorov-Smirnov and Shapiro-Wilk test is conducted to determine whether according to Field (2009:144) "distribution as a whole deviates from a comparable normal distribution". These methods compare the scores in the sample to a normal distribution which has the same standard deviation and means as the sample (Field, 2009:144). The table which is produced from the Kolmogorov-Smirnov analysis includes the test statistic, the degrees of freedom as well as the significant value of the test. If the significant value is less than 0.05, then there exists a deviation from normality. The degrees of freedom should generally equal the sample size (Field, 2009:146).

A normal Q-Q plot is generated for some of the specified sub-constructs. A Q-Q chart plots the values that one would expect to achieve if the distributions were normal (in a straight diagonal line) against the actual values from the questionnaires (which are plotted as individual points). A normally distributed data set's actual points will fall along

the straight line which indicates that the actual points are the same as a normally distributed data set points (Field, 2009:147). If the data points on such a curve mainly sag below the normal line or mainly rise above it, it indicates that the kurtosis differs from a normal distribution. If the data form an S-shape, then it indicates that the problem with the data is due to skewness (Field, 2009:148).

Skewness and kurtosis are generally used to assess normality. The former refers to the degree to which values cluster in the tails of a frequency distribution. A negative kurtosis value indicates that too few values are in the tail of the distribution and the distribution is therefore rather flat. This is termed platykurtic kurtosis. A positive kurtosis value indicates that there are too many values in the tail of the distribution and therefore the distribution is too peaked. This phenomenon is termed leptokurtic kurtosis (Field, 2009:788).

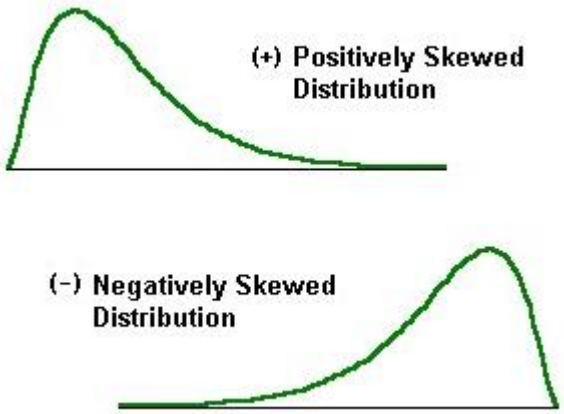
Figure 19: General forms of kurtosis



Source: MVPStats (2014)

The latter (skewness) refers to the symmetry of a distribution. A perfectly symmetrical frequency distribution will have a skewness of zero. A positive skewness value will indicate that the values from the dataset are clustered at the lower end of the distribution; therefore, the tail will point towards the higher and more positive scores. A negative skewness indicates that the values are clustered at the higher end of the distribution and therefore the tail points towards the lower and more negative scores (Field, 2009:794).

Figure 20: Skew distributions



Source: MVPStats (2014)

For both kurtosis and skewness attributes, the value should be zero (as in a normal distribution), and the further these values are from zero, the more like it is that the data is not normally distributed (Field, 2009:138). To convert the skewness and kurtosis values to their corresponding z-scores, the statistic value can be divided by its standard error (Field, 2009:139):

$$Z_{Skewness} = \frac{S}{SE_{Skewness}} \qquad Z_{Kurtosis} = \frac{K}{SE_{Kurtosis}}$$

These z-scores are then to be compared to the z-scores one would achieve in a normal distribution. For example, an absolute value greater than 1.96 will be significant at $p < 0.05$. A z-score greater than 2.58 will be significant at $p < 0.01$. For small samples, such as the sample, in this case, it is adequate to look for values above 1.96, (Field, 2009:39).

The Shapiro-Wilk test analyses data in much the same manner as Kolmogorov-Smirnov; however, it is more accurate in predicting differences from normality. Therefore, the Shapiro-Wilk test may be significant when the Kolmogorov-Smirnov test is not (Field, 2009:148).

Another type of graph used to check normality is a probability-probability (P-P) plot which plots the cumulative probability of a variable against the same of a normal distribution. Therefore, the data is ranked and sorted and a corresponding z-score is calculated for each rank which will represent the expected value of a normal distribution (Field, 2009:136). The z-score is a score from a type of distribution which has a

standard deviation of one and a mean of zero. Using z-scores is useful since different samples' attributes (such as kurtosis and skewness) can be compared to each other even if the samples are using different measures (Field, 2009:138). Hereafter the actual values themselves are converted to z-scores and then compared to the expected z-scores. A normally distributed data set will be the same in both aspects. Deviations indicate deviations from normality (Field, 2009:136).

3.3.7.3 Regression

Regression is a method used to predict an outcome variable from one or more predictor variables. To do this, a model needs to be fit to a data set with a certain accompanying error. These models are linear in nature and the method of least squares is used to establish a line that fits the data best (Field, 2009:198). Since the model is linear, the line can therefore be defined by its slope and its intercept on the y-axis. The model in its simplified and generic form will look like this (Field, 2009:199):

$$Y_i = (b_0 + b_1 X_i) + \varepsilon_i$$

Where Y_i is the predicted variable, b_0 is the y-axis intercept, b_1 is the gradient (slope), X_i is the predictor (one or more) and ε_i is the residual term which represents the difference between the score on the model's line and the actual score (Field, 2009:199).

For multiple regression, this model is merely extended to look like this (Field, 2009:210):

$$Y_i = (b_0 + b_1 X_1 + b_2 X_2 + \cdots + b_n X_n) + \varepsilon_i$$

Where in this case, b_i will be the coefficient of the first predictor X_i and ε_i is the difference between the predicted and observed value of Y for the i^{th} participant. The multiple regression model also seeks to find the linear combination of predictors that will predict the most accurate value for the dependent value (Field, 2009:210).

The method of least squares determines whether a line used for the model is the best fit. This is done by adding up the squared residuals (the residuals are squared before addition in order to prevent positive and negative values from cancelling each other out). This method chooses the line with the lowest sum of squared residuals (Field, 2009:201).

The total sum of squares (SS_T) is calculated with the following equation and represents how well the mean can be applied as a model of the data and indicates the difference between the observed values and the mean of the outcome variable (Field, 2009: 202,211):

$$SS_T = \sum (\ actual - mean)^2$$

The residual sum of squares (SS_R) is calculated with the following equation and represents the degree of inaccuracy of the best model (fit from the sum of least squares method) applied:

$$SS_R = \sum (actual - model)^2$$

These two parameters are used to measure how much of an improvement the regression line model is, compared to using merely the mean value as a predictive model. This improvement is calculated by subtracting one parameter from the other (i.e. $SS_T - SS_R$) and is termed the model sum of squares (SS_M). A large SS_M indicates that the regression model differs vastly from using the mean as a model and indicates that it is a more accurate measure. A better way to display this improvement is through the proportion of improvement by dividing SS_M by SS_T (Field, 2009:202):

$$R^2 = \frac{SS_M}{SS_T}$$

According to Field (2009:202), "R^2 represents the amount of variance in the outcome explained by the model relative to how much variation there was to explain in the first place". The square root of this (R), is termed Pearson's correlation coefficient and is a way to indicate an estimate of the overall fit of the regression model, whilst R_2 indicates the size of the relationship between constructs in the model (Field, 2009:202).

When applying multiple regression, the concept behind the attributes discussed above remains the same even though the calculation becomes more complex, (Field, 2009:211). For multiple regression, a multiple correlation coefficient is computed (Multiple R) and it represents the correlation between the model Y values and the actual Y values. Therefore, a large Multiple R will represent a large correlation between the model and the actual. If the Multiple R is 1, the model fits perfectly. R2 can therefore be predicted the same way as in simplified regression as the amount of variation that is accounted for by the model (Field, 2009:212).

It can be noted that it is important to select the predictors appropriately and not by random when it comes to multiple regression. Several methods of selecting predictors are briefly described below.

a. Hierarchical regression

   This type of regression uses predictors which have been selected based on past research. The order of the predictors in the model is decided by the researcher and ordered by their perceived importance, but can also be based on past research findings (Field, 2009:212).

b. Forced entry regression

   Predictors are forced into the model concurrently in this type of regression and chosen predictors should have good theoretical background much the same as with hierarchical regression. Contrary to hierarchical regression, the researcher does not make any decision of the order of the predictors (Field, 2009:212).

c. Stepwise regression methods

   The order of predictors is based on mathematical criteria and the computation chooses predictors with the highest simple correlation and builds onto them in an iterative manner (Field, 2009:213).

To analyse regression models, it is important to understand the order of which the analysis will take place. The analysis will firstly produce a model summary in which the R, R^2, Adjusted R^2 and standard error of the estimate are presented. Hereafter an analysis of variance (ANOVA) will be produced which indicates the sum of squares, degrees of freedom, and the average sum of squares, the F-ratio and its respective significance (Field, 2009:207). The F-ratio is important and is calculated as follows:

$$F = \frac{MS_M}{MS_R}$$

Where MS_M is the mean squares for the model and MS_R is the residual mean squares. The F-ratio measures how well the model has improved the prediction compared to the level of inaccuracy of the model. If the model is good, the improvement in prediction will be large (MSM) and the difference between the model and the actual data will be small (MSR) and therefore a large F-ratio (>1) is indicative of a good model (Field, 2009:203).

The ANOVA table is a good indicator of whether the model is a good predictor however it does not segment the variables' contributions to the model. The coefficients table provides details of the model parameters such as the beta (b_0) values (y-intercepts of the regression lines). The value of b_1 will in turn indicate the slope of the line which can be interpreted as "the change in the outcome associated with a unit change in the predictor" according to Field (2009:208). To determine whether the b-value is different to zero, a t-test is applied (which is the probability of the observed value occurring if b is zero). A resulting significance less than 0.05 indicate a genuine effect and therefore the specific variable makes a significant contribution to the dependent variable (Field, 2009:208).

CHAPTER 4: RESULTS AND DISCUSSION

The statistical analysis was carried out with the help of the Statistics Consultation Services of the North-West University (Potchefstroom Campus).

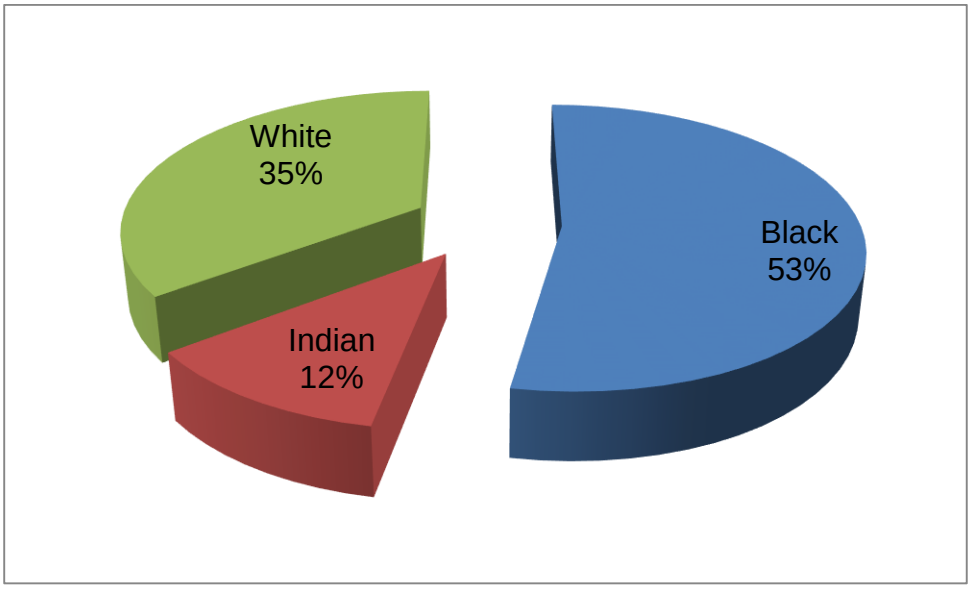
4.1 BIOGRAPHICAL DATA, NORMALITY, RELIABILITY AND DESCRIPTIVE STATISTICS OF THE SUBSCALES

4.1.1 Results of biographical data

The biographical data which was gathered in the survey included the age, sex, gender, race, education level, level of employment and number of years in the current position of employees in the engineering department. Although much of this information will not be needed to fulfil the objectives of this study, it was gathered to enable further analysis if necessary. Due to the small size of the sub-departments, this information was not requested to keep anonymity. The respondents consisted of 76% males and 24% females.

53% of the respondents were Black, 35% were White and 12% were Indian and the race distribution is displayed in Figure 4. 21 below.

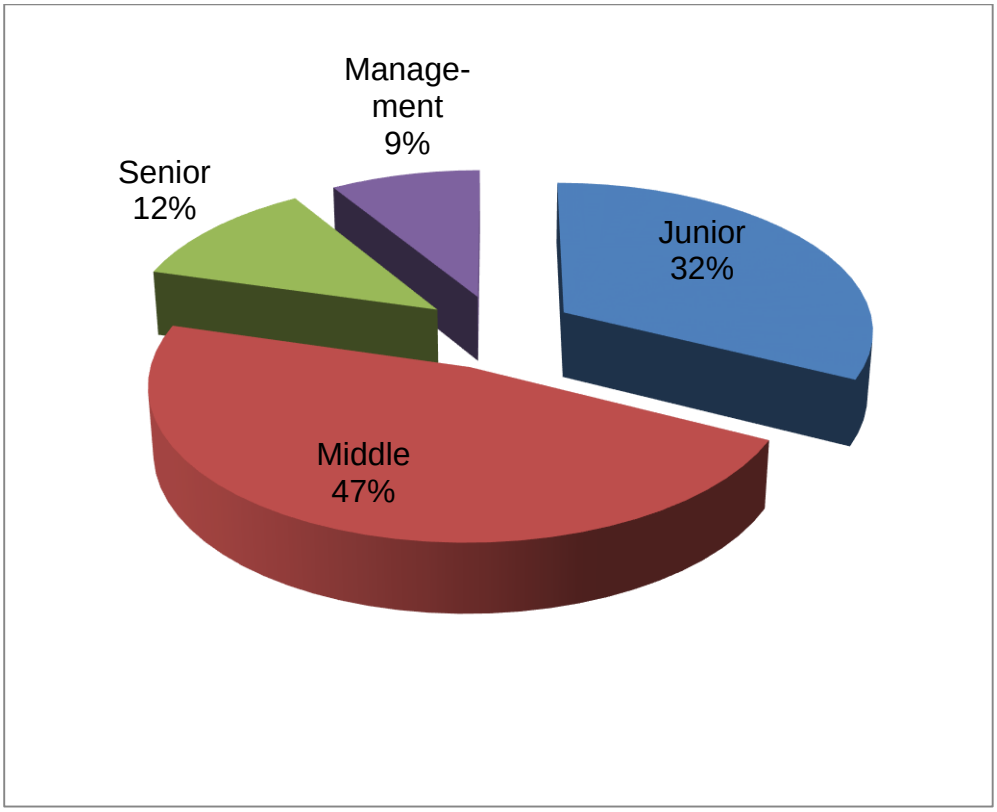
Figure 4. 21: Race distribution



The majority of the participants were at the starting or middle point of their career with only a few in senior positions.

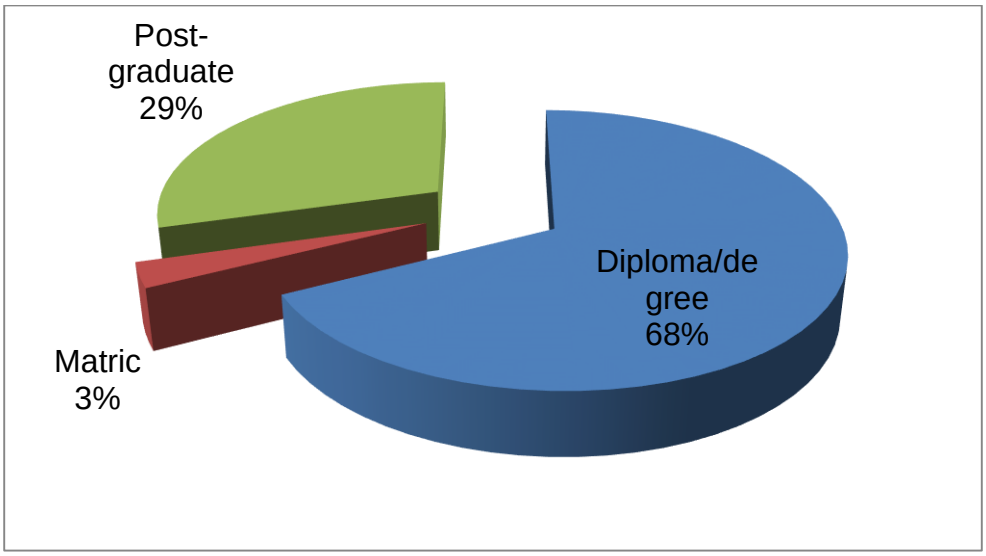
Upon analysis of the level of employment distribution, it was noted that the majority of the participants were at the starting or middle point of their career with 32% juniors and 47% mid-career. Only 12% were in senior positions and 9% were in management positions as can be seen in Figure 4.22 below.

Figure 4.22: Level of employment distribution



The highest qualification composition is displayed in Figure 4.23 and it can be seen that 68% of the population had diplomas or degrees, 29% had post-graduate degrees and surprisingly, a small percentage (3% which equals one participant) did not have a degree and possessed only a matric certificate.

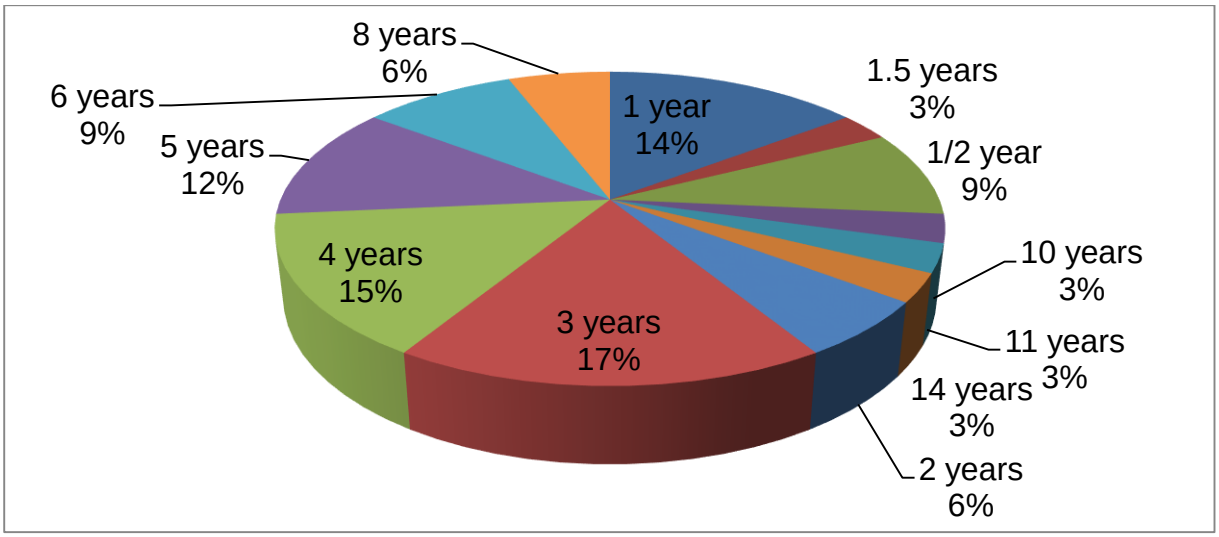
Figure 4.23: Highest qualification



Error! Reference source not found. depicts the number of years that the employees ad been in their current positions. 32% of participants had been employed for two years or less. 44% had been employed between three and five years. 9% had been employed for 6 years, 6% had been employed for eight years and 9% of the participants had been employed for more than eight years (see full depiction in Figure 4.24).

It can be seen that the majority of the employees had been in their current position for less than five years. It can be noted that this company, and this specific site, experience high staff turnover which is contributive to the low level of work experience.

Figure 4.24: Years of work experience



4.1.2 Descriptive Statistics of the Emotional Intelligence questionnaire

The descriptive statistics of mean and standard deviation of the EI questionnaire's sub-constructs that are discussed in section 3.3.7 are presented in the tables below. The entire table that was generated is shown however only the mean, standard deviation, skewness and kurtosis are discussed for each of the sub-constructs.

4.1.2.1 Self-Awareness

Table 4.12: Descriptive statistics of EI Self-Awareness

			Statistic	Standard error	Z-score
EI: Self-Awareness	Mean		4.0376	0.08180	
	95% Confidence Interval for Mean	Lower Bound	3.8712		
		Upper Bound	4.2040		
	5% Trimmed Mean		4.0329		
	Median		3.9000		
	Variance		0.227		
	Std. Deviation		0.47695		
	Minimum		3.30		
	Maximum		4.90		
	Range		1.60		
	Interquartile Range		0.70		
	Skewness		0.274	0.403	0.68
	Kurtosis		-1.132	0.788	1.43

The mean of 4.03 indicates that on average the participants showed high levels of Self-Awareness. The standard error of the mean indicates the reliability of the mean and the small standard error of 0.08 indicates that the sample mean is an accurate presentation of the population mean.

The spread of the sample is determined by the standard deviation of 0.48 and indicates that the values were more concentrated around the mean (not widespread) and therefore can be deemed to be relatively accurate as representative of the population means.

The skewness indicates a positive value of 0.274 with a standard error of 0.403. This positive value indicates that there are many low scores in the distribution. Converting

the skewness to its corresponding z-score, we find that the z-score is 0.68 which indicate that the scores are not significantly skewed since they are less than 1.96 (z-score for 95% confidence). The kurtosis value indicates a negative value of -1.132 and a standard error of 0.788. The negative kurtosis value indicates that the distribution is relatively flat and light-tailed. By calculating the corresponding z-score, we can reveal that the kurtosis is also not significant in this case as the z-score is 1.43.

4.1.2.2 Managing Emotions

Table 13: Descriptive statistics of EI Managing Emotions

			Statistic	Standard error	Z-score
EI: Managing Emotions	Mean		3.2941	0.09765	
	95% Confidence Interval for Mean	Lower Bound	3.0954		
		Upper Bound	3.4928		
	5% Trimmed Mean		3.2690		
	Median		3.1500		
	Variance		0.324		
	Std. Deviation		0.56939		
	Minimum		2.30		
	Maximum		4.70		
	Range		2.40		
	Interquartile Range		0.75		
	Skewness		0.769	0.403	1.91
	Kurtosis		0.532	0.788	0.68

The mean of 3.29 indicates that on average the participants showed high levels of ability to manage emotions. The standard error of the mean indicates the reliability of the mean and the small standard error of 0.098 indicates that the sample mean is an accurate presentation of the population mean.

The spread of the sample is determined by the standard deviation of 0.57 and indicates that the values were more concentrated around the mean (not widespread) and therefore can be deemed to be relatively accurate as representative of the population means.

The skewness indicates a positive value of 0.796 with a standard error of 0.403. This positive value indicates that there are many low scores in the distribution. Converting

the skewness to its corresponding z-score, we find that the z-score is 1.91 which indicates that the scores are not significantly skewed since they are less than 1.96 (z-score for 95% confidence). The z-score for skewness is rather high in this case and indicates a near significant value even though it is not considered significant. The kurtosis value indicates a positive value of 0.532 and a standard error of 0.788. The positive kurtosis value indicates that the distribution is relatively pointy and heavy-tailed. By calculating the corresponding z-score, we can reveal that the kurtosis is also not significant in this case as the z-score is 0.68.

4.1.2.3 Motivating Oneself

Table 14: Descriptive statistics of EI Motivating Oneself

			Statistic	Standard error	Z-score
EI: Motivating Oneself	Mean		3.6412	0.07683	
	95% Confidence Interval for Mean	Lower Bound	3.4849		
		Upper Bound	3.7975		
	5% Trimmed Mean		3.6536		
	Median		3.6000		
	Variance		0.201		
	Std. Deviation		0.44797		
	Minimum		2.50		
	Maximum		4.60		
	Range		2.10		
	Interquartile Range		0.53		
	Skewness		-0.581	0.403	1.44
	Kurtosis		1.063	0.788	1.34

The mean of 3.64 indicates that on average the participants showed a high ability to motivate themselves. The standard error of the mean indicates the reliability of the mean and the small standard error of 0.08 indicates that the sample mean is an accurate presentation of the population mean.

The spread of the sample is determined by the standard deviation of 0.45 and indicates that the values were more concentrated around the mean (not widespread) and therefore can be deemed to be relatively accurate as representative of the population mean.

The skewness indicates a negative value of -0.581 with a standard error of 0.403. This negative value indicates that there are many high scores in the distribution. Converting the skewness to its corresponding z-score, we find that the z-score is 1.44 which indicates that the scores are not significantly skewed since they are less than 1.96 (z-score for 95% confidence). The kurtosis value indicates a positive value of 1.063 and a standard error of 0.788. The positive kurtosis value indicates that the distribution is relatively pointy and heavy-tailed. By calculating the corresponding z-score, we can reveal that the kurtosis is also not significant in this case as the z-score is 1.34. Both the skewness and the kurtosis z-scores are higher than the other sub-constructs in this case.

4.1.2.4 Empathy

Table 15: Descriptive statistics of EI Empathy

			Statistic	Standard error	Z-score
EI Empathy	Mean		3.7353	0.08589	
	95% Confidence Interval for Mean	Lower Bound	3.5605		
		Upper Bound	3.9100		
	5% Trimmed Mean		3.7304		
	Median		3.7500		
	Variance		0.251		
	Std. Deviation		0.50084		
	Minimum		2.80		
	Maximum		4.80		
	Range		2.00		
	Interquartile Range		0.80		
	Skewness		0.247	0.403	0.61
	Kurtosis		-0.410	0.788	0.52

The mean of 3.73 indicates that on average the participants showed a high level of Empathy. The standard error of the mean indicates the reliability of the mean and the small standard error of 0.09 indicates that the sample mean is an accurate presentation of the population mean.

The spread of the sample is determined by the standard deviation of 0.50 and indicates that the values were more concentrated around the mean (not widespread) and

therefore can be deemed to be relatively accurate as representative of the population mean.

The skewness indicates a positive value of 0.247 with a standard error of 0.403. This positive value indicates that there are many low scores in the distribution. Converting the skewness to its corresponding z-score, we find that the z-score is 0.61 which indicates that the scores are not significantly skewed since they are less than 1.96 (z-score for 95% confidence). The kurtosis value indicates a negative value of -0.41 and a standard error of 0.788. The negative kurtosis value indicates that the distribution is relatively flat and light-tailed. By calculating the corresponding z-score, we can reveal that the kurtosis is also not significant in this case as the z-score is 0.52.

4.1.2.5 Social skills

Table 16: Descriptive statistics of EI social skills

			Statistic	Standard error	Z-score
EI social skills	Mean		3.5324	0.10745	
	95% Confidence Interval for Mean	Lower Bound	3.3137		
		Upper Bound	3.7510		
	5% Trimmed Mean		3.5294		
	Median		3.5500		
	Variance		0.393		
	Std. Deviation		0.62654		
	Minimum		2.30		
	Maximum		4.90		
	Range		2.60		
	Interquartile Range		1.00		
	Skewness		0.036	0.403	0.089
	Kurtosis		-0.736	0.788	0.93

The mean of 3.53 indicates that on average the participants showed a high level of social skills. The standard error of the mean indicates the reliability of the mean and the small standard error of 0.11 indicates that the sample mean is an accurate presentation of the population mean.

The spread of the sample is determined by the standard deviation of 0.63 and indicates that the values were more concentrated around the mean (not widespread) and

therefore can be deemed to be relatively accurate as representative of the population mean.

The skewness indicates a very low positive value of 0.036 (near to zero) with a standard error of 0.403. This positive value indicates that there are many low scores in the distribution. Converting the skewness to its corresponding z-score, we find that the z-score is 0.089 which indicates that the scores are not significantly skewed since they are less than 1.96 (z-score for 95% confidence). The kurtosis value indicates a negative value of -0.736 and a standard error of 0.788. The negative kurtosis value indicates that the distribution is relatively flat and light-tailed. By calculating the corresponding z-score, we can reveal that the kurtosis is also not significant in this case as the z-score is 0.93.

4.1.3 Descriptive Statistics of the Locus of control questionnaire

			Statistic	Std. Error	Z-score
ELOC	Mean		3.4118	0.23457	
	95% Confidence Interval for Mean	Lower Bound	2.9345		
		Upper Bound	3.8890		
	5% Trimmed Mean		3.4134		
	Median		3.5000		
	Variance		1.871		
	Std. Deviation		1.36776		
	Minimum		1.00		
	Maximum		6.00		
	Range		5.00		
	Interquartile Range		2.00		
	Skewness		-0.247	0.403	0.61
	Kurtosis		-0.578	0.788	0.73

The mean of 3.41 indicates that on average the participants showed an external Locus of control. The standard error of the mean indicates the reliability of the mean and the small standard error of 0.23 indicates that the sample mean is an accurate presentation of the population mean.

The spread of the sample is determined by the standard deviation of 1.37 and indicates that the values were relatively concentrated around the mean and therefore can be deemed to be relatively accurate as representative of the population mean.

The skewness indicates a negative value of -0.247 with a standard error of 0.403. This negative value indicates that there are many high scores in the distribution. Converting the skewness to its corresponding z-score, we find that the z-score is 0.61 which indicates that the scores are not significantly skewed since they are less than 1.96 (z-score for 95% confidence). The kurtosis value indicates a negative value of -0.578 and a standard error of 0.788. The negative kurtosis value indicates that the distribution is relatively flat and light-tailed. By calculating the corresponding z-score, we can reveal that the kurtosis is also not significant in this case as the z-score is 0.73.

4.1.4 Descriptive Statistics of the Resistance to Change Questionnaire

4.1.4.1 Routine Seeking

			Statistic	Std. Error	Z-score
RTC Routine Seeking	Mean		2.4529	0.14584	
	95% Confidence Interval for Mean	Lower Bound	2.1562		
		Upper Bound	2.7497		
	5% Trimmed Mean		2.4346		
	Median		2.6000		
	Variance		0.723		
	Std. Deviation		0.85040		
	Minimum		1.00		
	Maximum		4.40		
	Range		3.40		
	Interquartile Range		1.45		
	Skewness		0.215	0.403	0.53
	Kurtosis		-0.869	0.788	1.10

The mean of 2.45 indicates that on average the participants showed an average level of Routine Seeking. The standard error of the mean indicates the reliability of the mean and the small standard error of 0.15 indicates that the sample mean is an accurate presentation of the population mean.

The spread of the sample is determined by the standard deviation of 0.85 and indicates that the values are concentrated around the mean and therefore can be deemed to be accurate as representative of the population mean.

The skewness indicates a positive value of 0.215 with a standard error of 0.403. This positive value indicates that there are many low scores in the distribution. Converting the skewness to its corresponding z-score, we find that the z-score is 0.53 which indicates that the scores are not significantly skewed since they are less than 1.96 (z-score for 95% confidence). The kurtosis value indicates a negative value of -0.869 and a standard error of 0.788. The negative kurtosis value indicates that the distribution is relatively flat and light-tailed. By calculating the corresponding z-score, we can reveal that the kurtosis is also not significant in this case as the z-score is 1.10. Although 1.1 is not deemed as significant, it is a higher value than what has been noted from the other sub-constructs.

4.1.4.2 Emotional Reaction

			Statistic	Std. Error	Z-score
RTC Emotional Reaction	Mean		3.0441	0.17002	
	95% Confidence Interval for Mean	Lower Bound	2.6982		
		Upper Bound	3.3900		
	5% Trimmed Mean		3.0466		
	Median		3.2500		
	Variance		0.983		
	Std. Deviation		0.99138		
	Minimum		1.25		
	Maximum		5.00		
	Range		3.75		
	Interquartile Range		1.50		
	Skewness		-0.139	0.403	0.34
	Kurtosis		-0.914	0.788	1.16

The mean of 3.04 indicates that on average the participants showed an average level of Emotional Reaction. The standard error of the mean indicates the reliability of the mean and the small standard error of 0.17 indicates that the sample mean is an accurate presentation of the population mean.

The spread of the sample is determined by the standard deviation of 0.99 and indicates that the values are concentrated around the mean and therefore can be deemed to be accurate as representative of the population mean.

The skewness indicates a negative value of -0.139 with a standard error of 0.403. This negative value indicates that there are many high scores in the distribution. Converting the skewness to its corresponding z-score, we find that the z-score is 0.34 which indicates that the scores are not significantly skewed since they are less than 1.96 (z-score for 95% confidence). The kurtosis value indicates a negative value of -0.914 and a standard error of 0.788. The negative kurtosis value indicates that the distribution is relatively flat and light-tailed. By calculating the corresponding z-score, we can reveal that the kurtosis is also not significant in this case as the z-score is 1.16.

4.1.4.3 Short-Term Focus

			Statistic	Std. Error	Z-score
RTC Short-Term Focus	Mean		2.2721	0.14753	
	95% Confidence Interval for Mean	Lower Bound	1.9719		
		Upper Bound	2.5722		
	5% Trimmed Mean		2.2328		
	Median		2.2500		
	Variance		0.740		
	Std. Deviation		0.86025		
	Minimum		1.00		
	Maximum		4.25		
	Range		3.25		
	Interquartile Range		1.31		
	Skewness		0.580	0.403	1.44
	Kurtosis		-0.062	0.788	0.08

The mean of 2.27 indicates that one average the participants showed a less than average level of Short-Term Focus. The standard error of the mean indicates the reliability of the mean and the small standard error of 0.15 indicates that the sample mean is an accurate presentation of the population mean.

The spread of the sample is determined by the standard deviation of 0.86 and indicates that the values are concentrated around the mean and therefore can be deemed to be accurate as representative of the population mean.

The skewness indicates a positive value of 0.58 with a standard error of 0.403. This positive value indicates that there are many low scores in the distribution. Converting the skewness to its corresponding z-score, we find that the z-score is 1.44 which

indicates that the scores are not significantly skewed since they are less than 1.96 (z-score for 95% confidence). The kurtosis value indicates a negative value of -0.062 and a standard error of 0.788. The negative kurtosis value indicates that the distribution is relatively flat and light-tailed. By calculating the corresponding z-score, we can reveal that the kurtosis is also not significant in this case as the z-score is 0.08.

4.1.4.4 Cognitive Rigidity

			Statistic	Std. Error	Z-score
RTC Cognitive Rigidity	Mean		2.7059	0.18777	
	95% Confidence Interval for Mean	Lower Bound	2.3239		
		Upper Bound	3.0879		
	5% Trimmed Mean		2.6732		
	Median		2.7500		
	Variance		1.199		
	Std. Deviation		1.09488		
	Minimum		1.00		
	Maximum		5.00		
	Range		4.00		
	Interquartile Range		1.00		
	Skewness		0.595	0.403	0.28
	Kurtosis		-0.324	0.788	0.41

The mean of 2.7 indicates that on average the participants showed a less than average level of Emotional Reaction. The standard error of the mean indicates the reliability of the mean and the small standard error of 0.19 indicates that the sample mean is an accurate presentation of the population mean.

The spread of the sample is determined by the standard deviation of 1.09 and indicates that the values are concentrated around the mean and therefore can be deemed to be accurate as representative of the population mean.

The skewness indicates a positive value of 0.595 with a standard error of 0.403. This positive value indicates that there are many low scores in the distribution. Converting the skewness to its corresponding z-score, we find that the z-score is 0.28 which indicates that the scores are not significantly skewed since they are less than 1.96 (z-score for 95% confidence). The kurtosis value indicates a negative value of -0.324 and a standard error of 0.788. The negative kurtosis value indicates that the distribution is

relatively flat and light-tailed. By calculating the corresponding z-score, we can reveal that the kurtosis is also not significant in this case as the z-score is 0.41.

4.1.5 Tests of normality

The Kolmogorov-Smirnov and Shapiro-Wilk tests indicate whether the distribution deviates from a normal distribution (Field, 2009:144). Table 17 indicates a summary of these two tests which were applied to the data received from the participants.

Table 17: Normality tests summary

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	Degrees of freedom	Sig.	Statistic	df	Sig.
ELOC	0.117	34	.200*	0.957	34	0.204
RTC Routine Seeking	0.161	34	0.025	0.949	34	0.113
RTC Emotional Reaction	0.148	34	0.058	0.956	34	0.181
RTC Short-Term Focus	0.128	34	0.174	0.953	34	0.150
RTC Cognitive Rigidity	0.188	34	0.004	0.918	34	0.014
EI Self-Awareness	0.143	34	0.076	0.934	34	0.042
EI Managing Emotions	0.133	34	0.131	0.946	34	0.091
EI Motivating Oneself	0.119	34	.200*	0.953	34	0.156
EI Empathy	0.096	34	.200*	0.974	34	0.588
EI social skills	0.133	34	0.134	0.971	34	0.487
EI total	0.117	34	.200*	0.946	34	0.090

The degrees of freedom represent the sample size which is 34 in this case. Regarding significance (Sig.), values less than 0.05 indicate that there exists a deviation from normality (Field, 2009: 146). In this case, it is apparent from both the Kolmogorov-Smirnov and the Shapiro-Wilk test that the sub-construct “RTC Cognitive Rigidity” shows significant deviation from normality.

4.1.6 Correlations between constructs

Pearson’s correlation coefficient was calculated to determine the correlation (if any) between any of the three constructs that were investigated. A two-tailed significance

was calculated along with the correlation coefficient. The table below indicates only the constructs which did indicate meaningful relationships with one another.

Table 18: Identified relationships between constructs part 1 of 2

		ILOC	ELOC	RTC Routine Seeking	RTC Emotional Reaction	RTC Short-Term Focus	RTC Cognitive Rigidity
ELOC	Correlation Coefficient	-0.119	1.000	0.419*	0.271	0.264	-0.006
	Sig. (2-tailed)	0.503	0.100	0.014	0.121	0.131	0.973
	N	34	34	34	34	34	34
RTC Routine Seeking	Correlation Coefficient	-0.221	0.419*	1.000	0.541**	0.542**	0.397*
	Sig. (2-tailed)	0.210	0.014	0.001	0.001	0.001	0.020
	N	34	34	34	34	34	34
RTC Emotional Reaction	Correlation Coefficient	0.014	0.271	0.541**	1.000	0.692**	0.481**
	Sig. (2-tailed)	0.936	0.121	0.001	0.001	0.000	0.004
	N	34	34	34	34	34	34
RTC Short-Term Focus	Correlation Coefficient	0.033	0.264	0.542**	0.692**	1.000	0.610**
	Sig. (2-tailed)	0.853	0.131	0.001	0.000	0.001	0.000
	N	34	34	34	34	34	34
RTC Cognitive Rigidity	Correlation Coefficient	0.083	-0.006	0.397*	0.481**	0.610**	1.000
	Sig. (2-tailed)	0.639	0.973	0.020	0.004	0.000	0.001
	N	34	34	34	34	34	34

Table 19: Identified relationships between constructs part 2 of 2

		EI self-awareness	EI Managing Emotions	EI Motivating Oneself	EI Empathy	EI social skills	EI total
EI self-awareness	Correlation Coefficient	1.000	0.552**	0.543**	0.738**	0.716**	0.841**
	Sig. (2-tailed)		0.001	0.001	0.000	0.000	0.000
	N	34	34	34	34	34	34
	Correlation	0.552**	1.000	0.708**	0.586**	0.492**	0.822**

EI Managing Emotions	Coefficient						
	Sig. (2-tailed)	0.001		0.000	0.000	0.003	0.000
	N	34	34	34	34	34	34
EI Motivating Oneself	Correlation Coefficient	0.543**	0.708***	1.000	0.413*	0.483**	0.719**
	Sig. (2-tailed)	0.001	0.000		0.015	0.004	0.000
	N	34	34	34	34	34	34
EI Empathy	Correlation Coefficient	0.738**	0.586**	0.413*	1.000	0.637**	0.814**
	Sig. (2-tailed)	0.000	0.000	0.015		0.000	0.000
	N	34	34	34	34	34	34
EI social skills	Correlation Coefficient	0.716**	0.492**	0.483**	0.637**	1.000	0.812**
	Sig. (2-tailed)	0.000	0.003	0.004	0.000		0.000
	N	34	34	34	34	34	34
EI total	Correlation Coefficient	0.841**	0.822**	0.719**	0.814**	0.812**	1.000
	Sig. (2-tailed)	0.000	0.000	0.000	0.000	0.000	
	N	34	34	34	34	34	34

The following correlations can be deduced from Table 18 and Table 19 and it should be noted that the relationships work both ways even though the discussion will typically entail the effect of one construct upon another:

- Routine Seeking is positively related to ELOC with a Pearson coefficient of 0.419 and the significance value is less than 0.05. The significance (p) indicates that the probability of getting a correlation coefficient this big in a sample of 34 people if the null hypothesis were true (no relationship between variables) is low. Therefore one can be confident that a relationship does exist between Routine Seeking and ELOC. This indicates that a person, who displays high levels of ELOC, should also be more likely to seek or form routines and vice versa.

- Routine Seeking is positively related to Emotional Reaction with a Pearson coefficient of 0.541, which is significant at p=0.001. It is also positively related to Short-Term Focus with a Pearson coefficient of 0.542, which is significant at p=0.001. Finally, Routine Seeking seems to be positively related to Cognitive Rigidity with a correlation coefficient of 0.397 with a significance of $p<0.05$. These results indicate that a person, who seeks routine, will generally also focus on short-term goals, will be relatively rigid in their ways and will have an Emotional Reaction to changes introduced into their environment.
- Emotional Reaction is positively related to Cognitive Rigidity with a correlation coefficient of 0.481 with a significance at $p<0.05$. This indicates that people, who tend to be rigid, will generally endure an Emotional Reaction when faced with a changing environment.
- Cognitive Rigidity is found to be positively related to Short-Term Focus with a Pearson correlation coefficient of 0.610. This result is significant at $p<0.001$. Rigid people may also generally be focused on Short-Term goals instead of looking at the long-term, bigger picture.
- Self-Awareness indicated a positive correlation between Managing Emotions (correlation coefficient = 0.552) and displayed significance at p=0.001. It also displayed a positive relation to Motivating Oneself (correlation coefficient = 0.543) at a significance of p=0.001. Another relation was found to be with Empathy with a Pearson coefficient of 0.738 and a significance of $p<0.001$. Finally, Self-Awareness displayed a positive relation to Social Skill with a coefficient of 0.716 at a significance of $p<0.001$. This indicates that all five sub-constructs of EI are positively related to one another as one would expect them to be.
- Managing Emotions showed a positive relation to Motivating Oneself with a coefficient of 0.708 and a significance of $p<0.001$.
- The sub-construct, Motivating Oneself, indicated a positive correlation (Pearson coefficient of 0.413) with Empathy, found to be significant at $p<0.05$, as well as a positive relation to Social Skills (coefficient = 0.483), significant at $p<0.05$.
- The participants that indicated high levels of Empathy, also indicated that they possess good Social Skills with a correlation coefficient of 0.637 and $p<0.001$.

In summary, within the sub-constructs of the parent-construct, Resistance to Change, positive correlations were found. The same results occurred for the sub-constructs of EI. However, there were no correlations found between RTC and EI and only one-factor correlation (cognitive rigidity) was found between ELOC and RTC Routine Seeking.

4.2 MULTIPLE REGRESSION

Multiple regression was applied using each of the four sub-constructs of RTC as the dependent variable and each of the sub-constructs of EI and ELOC as the predictors. The forced entry method discussed in section 3.3.7.3 was employed first and as is discussed below, no significant results were found. After that the step-wise multiple regression method was employed and was found to be statistically significant. Each of the individual cases is described below. For the regression, only the significance of the models was analysed and recorded in order to determine whether the model could be used for predictive purposes.

4.2.1 Forced Entry: RTC Routine Seeking as dependent variable

In this case, RTC Routine Seeking was chosen as the dependent variable and EI social skills, EI Managing Emotions, EI Motivating Oneself, EI Empathy, EI Self-Awareness and ELOC were chosen as the predictors. Below is a forced entry model summary of the model:

Table 20: Forced entry model summary (RTC Routine Seeking as dependent variable)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.552[a]	0.304	0.150	0.78423

From the summary, it can be seen that all of the above-mentioned sub-constructs indicate an R^2 of 0.304. This shows that 30.4% of the RTC Routine Seeking experienced was caused by all of the predictors. However, the adjusted R^2 of 0.15 indicates that for the entire population, the predictors caused only 15% of the RTC Routine. This is not significant as R^2 should be above 25%. This could be due to too many variables in the model.

The ANOVA table for this regression is showed below:

Table 21: Forced entry ANOVA table (RTC Routine Seeking as dependent variable)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	7.259	6	1.210	1.967	.106[b]
	Residual	16.605	27	0.615		
	Total	23.865	33			

The Forced entry ANOVA table indicates that the significance of this regression model is higher than 0.1 and illustrates that this model is not statistically significant.

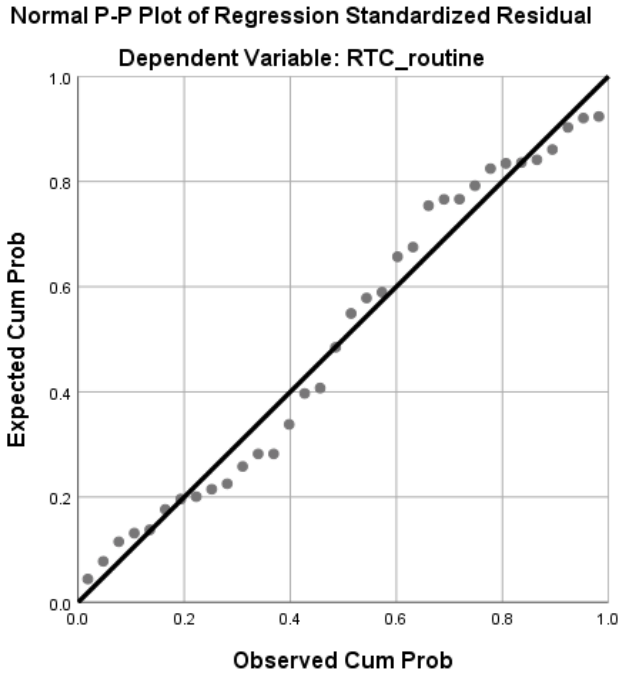
Table 22: Table of regression coefficients (RTC Routine Seeking as dependent variable)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.149	1.504		1.429	0.165
	ELOC	0.185	0.115	0.297	1.603	0.120
	EI Self-Awareness	-0.572	0.558	-0.321	-1.026	0.314
	EI manage emotions	-0.487	0.382	-0.326	-1.275	0.213
	EI motivate	-0.031	0.444	-0.016	-0.070	0.945
	EI Empathy	0.864	0.493	0.509	1.752	0.091
	EI social	0.134	0.334	0.099	0.401	0.692

From the table above it can be seen that all of the sub-constructs except EI Empathy, are not significant (Significance > 0.1).

From this we can deduct that the model is not significant however if we analyse the normal P-P plot of the residuals for RTC Routine Seeking, we can identify that the residuals are normally distributed and therefore the model does meet the assumptions of regression and therefore, since the residuals are normally distributed, multiple regression can be applied and is a valid analysis method.

Figure 24: Normal P-P plot of regression standardised residual with RTC Routine Seeking as the dependent variable.



4.2.2 Forced Entry: RTC Emotional Reaction as dependent variable

In this case RTC Emotional Reaction was chosen as the dependent variable and EI social skills, EI Managing Emotions, EI Motivating Oneself, EI Empathy, EI Self-Awareness and ELOC were chosen as the predictors. Below is a forced entry model summary of the model:

Table 23: Forced entry model summary (RTC Emotional Reaction as dependent variable)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.516[a]	0.266	0.103	0.93899

From the summary, it can be seen that all of the above-mentioned sub-constructs indicate an R^2 of 0.266. This shows that 26.6% of the RTC Emotional Reaction experienced was caused by all of the predictors. However, the adjusted R^2 of 0.103 indicates that for the entire population, the predictors caused only 10.3% of the RTC Emotional Reaction. This is not significant as R^2 should be above 25%. This could be due to too many variables in the model.

The ANOVA table for this regression is showed below:

Table 24: Forced entry ANOVA table (RTC Emotional Reaction as dependent variable)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	8.628	6	1.438	1.631	.177[b]
	Residual	23.806	27	0.882		
	Total	32.434	33			

The Forced entry ANOVA table indicates that the significance of this regression model is higher than 0.1 and illustrates that this model is not statistically significant.

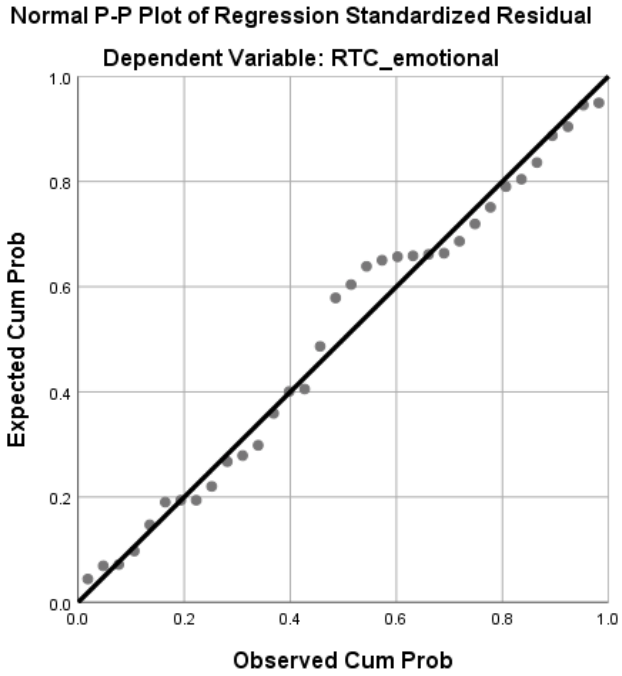
Table 25: Table of regression coefficients (RTC Emotional Reaction as dependent variable)

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	4.505	1.801		2.501	0.019
	ELOC	0.206	0.138	0.284	1.493	0.147
	EI Self-Awareness	-0.530	0.668	-0.255	-0.794	0.434
	EI manage emotions	-0.608	0.458	-0.349	-1.330	0.195
	EI motivate	0.002	0.531	0.001	0.003	0.998
	EI Empathy	0.640	0.591	0.323	1.083	0.288
	EI social	-0.118	0.399	-0.074	-0.294	0.771

From the table above it can be seen that all of the sub-constructs are not significant (Significance > 0.1).

From this we can deduct that the model is not statistically significant however if we analyse the normal P-P plot of the residuals for RTC Emotional Reaction, we can identify that the residuals are normally distributed and therefore the model does meet the assumptions of regression and therefore, since the residuals are normally distributed, multiple regression can be applied and is a valid analysis method.

Figure 25: Normal P-P plot of regression standardised residual with RTC Emotional Reaction as the dependent variable.



4.2.3 Forced Entry: RTC Short-Term Focus as dependent variable

In this case, RTC Short-Term Focus was chosen as the dependent variable and EI social skills, EI Managing Emotions, EI Motivating Oneself, EI Empathy, EI Self-Awareness and ELOC were chosen as the predictors. Below is a forced entry model summary of the model:

Table 26: Forced entry model summary (RTC Short-Term Focus as dependent variable)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.520[a]	0.270	0.108	0.81235

From the summary, it can be seen that all of the above-mentioned sub-constructs indicate an R^2 of 0.27. This shows that 27% of the RTC Short-Term Focus experienced was caused by all of the predictors. However, the adjusted R^2 of 0.108 indicates that for the entire population, the predictors caused only 10.8% of the RTC Short-Term Focus. This is not significant as R^2 should be above 25%. This could be due to too many variables in the model.

The Forced entry ANOVA table for this regression is showed below:

Table 27: Forced entry ANOVA table (RTC Short-Term Focus as dependent variable)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	6.603	6	1.101	1.668	.167[b]
	Residual	17.818	27	0.660		
	Total	24.421	33			

The ANOVA table indicates that the significance of this regression model is higher than 0.1 and illustrates that this model is not statistically significant.

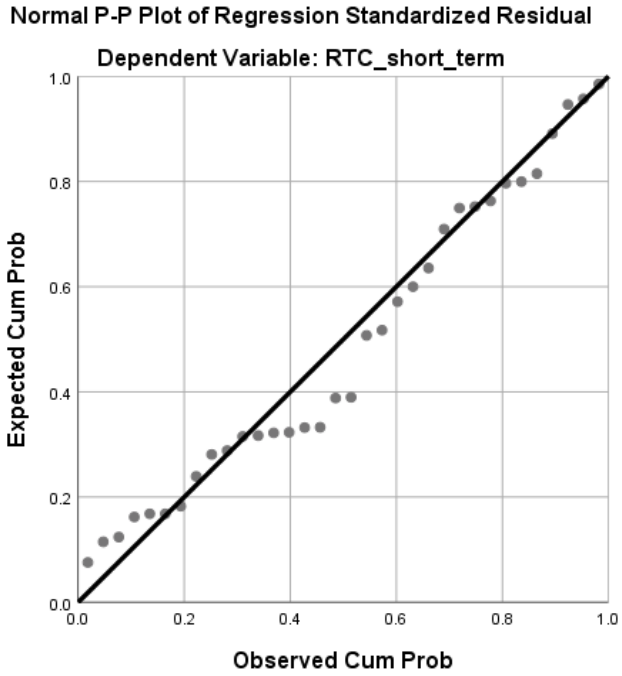
Table 28: Table of regression coefficients (RTC Short-Term Focus as dependent variable)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.432	1.558		2.202	0.036
	ELOC	0.247	0.119	0.393	2.069	0.048
	EI Self-Awareness	-0.221	0.578	-0.123	-0.383	0.705
	EI manage emotions	-0.415	0.396	-0.275	-1.049	0.303
	EI motivate	0.208	0.460	0.109	0.453	0.654
	EI Empathy	0.141	0.511	0.082	0.275	0.785
	EI social	-0.291	0.346	-0.212	-0.842	0.407

From the table above it can be seen that all of the sub-constructs except for ELOC are not significant (Significance > 0.1).

From this we can deduct that the model is not statistically significant however if we analyse the normal P-P plot of the residuals for RTC Short-Term Focus, we can identify that the residuals are normally distributed and therefore the model does meet the assumptions of regression and therefore, since the residuals are normally distributed, multiple regression can be applied and is a valid analysis method.

Figure 26: Normal P-P plot of regression standardized residual with RTC Short-Term Focus as the dependent variable.



4.2.4 Forced Entry: RTC Cognitive Rigidity as dependent variable

In this case, RTC Cognitive Rigidity was chosen as the dependent variable and EI social skills, EI Managing Emotions, EI Motivating Oneself, EI Empathy, EI Self-Awareness and ELOC were chosen as the predictors. Below is a forced entry model summary of the model:

Table 29: Forced entry model summary (RTC Cognitive Rigidity as dependent variable)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.488[a]	0.238	0.069	1.05649

From the summary, it can be seen that all of the above-mentioned sub-constructs indicate an R^2 of 0.238. This shows that 23.8% of the RTC Cognitive Rigidity experienced was caused by all of the predictors. However, the adjusted R^2 of 0.069 indicates that for the entire population, the predictors caused only 6.9% of the RTC Cognitive Rigidity. This is not significant as R^2 should be above 25%. This could be due to too many variables in the model.

The ANOVA table for this regression is showed below:

Table 30: Forced entry ANOVA table (RTC Cognitive Rigidity as dependent variable)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	9.422	6	1.570	1.407	.248[b]
	Residual	30.137	27	1.116		
	Total	39.559	33			

The Forced entry ANOVA table indicates that the significance of this regression model is higher than 0.1 and illustrates that this model is not statistically significant.

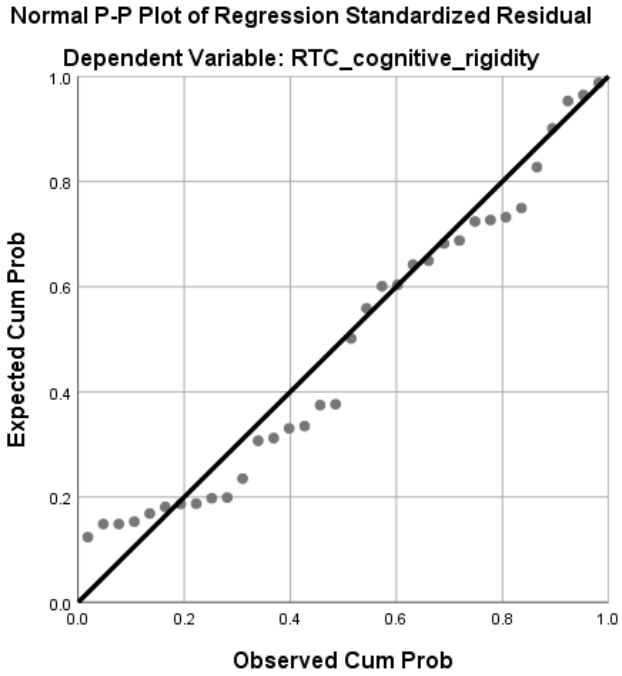
Table 31: Table of regression coefficients (RTC Cognitive Rigidity as dependent variable)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.495	2.027		0.738	0.467
	ELOC	-0.054	0.155	-0.067	-0.347	0.731
	EI Self-Awareness	-0.813	0.751	-0.354	-1.082	0.289
	EI manage emotions	-0.524	0.515	-0.273	-1.018	0.318
	EI motivate	0.897	0.598	0.367	1.500	0.145
	EI Empathy	1.536	0.665	0.703	2.310	0.029
	EI social	-0.736	0.449	-0.421	-1.636	0.113

From the table above it can be seen that all of the sub-constructs except for EI Empathy are not significant (Significance > 0.1).

From this we can deduct that the model is not statistically significant however if we analyse the normal P-P plot of the residuals for RTC Cognitive Rigidity, we can identify that the residuals are normally distributed and therefore the model does meet the assumptions of regression and therefore, since the residuals are normally distributed, multiple regression can be applied and is a valid analysis method.

Figure 27: Normal P-P plot of regression standardised residual with RTC Cognitive Rigidity as the dependent variable.



Since each of the models were found not to be statistically significant, and since it was suspected that too many variables were inserted into the forced entry method, stepwise multiple regression was conducted. The results are indicated in the next sections below.

4.2.5 Stepwise: RTC Routine Seeking as dependent variable

In this case, RTC Routine Seeking was chosen as the dependent variable and ELOC was chosen as the predictor. Below is a model summary of the model:

Table 32: Stepwise model summary (RTC Routine Seeking as dependent variable)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.403[a]	0.162	0.136	0.79045	0.162	6.195	1	32	0.018

From the summary, it can be seen ELOC indicates an R^2 of 0.162. This shows that 16.2% of the RTC Routine Seeking experienced was caused by ELOC. The adjusted R^2 of 0.136 indicates that for the entire population, the predictor caused 13.6% of the

RTC Routine Seeking. This value is close to the sample R^2 and is therefore deemed an accurate representation even though it is low. The significance of the F-Change is less than 0.05 which illustrates that the model is statistically significant (Significance < 0.05).

The ANOVA table for this regression is showed below:

Table 33: Stepwise ANOVA table (RTC Routine Seeking as dependent variable)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3.871	1	3.871	6.195	.018[b]
	Residual	19.994	32	0.625		
	Total	23.865	33			

The ANOVA table indicates that the significance of this regression model is lower than 0.05 and illustrates that this model is statistically significant.

Table 34: Stepwise table of regression coefficients (RTC Routine Seeking as dependent variable)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.599	0.369		4.332	0.000
	ELOC	0.250	0.101	0.403	2.489	0.018

From the table above it can be seen that ELOC is statistically significant. No other variables were found to add to the significance in this case.

4.2.6 Stepwise: RTC Emotional Reaction as dependent variable

In this case, RTC Emotional Reaction was chosen as the dependent variable and no variables were found that indicated significance below 0.05. Therefore no outputs were obtained from SPSS.

4.2.7 Stepwise: RTC Short-Term Focus as dependent variable

In this case, RTC Short-Term Focus was chosen as the dependent variable and ELOC was first chosen as the predictor. Thereafter, EI Self-Awareness could be added to the model to improve the significance. Below is a model summary of the model:

Table 35: Stepwise model summary (RTC Short-Term Focus as dependent variable)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.343[a]	0.118	0.090	0.82061	0.118	4.265	1	32	0.047
2	.476[b]	0.226	0.176	0.78073	0.109	4.352	1	31	0.045

From the summary, it can be seen ELOC indicates an R^2 of 0.118. This shows that 11.8% of the RTC Short-Term Focus experienced was caused by ELOC. The adjusted R^2 of 0.09 indicates that for the entire population, the predictor caused 9% of the RTC Short-Term Focus. This value is close to the sample R^2 and is therefore deemed an accurate representation even though it is low. The significance of the F-Change is less than 0.05 (0.047) which illustrates that the model is statistically significant (Significance < 0.05). The sub-construct EI Self-Awareness was added in a step-wise fashion and it can be seen that this addition increases the R^2 to 0.226 (22.6%) and the adjusted R^2 to 0.176 (17.6%). With a significance of 0.045, this model is indicated to be statistically significant.

The ANOVA table for this regression model is showed below:

Table 36: Stepwise ANOVA table (RTC Short-Term Focus as dependent variable)

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	2.872	1	2.872	4.265	.047[b]
	Residual	21.549	32	0.673		
	Total	24.421	33			
2	Regression	5.525	2	2.763	4.532	.019[c]
	Residual	18.896	31	0.610		
	Total	24.421	33			

The ANOVA table indicates that the significance of this regression model is lower than 0.05 for both sub-constructs and illustrates that this model is statistically significant.

Table 37: Stepwise table of regression coefficients (RTC Short-Term Focus as dependent variable)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.536	0.383		4.010	0.000
	ELOC	0.216	0.104	0.343	2.065	0.047
2	(Constant)	3.921	1.200		3.268	0.003
	ELOC	0.221	0.099	0.351	2.219	0.034
	EI Self-Awareness	-0.595	0.285	-0.330	-2.086	0.045

From the table above it can be seen that the model containing both ELOC and EI Self-Awareness is statistically significant. No additional variables were found to add to the significance in this case.

4.2.8 Stepwise: RTC Cognitive Rigidity as dependent variable

In this case, RTC Cognitive Rigidity was chosen as the dependent variable and no variables were found that indicated significance below 0.05. Therefore no outputs were obtained from SPSS.

4.2.9 Summary

The regression model that indicated the most significant was the model in which ELOC and EI Self-Awareness were chosen and therefore it can be used to predict RTC Short-Term Focus from ELOC and EI Self-Awareness. ELOC can also be sued to predict RTC Routine Seeking however it is good to note that both models have relatively low contributions. Therefore, further analysis would be advised to further investigate possible contributory factors to the levels of RTC in all four sub-constructs. These findings cannot be generalised to other studies and are to be viewed as significant in this case only, to this population only.

CHAPTER 5: CONCLUSIONS AND RECOMMENDATIONS

5.1 INTRODUCTION

This section addresses the results obtained from the analyses and determines possibilities as to the cause of the high resistance to the introduction of the new process-engineering department. Many aspects could have (and most likely did) attributed to the failed change initiative, this study aimed to only investigate a few of them. It should be noted that there are initiatives which should have been conducted before the change was implemented such as a stakeholder analysis and McKinsey's 7S model. Determining whether an organisation is ready for change is a key aspect to change management, and in the event that the organisation is not ready, it is imperative that a strategy is set in place to change employee mindsets. Changing mindsets is a key aspect to avoiding cognitive dissonance (the situation where a person avoids certain aspects since it goes against what they believe to be true/beneficial) when it comes to changes being implemented. Once a mindset has changed, behaviours will change accordingly and employees will be more receptive to accepting the changes.

5.2 DISCUSSION

Since the constructs mainly indicated relationships between their own sub-constructs, the data did not indicate that one could necessarily deduce that a person with a high level of RTC in these circumstances would portray low levels of EI and an external LOC – which is what the literature indicated. The regression was somewhat successful in predicting the RTC Short-Term Focus using ELOC and EI Self-Awareness. This indicates that there is a definite relationship between the sub-constructs however in this case; it could be beneficial to consider further study. From the research results, it is clear that there do exist relationships between the constructs and one another, and the multiple regression also showed that one could predict the levels of RTC by some of the sub-constructs. However, this does not represent the entire level of RTC found in the employees. It is recommended to perform further research on constructs such as leadership and role confusion.

Another aspect to keep in mind is that the nature of the study is subject to the participants' opinion of themselves. It should be noted that a person's personal view of him/herself may not be what is perceived by others around them.

5.3 ACHIEVEMENT OF THE OBJECTIVES OF THE STUDY

The objectives described in Section 1.4 are recapped below and a description of achievements is indicated.

5.3.1 General objective recap

The general objective of this study is to determine whether the employees' EI and LOC had an influence on their levels of RTC when the new structure was implemented.

This objective was achieved and the results indicate that the participants' EI levels and LOC did partially impact their RTC to the new department structure.

5.3.2 Specific objectives recap

- To investigate the role that an individual's EI level plays on his/her RTC.
- To determine whether a person's LOC affects his/her level of RTC.

The specific objectives which were investigated indicated that an external LOC did relate towards one of the sub-constructs of RTC, namely the routine forming aspect. This concurs with what has generally been found in the literature. However, very little relationship is indicated between EI and RTC in this case.

5.3.3 Research questions recap

- To what extent does Emotional Intelligence influence the perceived Resistance to Change?
- To what extent does Locus of control influence the perceived Resistance to Change?

The multiple regression analysis indicated that ELOC and EI Self-Awareness indicated the best regression model and contributed to 22.6% of the RTC Cognitive Rigidity.

5.4 PROPOSED SOLUTION

A change framework is proposed below to mitigate the current situation where the organisational change has not been accepted fully. The framework below is a

combination of the frameworks discussed in the literature as it combines various aspects from existing frameworks. It is suggested to apply this framework to bring about the change successfully.

The framework below is defined by the acronym **AUDIT**:

5.4.1 Awareness

Employees need to be made aware of the current situation, and much effort needs to go into convincing the employees that the status-quo is not the most efficient way to be running the business. The impact on the business should be discussed, highlighting the shortfalls that have been occurring due to the lack of proper implementation. The employees should also be shown the advantage that could be gained from working together and implementing and accepting the change. If an employee's mindset towards the change can be altered, the theory of cognitive dissonance discussed in Section 2.3.5 will automatically lead the employee to accept and implement the change. Specific objectives need to be set and clearly communicated to employees. Therefore Awareness is the first step towards implementing the change and forms the foundation of this framework. Much focus is needed for this aspect of AUDIT.

5.4.2 Urgency

Due to the amount of time which has already passed since the change has been implemented, it is important that this framework is implemented urgently. The change agents would typically be the managers at the organisation and the various managers from the different engineering sub-departments should be aligned and should work towards this common goal of implementing the organisational change successfully. To do this, a role clarification session is imperative in which the boundaries between the departments are logically structured and clearly presented and accepted. Managers should act with urgency and instil the change as part of their every-day activities, working towards the pre-set objectives.

5.4.3 Documentation

Systems and procedures need to be put in place to indicate how the operations should occur from a process-engineering point of view, stipulating the roles and responsibilities and ensuring that there is no overlap between the engineering sub-departments.

5.4.4 Incentives

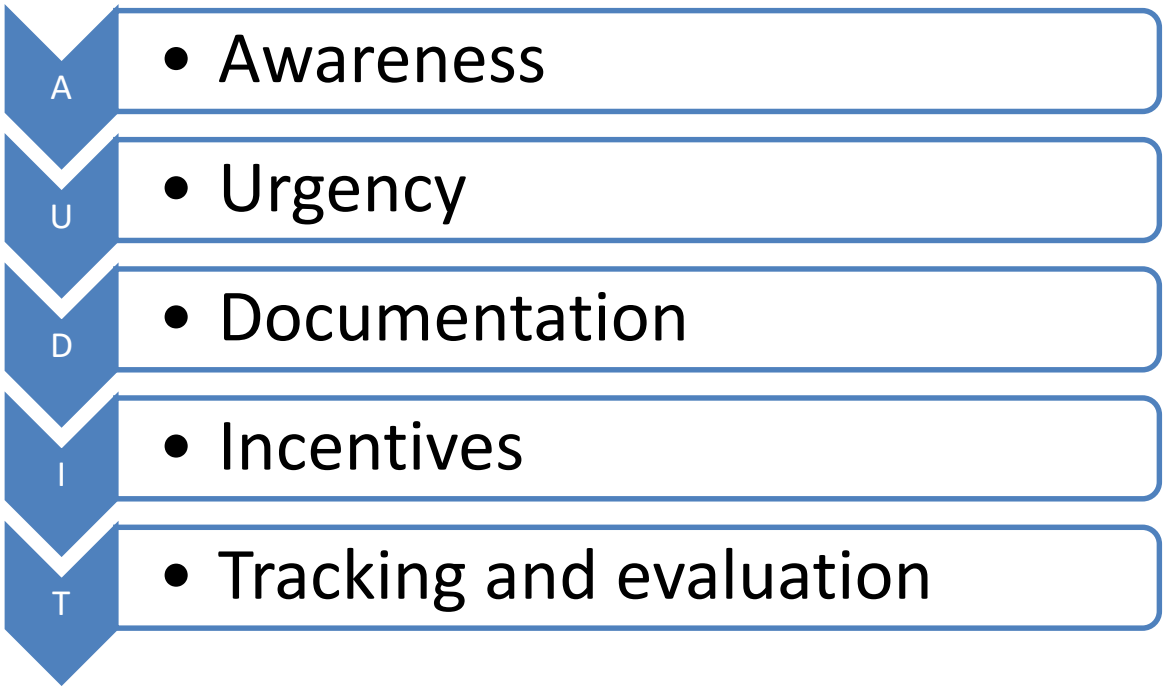
At this point, incentive initiatives are imperative in achieving success. Employees who are actively working towards the change and are taking ownership thereof need to be rewarded. This could be a small monetary amount awarded along with an organisation award and public recognition. Recognizing the employee will help them to be proud of their contribution and allow them more confidence in the way that the company is going.

5.4.5 Tracking and evaluation

The organisation should set up a series of realistic milestones in which they aim to achieve the change. It would be beneficial to introduce a system in which the progress of the change implementation can be tracked and measured. Tracking and evaluation tools such as the ones described below can be used to do this:

- Adoption metrics – Employees that adopt the organisational change can be tracked via the use of a pre-set adoption metrics document in which the rate of adoption, as well as the level of adoption, can be tracked. Successful adoption is imperative to the success of the change framework and is will indicate the areas in which improvement and focus are needed.
- Employee participation measures to measure the amount of participation per employee. These measures can track aspects such as recognition awards and employee initiatives in change adoption/leadership.
- Employee feedback and satisfaction surveys to investigate the employees' mindsets towards the change initiative.
- Compliance reports indicating whether compliance is being fulfilled or whether intervention will be necessary.

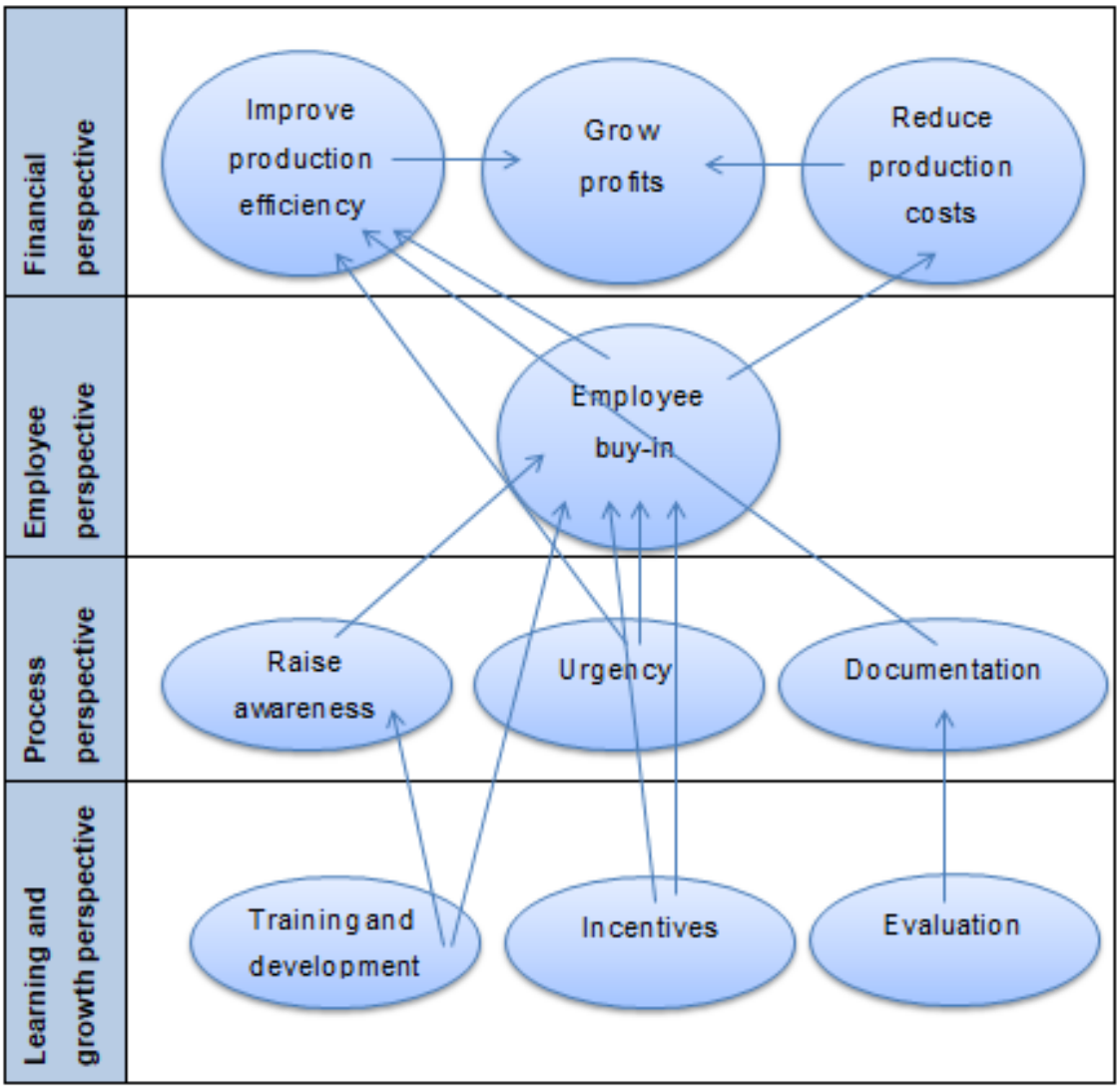
Figure 28: Proposed change implementation solution in an acronym



5.5 IMPLEMENTATION

A recommended implementation strategy to be used is to use an adapted form of a balanced scorecard as discussed in section 2.2.2.8. A scorecard can be constructed using the four perspectives and adapting the customer perspective to rather the employee perspective. A balanced scorecard map is indicated below which entails the elements of AUDIT and how they fit into the implementation strategy. The employee is seen as the 'customer' perspective and in this case, creating employee buy-in will lead to improved production efficiency and reduced production costs, which in turn with grow profits. The employee buy-in will be accomplished through the various aspects of AUDIT.

Figure 29: Proposed balanced scorecard map



A balanced scorecard will generally have an objective and a target which needs to be achieved, along with a way to measure it. The tracking and evaluation section of AUDIT will aid to this section of setting up such a scorecard. The incentives section of AUDIT speaks to the initiative section of a balanced scorecard and can, therefore, be used as such.

5.6 RECOMMENDATIONS FOR FUTURE RESEARCH

The perceived failure of change implementation should also be researched further by researching other aspects that relate to RTC. It is recommended that the influence of leadership style be investigated which pertains to the leadership guiding coalition and implementation aspects. It has been indicated in the literature review that leadership can play a significant role in change implementation (Kavanagh & Ashkanasy, 2006) and, therefore, it would be a preferred starting point for further analysis as to what has attributed to the failed implementation of the new departmental structure in the case study.

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APPENDIX

6.1 QUESTIONNAIRE

Letter of Introduction and Informed Consent

NWU School of Business and Governance

The influence of Emotional Intelligence and Locus of control on Resistance to Change within an essential service provision industry

Research conducted by:

Miss K.M. van Rooyen

Student Number: 20557167

Cell: 072 450 5103

31 July 2017

Dear Participant

You are invited to **participate** in an **academic research study** conducted by **Kathryn van Rooyen**, a **Masters student** from the School of Business and Governance at the **North- West University- Quest conference estate.**

The **purpose of the study** is to understand from the **perspective of the research participant** how in his /her opinion, the employees' level of Resistance to Change is influenced by their Locus of control and Emotional Intelligence; including to what extent these traits, characteristics and behaviors influence their own personal attitudes and behavior within the workplace.

Please note the following:

This is an **anonymous** study as your name will not appear on any of documents. The researcher will only give each research participant a combined result of the study upon request.

- The answers you give will be treated as **strictly confidential** as you cannot be identified in person based on the answers you give.
- Your participation in this study is **very important to me**. **You may**, however**, choose not to participate** and you may also **stop participating at any time** without any negative consequences.
- This should not take more than **20 minutes** of your time.
- **Please note:** There will be biographical information form that will need to be completed but the information will be confidential and anonymous as you do not need to complete your name.
- The results of the study will be used for academic purposes only and will not be published in an academic journal.
- The **duration of the study** will be for a year (2017) maximum two years (2017-2018).
- This research will have **no negative effects to you**, as mentioned previously it is your perceptions and it will remain **anonymous and confidential at all times.**
- Please contact my **study leader**, **Retha Scholtz, retha.scholtz@nwu.ac.za** if you have any questions or comments regarding the study.

Please indicate that:

- You have read and understand the information provided above.
- You give your consent to participate in the study on a voluntary basis. (Please tick) . ☐

Dear participant, thank you for sparing your precious time to complete this questionnaire. The following information is needed to enable meaningful data analysis. I appreciate your help in providing this important information.

SECTION 1: Biographical information:

Mark the applicable block with a cross (X). Please complete all the questions.

Bio 1: Please state your age.....years.....months

Bio 2	**Gender:**	1. Male	2. Female

Bio 3	**Race:**	1. Black	2. White	3. Colored	4. Indian	5. Other

Bio 4	**Level of Employment:**	1. Junior	2. Middle	3. Senior	4. Management

Bio 5	**Highest Qualification:**	1. Below Matric	2. Matric	3. Diploma / Degree	4. Postgraduate

Bio 6	**What is the gender of your direct higher report / manager?**	1. Male	2. Female

Bio 7: How many years of work experience do you have in your current employment position?.....

6.2 SECTION: LOCUS OF CONTROL

Please indicate to what extent you agree or disagree with each statement below. Please mark the applicable block with a cross (X).

1 = Strongly Disagree	2= Disagree	3= Mildly disagree	4 = Neither disagree or agree	5 = Mildly agree	6 = Agree	7 = Strongly agree

Statement	Scale						
1. Many of the unhappy things in people's lives are partly due to bad luck.	1	2	3	4	5	6	7
2. Becoming a success is a matter of hard work; luck has little or nothing to do with it.	1	2	3	4	5	6	7
3. Most people do not realise the extent to which their lives are controlled by accidental happenings.	1	2	3	4	5	6	7
4. There is really no such thing as ‘luck’.	1	2	3	4	5	6	7

6.3 SECTION: RESISTANCE TO CHANGE

Listed below are several statements regarding one's general beliefs and attitudes towards change. Please indicate to what extent you agree or disagree with each statement below. Please mark the applicable block with a cross (X).

Describe yourself as you generally are now, not as you wish to be in the future. Describe yourself as you honestly see yourself, in relation to other people you know of the same sex as you are, and roughly your same age

1 = Strongly Disagree	**2= Disagree**	**3= Inclined to disagree**	**4 = Inclined to agree**	**5 = Agree**	**6 = Strongly agree**

Statement	**Scale**					
1. I generally consider changes to be a negative thing.	1	2	3	4	5	6
2. I'll take a routine over a day full of unexpected events anytime.	1	2	3	4	5	6
3. I like to do the same old things rather than try new and different ones.	1	2	3	4	5	6
4. Whenever my life forms a stable routine, I look for ways to change it.	1	2	3	4	5	6
5. I'd rather be bored than surprised.	1	2	3	4	5	6
6. If I were to be informed that there's going to be a significant change regarding the way things are done at work, I would probably feel stressed.	1	2	3	4	5	6
7. When I am informed of a change of plans, I tense up a bit.	1	2	3	4	5	6
8. When things don't go according to plans, it stresses me out.	1	2	3	4	5	6
9. If my boss changed the performance evaluation criteria, it would probably make me feel uncomfortable even if I thought I'd do just as well without having to do extra work.	1	2	3	4	5	6
10. Changing plans seems like a real hassle to me.	1	2	3	4	5	6
11. Often, I feel a bit uncomfortable even about changes that may potentially improve my life.	1	2	3	4	5	6
12. When someone pressures me to change something, I tend to resist it even if I think the change may ultimately benefit me.	1	2	3	4	5	6
13. I sometimes find myself avoiding changes that I know will be good for me.	1	2	3	4	5	6
14. I often change my mind.	1	2	3	4	5	6
15. I don't change my mind.	1	2	3	4	5	6

16. Once I've come to a conclusion, I'm not likely to change my mind.	1	2	3	4	5	6
17. My views are very consistent over time.	1	2	3	4	5	6

6.4 SECTION: EMOTIONAL INTELLIGENCE

Read the following statements and assess and encircle how each statement applies to you (1 indicates that the statement does not apply at all, 3 indicates that the statement applies about half the time and 5 indicates that the statement always applies to you)

	Statement	**Scale**				
1	I realise immediately when I lose my temper	1	2	3	4	5
2	I can 'reframe' bad situations quickly	1	2	3	4	5
3	I am able to always motivate myself to do difficult tasks	1	2	3	4	5
4	I am always able to see things from the other person's viewpoint	1	2	3	4	5
5	I am an excellent listener	1	2	3	4	5
6	I know when I am happy	1	2	3	4	5
7	I do not wear my 'heart on my sleeve'	1	2	3	4	5
8	I am usually able to prioritize important activities at work and get on with them	1	2	3	4	5
9	I am excellent at empathizing with someone else's problem	1	2	3	4	5
10	I never interrupt other people's conversations	1	2	3	4	5
11	I usually recognize when I am stressed	1	2	3	4	5
12	Others can rarely tell what kind of mood I am in	1	2	3	4	5
13	I always meet deadlines	1	2	3	4	5
14	I can tell if someone is not happy with me	1	2	3	4	5
15	I am good at adapting and mixing with a variety of people	1	2	3	4	5
16	When I am being 'emotional' I am aware of this	1	2	3	4	5
17	I rarely 'fly off the handle' at other people	1	2	3	4	5
18	I never waste time	1	2	3	4	5

19	I can tell if a team of people are not getting along with each other	1	2	3	4	5
20	People are the most interesting thing in life for me	1	2	3	4	5
21	When I feel anxious I usually can account for the reason(s)	1	2	3	4	5
22	Difficult people do not annoy me	1	2	3	4	5
23	I do not prevaricate (speak or act in an evasive way)	1	2	3	4	5
24	I can usually understand why people are being difficult towards me	1	2	3	4	5
25	I love to meet new people and get to know what makes them 'tick'	1	2	3	4	5
26	I always know when I'm being unreasonable	1	2	3	4	5
27	I can consciously alter my frame of mind or mood	1	2	3	4	5
28	I believe you should do the difficult things first	1	2	3	4	5
29	Other individuals are not 'difficult' just 'different'	1	2	3	4	5
30	I need a variety of work colleagues to make my job interesting	1	2	3	4	5
31	Awareness of my own emotions is very important to me at all times	1	2	3	4	5
32	I do not let stressful situations or people affect me once I have left work	1	2	3	4	5
33	Delayed gratification is a virtue that I hold to	1	2	3	4	5
34	I can understand if I am being unreasonable	1	2	3	4	5
35	I like to ask questions to find out what it is important to people	1	2	3	4	5
36	I can tell if someone has upset or annoyed me	1	2	3	4	5
37	I rarely worry about work or life in general	1	2	3	4	5
38	I believe in 'Action this Day'	1	2	3	4	5
39	I can understand why my actions sometimes offend others	1	2	3	4	5

40	I see working with difficult people as simply a challenge to win them over	1	2	3	4	5
41	I can let anger 'go' quickly so that it no longer affects me	1	2	3	4	5
42	I can suppress my emotions when I need to	1	2	3	4	5
43	I can always motivate myself even when I feel low	1	2	3	4	5
44	I can sometimes see things from others' point of view	1	2	3	4	5
45	I am good at reconciling differences with other people	1	2	3	4	5
46	I know what makes me happy	1	2	3	4	5
47	Others often do not know how I am feeling about things	1	2	3	4	5
48	Motivations have been the key to my success	1	2	3	4	5
49	Reasons for disagreements are always clear to me	1	2	3	4	5
50	I generally build solid relationships with those I work with	1	2	3	4	5

Please indicate below is you would like to receive the results of this study and if so, provide your email address. If you would like to receive your personal results, you may indicate so however please take note that in that case your results will no longer be anonymous.

I would like to receive the results of this study	**YES**	**NO**

Email address: _____

I would like to receive my personal results:	**YES**	**NO**

Name and email address: _____

6.5 RAW DATA FROM ANALYSIS OF QUESTIONNAIRES

Table 38: Raw data for the relationships between constructs part 1 of 2

		Age	Level of employment	Highest qualification	Years of work experience	ILOC	ELOC	RTC_routine	RTC_emotional	RTC_short_term	RTC_cognitive_rigidity
ILOC	Correlation Coefficient	-0.108	-0.055	-0.065	-0.114	1.000	-0.119	-0.221	0.014	0.033	0.083
	Sig. (2-tailed)	0.545	0.756	0.715	0.520		0.503	0.210	0.936	0.853	0.639
	N	34	34	34	34	34	34	34	34	34	34
ELOC	Correlation Coefficient	-0.328	-0.147	-0.099	-0.172	-0.119	1.000	.419*	0.271	0.264	-0.006
	Sig. (2-tailed)	0.059	0.405	0.578	0.330	0.503		0.014	0.121	0.131	0.973
	N	34	34	34	34	34	34	34	34	34	34
RTC_routine	Correlation Coefficient	-0.111	-0.067	-0.126	-0.005	-0.221	.419*	1.000	.541**	.542**	.397*
	Sig. (2-tailed)	0.533	0.705	0.479	0.976	0.210	0.014		0.001	0.001	0.020
	N	34	34	34	34	34	34	34	34	34	34
RTC_emotional	Correlation Coefficient	-0.242	-0.272	-0.140	-0.155	0.014	0.271	.541**	1.000	.692**	.481**
	Sig. (2-tailed)	0.169	0.119	0.430	0.382	0.936	0.121	0.001		0.000	0.004
	N	34	34	34	34	34	34	34	34	34	34
RTC_short_term	Correlation Coefficient	-0.202	-0.296	-0.209	-0.215	0.033	0.264	.542**	.692**	1.000	.610**
	Sig. (2-tailed)	0.252	0.090	0.236	0.221	0.853	0.131	0.001	0.000		0.000
	N	34	34	34	34	34	34	34	34	34	34
RTC_cognitive_rigidity	Correlation Coefficient	-0.059	-.355*	-0.203	-0.031	0.083	-0.006	.397*	.481**	.610**	1.000
	Sig. (2-tailed)	0.741	0.039	0.249	0.861	0.639	0.973	0.020	0.004	0.000	
	N	34	34	34	34	34	34	34	34	34	34
EI_self_awareness	Correlation Coefficient	-0.101	-0.178	-0.291	-0.045	0.229	0.101	0.047	-0.193	-0.290	-0.104

	Sig. (2-tailed)	0.571	0.314	0.095	0.802	0.193	0.570	0.794	0.275	0.096	0.557
	N	34	34	34	34	34	34	34	34	34	34
EI_manage_emotions	Correlation Coefficient	0.198	-0.077	-0.051	0.319	0.206	0.117	-0.146	-0.254	-0.242	-0.082
	Sig. (2-tailed)	0.262	0.666	0.773	0.066	0.242	0.510	0.411	0.147	0.168	0.643
	N	34	34	34	34	34	34	34	34	34	34
EI_motivate	Correlation Coefficient	0.083	-0.190	-0.150	0.084	0.149	-0.077	-0.129	-0.186	-0.120	-0.017
	Sig. (2-tailed)	0.641	0.282	0.397	0.636	0.399	0.665	0.466	0.291	0.497	0.925
	N	34	34	34	34	34	34	34	34	34	34
EI_Empathy	Correlation Coefficient	-0.068	-0.192	-.457**	0.041	0.046	0.278	0.202	-0.059	-0.177	0.145
	Sig. (2-tailed)	0.701	0.278	0.007	0.816	0.797	0.112	0.251	0.739	0.316	0.413
	N	34	34	34	34	34	34	34	34	34	34
EI_social	Correlation Coefficient	0.032	-0.066	-0.260	0.112	-0.073	0.102	0.142	-0.119	-0.269	-0.181
	Sig. (2-tailed)	0.858	0.710	0.138	0.528	0.680	0.565	0.425	0.502	0.123	0.306
	N	34	34	34	34	34	34	34	34	34	34
EI_total	Correlation Coefficient	0.054	-0.159	-0.263	0.166	0.177	0.081	-0.003	-0.227	-0.302	-0.010
	Sig. (2-tailed)	0.762	0.368	0.134	0.348	0.318	0.649	0.987	0.197	0.083	0.955
	N	34	34	34	34	34	34	34	34	34	34

Table 39: Raw data for the relationships between constructs part 2 of 2

		EI_self_awareness	EI_manage_emotions	EI_motivate	EI_Empathy	EI_social	EI_total
ILOC	Correlation Coefficient	0.229	0.206	0.149	0.046	-0.073	0.177
	Sig. (2-tailed)	0.193	0.242	0.399	0.797	0.680	0.318
	N	34	34	34	34	34	34

ELOC	Correlation Coefficient	0.101	0.117	-0.077	0.278	0.102	0.081
	Sig. (2-tailed)	0.570	0.510	0.665	0.112	0.565	0.649
	N	34	34	34	34	34	34
RTC_routine	Correlation Coefficient	0.047	-0.146	-0.129	0.202	0.142	-0.003
	Sig. (2-tailed)	0.794	0.411	0.466	0.251	0.425	0.987
	N	34	34	34	34	34	34
RTC_emotional	Correlation Coefficient	-0.193	-0.254	-0.186	-0.059	-0.119	-0.227
	Sig. (2-tailed)	0.275	0.147	0.291	0.739	0.502	0.197
	N	34	34	34	34	34	34
RTC_short_term	Correlation Coefficient	-0.290	-0.242	-0.120	-0.177	-0.269	-0.302
	Sig. (2-tailed)	0.096	0.168	0.497	0.316	0.123	0.083
	N	34	34	34	34	34	34
RTC_cognitive_rigidity	Correlation Coefficient	-0.104	-0.082	-0.017	0.145	-0.181	-0.010
	Sig. (2-tailed)	0.557	0.643	0.925	0.413	0.306	0.955
	N	34	34	34	34	34	34
EI_self_awareness	Correlation Coefficient	1.000	.552**	.543**	.738**	.716**	.841**
	Sig. (2-tailed)		0.001	0.001	0.000	0.000	0.000
	N	34	34	34	34	34	34
EI_manage_emotions	Correlation Coefficient	.552**	1.000	.708**	.586**	.492**	.822**
	Sig. (2-tailed)	0.001		0.000	0.000	0.003	0.000
	N	34	34	34	34	34	34
EI_motivate	Correlation Coefficient	.543**	.708**	1.000	.413*	.483**	.719**
	Sig. (2-tailed)	0.001	0.000		0.015	0.004	0.000
	N	34	34	34	34	34	34
EI_Empathy	Correlation Coefficient	.738**	.586**	.413*	1.000	.637**	.814**
	Sig. (2-tailed)	0.000	0.000	0.015		0.000	0.000
	N	34	34	34	34	34	34

EI_social	Correlation Coefficient	.716**	.492**	.483**	.637**	1.000	.812**
	Sig. (2-tailed)	0.000	0.003	0.004	0.000		0.000
	N	34	34	34	34	34	34
EI_total	Correlation Coefficient	.841**	.822**	.719**	.814**	.812**	1.000
	Sig. (2-tailed)	0.000	0.000	0.000	0.000	0.000	
	N	34	34	34	34	34	34