The influence of transformational leadership on trust, psychological empowerment, and team effectiveness

by

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DECLARATION

By submitting this thesis electronically, I declare that the entirety of the work contained therein is my own, original work, that I am the sole author thereof (save to the extent explicitly otherwise stated), that reproduction and publication thereof by Stellenbosch University will not infringe any third party rights and that I have not previously in its entirety or in part submitted it for obtaining any qualification.

ABSTRACT

This study investigated the growing phenomenon of teams in the workplace, and how team effectiveness can be established. It was therefore important to establish what contributes to team effectiveness.

The aim of this study was to investigate existing relationships between constructs that play a significant role in enhancing team effectiveness. These constructs include transformational leadership, organisational trust, and psychological empowerment. This study was therefore undertaken to obtain more clarity about these aspects. Based on existing literature, a theoretical model depicting how the different constructs are related to one another was developed and various hypotheses were formulated.

Data for the purpose of the quantitative study were collected by means of an electronic web-based questionnaire. A total of 224 completed questionnaires were returned. The final questionnaire comprised of four scales, namely the Multifactor Leadership Questionnaire (MLQ), the Workplace Trust Survey (WTS), the Psychological Empowerment Scale (PES), and the Team Effectiveness Scale (TES).

The postulated relationships and the conceptual model were empirically tested using various statistical methods. Reliability analysis was done on all the measurement scales and satisfactory reliability was found. The content and structure of the measured constructs were investigated by means of confirmatory and exploratory factor analyses. The results indicated that reasonable good fit was achieved for all the refined measurement models. Subsequently, Structural Equation Modelling (SEM) was used to determine the extent to which the conceptual model fitted the data obtained from the sample and to test the hypothesised relationships between the constructs. The results indicated positive relationships between transformational leadership and organisational trust; organisational trust and team effectiveness; transformational leadership and psychological empowerment; psychological empowerment and organisational trust; and psychological empowerment and team effectiveness. However, no support was found for a direct relationship between transformational leadership and team effectiveness.

The present study contributes to existing literature on team effectiveness by providing insights into the relationship between transformational leadership,

organisational trust, psychological empowerment and team effectiveness. Furthermore, this study identified practical implications to be considered in management practices in order to enhance team effectiveness. The limitations and recommendations present additional insights and possibilities that could be explored through future research studies.

OPSOMMING

Die huidige studie is op die toenemende belangrikheid van spanne in organisasies gebaseer, en op hoe te werk gegaan moet word om spaneffektiwiteit te verseker. Dit was dus belangrik om vas te stel watter eienskappe tot spaneffektiwiteit bydra.

Die studie het ten doel gehad om die verwantskappe tussen konstrukte wat ‘n beduidende rol in spaneffektiwiteit binne die organsiasie speel, te ondersoek. Hierdie konstrukte omvat transformasionele leierskap, vertroue, asook sielkundige bemagtiging. Die studie is dus uitgevoer om meer duidelikheid oor hierdie aspekte te verkry. ‘n Teoretiese model wat voorstel hoe die verskillende konstrukte aan mekaar verwant is, is op grond van die navorsing oor die bestaande literatuur ontwikkel. Verskeie hipoteses is hiervolgens geformuleer.

Data vir die doel van die kwantitatiewe studie is deur middel van ‘n elektroniese web-gebaseerde vraelys ingesamel. ‘n Totaal van 224 voltooide vraelyste is terug ontvang. Die finale vraelys is uit vier subvraelyste saamgestel, naamlik die *Multifactor Leadership Questionnaire (MLQ),* die *Workplace Trust Survey (WTS)*, die *Psychological Empowerment Scale (PES),* en die *Team Effectiveness Scale (TES).*

Die gepostuleerde verwantskappe en die konseptuele model is empiries met behulp van verskeie statistiese metodes getoets. Betroubaarheidsanalise is op die betrokke meetinstrumente uitgevoer en voldoende betroubaarheid is gevind. Die inhoud en die struktuur van die konstrukte wat deur die instrumente gemeet is, is verder deur middel van verkennende en bevestigende faktorontledings ondersoek. Die resultate het redelike goeie passings vir al die hersiene metingsmodelle getoon. Daarna is struktuurvergelykings-modellering (SVM), gebruik om te bepaal tot watter mate die konseptuele model die data pas, en om die verwantskappe tussen die verskillende konstrukte te toets. Die resultate het positiewe verwantskappe tussen transformasionele leierskap en vertroue; vertroue en spaneffektiwiteit; transformasionele leierskap en sielkundige bemagtiging; sielkundige bemagtiging en vertroue; asook tussen sielkundige bemagtiging en spaneffektiwiteit aangedui. Geen steun is egter vir die direkte verband tussen tranformasionele leierskap en spaneffektiwitiet gevind nie.

Hierdie studie dra by tot die bestaande literatuur betreffende spaneffektiwiteit deurdat dit insig bied in die aard van die verwantskappe tussen die konstrukte. Die

studie identifiseer ook praktiese implikasies wat in bestuurspraktyke in aanmerking geneem behoort te word om spaneffektiwiteit te versterk. Die beperkings en aanbevelings van die studie dui op verdere insig en moontlikhede wat in toekomstige navorsing ondersoek kan word.

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CHAPTER ONE

INTRODUCTION

Organisations were started by man mainly to satisfy different societal needs. Thus, organisations consist of people who share a common task and are combined in a structured and systematic manner to achieve success by satisfying customers' needs (Davies, 1994). A brief overview of history, even only personal history will confirm the fact that human needs change rapidly almost from day to day. Any product or service one can think of is bound to change in the future, whether the reason is to be more productive, faster, better, or just to satisfy the latest societal need. Due to the constant change in societal needs which leads to an increase in competition, and together with increasing globalisation, organisations are kept on their toes and forced to put their resources to more effective use in order to remain sustainable. It is essential for organisations to persevere and remain effective since they form the foundation of the world economy, as we know it today. One way in which organisations have responded to the more competitive challenges and organisational needs of flexibility and adaption, is through the use of work teams (Pina, Martinez, & Martinez, 2008).

Evolving knowledge and expertise leading to newer, better, and faster products with shorter product life cycles dramatically reduces the lead time for organisations to get new products on the market. Making use of teams can overcome this problem as work related tasks can be done simultaneously which will speed up the whole process. Other reasons for implementing teams beneficially in organisations are to implement quality management programmes, increase operational efficiencies and worker productivity, as well as to increase an organisation's level of global competition (Doolen, Hacker, & Van Aken, 2003).

Teams consist of a group of diverse people with diverse ideas, knowledge, and skills; this combination leads to better solutions when confronted with complex problems. Thus, when organisations are confronted with complex and difficult tasks, where the task complexity exceeds the capacity of an individual, the use of teams can be of great value. Also when the task environment is ill-defined, ambiguous, stressful, and the need for multiple and quick decision making arises, teams should be the strategy of choice. Teams generate positive synergy through the coordinated

effort, meaning that the individual efforts result in a level of performance greater than the sum of those individual inputs (Robbins & Judge, 2011).

A team can be defined by the following: (1) two or more individuals who (2) interact socially; (3) possess one or more goals in common; (4) are brought together to perform relevant organisation tasks; (5) display interdependency with regard to workflow, goals, and outcomes; (6) have different individual roles and responsibilities; and (7) are imbedded in an encompassing organisational system, with boundaries and linkages to the broader system context and task environment (Kozlowski & Ilgen, 2006).

Making use of work teams hold many benefits for organisations, such as the increase in overall organisational productivity and job efficiency. Teams have the ability to move organisations closer to their set objectives (Doolen et al., 2003). Teamwork can also reduce human error and members keep each other motivated, which leads to an increase in the employees' job satisfaction and organisational commitment (Salas, Browers, & Edens, 2001; Stewart & Barrick, 2000). More benefits of well-functioning teams for organisations include increased productivity; improved quality of services/products; lower levels of absenteeism and employee turnover; increased industrial harmony, and all of these finally lead to increased overall organisational performance (Glassop, 2002). Thus, organisations focus on teams in order to improve their competitive advantage by increasing productivity; enhancing creativity and innovation; increasing response times; and improving decision making. This also helps organisations to gain a competitive advantage (Doolen et al., 2003; Mahembe, 2010; Schuler, 1998).

Following a team approach provides a structure for linking and integrating diverse skills, since each member adds their expertise from their own field to the team. This gives team members access to new knowledge and information, which leads to a high-quality learning experience that in turn, forms a critical source of competitive advantage (Edmondson & Nembhard, 2009). Organisational learning is defined by Garvin, Fiol and Lyles (as cited in Edmondson & Nembhard, 2009) as the process of improving actions as a result of reflection on new knowledge and understanding. Since working in teams requires constant dialogue, discussion, experimentation and reflection, it is clear that organisations can enhance competitive advantages through the use of teams.

Working in teams not only holds great advantages for the organisation, but is also beneficial to the individual team members since they can help and support one another. Team members have access to high-quality learning experiences from their mutual contact which could help them to grow individually. Maslow's well-known hierarchy of needs states that, on the 3rd level, every person has a need to belong; to be in social contact with and accepted by other people (Quick & Nelson, 2011). Functioning in a well-established, effective team can serve and satisfy this need for belonging; proving the point that teamwork can be beneficial for organisations, as well as add to the well-being of independent individuals.

It is a well-known fact that the younger generation of workers, referred to as the y-generation, differs immensely from previous generations in their way of thinking and in what they expect from the world of work. One of the main characteristics of this generation is that they are extremely team-orientated. They therefore seek the input and affirmation of others (Martin, 2005). Since this generation comprises the future employees, many organisations are evaluating how to adapt, attract and retain this generation in the workforce. One of many ways in which organisations can lure young workers is through the increased use of work teams.

Even though many organisations follow the growing trend of using work teams, they fail to realise the dynamics behind it (Irving & Longbotham, 2007). Having teams in organisations that are not functioning optimally can have a detrimental effect and restrict organisations' success. Teams can waste the time and energy of members, enforce lower performance norms, create destructive conflict within and between members, and make notoriously bad decisions. Team members can also often exploit, stress, and frustrate other members (Hackman, as cited by Trent, 2003). Therefore, it is essential that managers and organisations understand what affects team effectiveness and how they can create an environment in which teams can perform optimally to the advantage of the bigger organisation.

Since working in a team environment requires constant interaction between different individuals, it is important to focus on maintaining healthy relationships. Two distinct relationships are present in a team environment; the relationship between team members and the relationship between team members and the team leader. Teamwork can be characterised as recurring cycles of mutually dependent interactions. These cycles of goal-directed activities can be divided into two main

phases: (1) the transition phase during which the team engages in planning the activities needed to attain the set goals, and (2) the action phase during which the team performs the actual activities which lead to goal attainment (Morgeson, DeRue, & Karam, 2009). During these phases teams run into different challenges that can harm the team's operations. These challenges create certain needs in the team that must be satisfied so that the team is able to attain its goals and be successful (Morgeson et al., 2009). Thus, crucial to a team's success is the satisfaction of the different needs, and an adequate structure which clearly defines the different goals together with the responsibilities of each member. A leader is someone who takes initiative; provides ideas and structure; and takes the risk of failure along with the chances of success. Leaders point the direction for their followers (Greenleaf, 1977). Morgeson et al. (2009) stated that a team's leader ultimately focuses on satisfying the team's needs with the aim to enhance the team's effectiveness. Furman (as cited by Irving & Longbotham, 2007) argued that the role of the leader is the most important element in a team's success or failure; teams with good leaders can accomplish results even when all the odds seem against them. Simply put, team members work better and achieve more when led by effective leaders (Corrigan & Garman, 1999). It thus is clear that the leader forms a crucial part of the team and one therefore cannot fully assess and understand the functioning of a team without also focusing on leadership.

A variety of modern leadership styles that exist could be argued to relate positively to teams; however one style that stands out as having much potential in a team context is transformational leadership. Burns (as cited by Krishnan & Arora, 2008) explained transformational leadership as a relationship between the leaders and followers by which they raise one another to higher levels of morality and motivation (Krishnan & Arora, 2008). Bass (1995) developed Burn's work further and described transformational leadership in terms of the impact it has on the followers. Followers of a transformational leader express feelings of trust, loyalty, and admiration with regards to the leader who encourages them to perform beyond expectations (Bass & Avolio, 1994). Transformational leaders focus on developing and empowering their followers (Schyns, 2001). Studies have shown that transformational leadership is positively related to subordinate satisfaction and can be linked to leadership effectiveness, innovation, quality improvement, and performance (Bass, 1995). Empirical evidence also proved linkages between transformational leadership and a

variety of organisational success and performance variables, such as employee satisfaction, organisational commitment, satisfaction with leadership, organisational citizenship behaviours, employee effectiveness, lower turnover intentions, as well as increased individual and organisational performance (Bass & Avolio, 1994; Bycio, Hackett, & Allen, 1995; Conger & Kanungo, 1988; Howell & Avolio, 1993; Podsakoff, MacKenzie, Moorman, & Fetter, 1990; Seltzer & Bass, 1990; Yammarino, Spangler, & Bass, 1993).

One of the main relationships impacting on team success is the leader-follower relationship, and since the leaders forms a crucial part of this relationship it is easy to see his/her influence on that relationship. A fundamental element needed to sustain healthy relationships between a leader and his/her followers, as well as between team members, is trust. The leader should act in a way that fosters trust among his/her followers. A lack of mutual trust among leader and subordinates would result in anxiety, suspicion, uncertainty, low morale, low commitment, and lower job satisfaction (Mishra & Morissey, as cited by Engelbrecht & Cloete, 2000). Trust between team members is crucial, since it enables members to better examine and improve the team's processes that lead to better performance (Kiffin-Petersen, 2004). Zand (as cited by Costa, Roe, & Taillieu, 2001) found that members in teams with low trust levels share less information and fewer ideas, and members try to avoid getting personally involved. De Jong and Elfring (2010) stated that, in order to promote team effectiveness, leaders have to be actively engaged in managing interpersonal relationships and fostering a climate of trust among team members.

Transformational leadership was found to foster a climate in which followers trust the leader (Bass, 1995; Schyns, 2001; Wang, Oh, Courtright, & Colbert, 2011). Since the leader is responsible for creating structure and satisfying the needs which arise out of different challenges, it can be argued that the leader also has the ability to influence the relationships between group members. With adequate structure and clear instructions the leader can help create an environment in which members can rely on one another and work together, which will enhance a climate of trust.

The significance of trust in the leader-follower relationship and trust between team members cannot be denied when examining team effectiveness. However, work teams are embedded within a larger organisational context which also has a significant effect on a team's performance. Organisational factors can be perceived

to be external factors affecting the team (Kennedy, Loughry, Klammer, & Beyerlein, 2009). Thus, for teams, as well as any individual employee to perform optimally, a certain level of support from the organisation is crucial. Organisations support teams by ensuring adequate resources, facilitating access to necessary information, supplying equipment, facilities, and rewards. If team members trust their organisation to provide sufficient external support and resources, the team is more likely to believe in their ability to achieve their goals (Kennedy et al., 2009).

It can be argued that psychological empowerment is another important variable in the leader-follower relationship, as well as the relationships among team members. Empowerment is defined as the process of delegation, information sharing and decentralisation during which employees take part in decision making (Dhladhla, 2011). When leaders empower members in this manner, it leads to an enhanced state of psychological empowerment. Psychological empowerment refers to an individual's experience of intrinsic motivations that is based on cognitions about oneself in relation to one's work role (Spreitzer, 1995a). Furthermore, it is proposed that when leaders engages in psychological empowering behaviours, like sharing and delegating control, the employee in turn is more likely to place his or her trust in the manager (Huang, 2012). Empowerment, as well as psychological empowerment, has been related to work satisfaction and effectiveness (Spreitzer, Kizilos, & Nason, 1997).

Empowered teams are more motivated to perform better since they believe they have the autonomy and capability to perform meaningful work that can impact their organisations (Chen, Kirkman, Kanfer, Allen, & Rosen, 2007). Ozaralli (2003) argued that empowered team members feel self-efficacious, believe they are autonomous and have an impact. This psychologically empowered state will increase innovation and creativity, and will lead to more effective communication within a team. Team members who feel psychologically empowered and communicate well with each other will seek out, learn, and apply new skills and technologies to reach the team's goals (Ozaralli, 2003).

1.1 Research objective

The use of teams in organisations are increasing globally, as well as in South Africa (Kriek, 2007). Making use of teams in the workplace can hold many benefits for the

organisation. However, a team in itself does not guarantee organisational success. Ineffective and ill-managed teams can have detrimental consequences for the individuals involved, as well as for the organisation. Therefore, it is essential for organisations and top management to understand the dynamics behind teamwork. This study only focuses on some of the important aspects regarding successful team. It must be borne in mind that there are many other factors that may influence the effectiveness of teams operating in the work environment.

Due to the important role of the leader as the driver of the team, leadership is a key aspect to be considered when evaluating the phenomenon of teamwork. Since a team, together with its leader, has to bond to work together closely in order to reach a common goal, the relationship aspect becomes very important. If team members are unhappy or experience constant destructive conflictual relationships, it will impact the whole team negatively and undermine the team's effectiveness. Furthermore, since trust forms the cornerstone of any human relationship, it is appropriate to assess the influence of trust within the team environment. It is also important for team members to believe in their team and their capabilities, therefore it is argued in this study that psychological empowerment plays an important role in contributing to the effectiveness of the team. Thus, the objective of this research study was to analyse the influence of transformational leadership on organisational trust and psychological empowerment, as well as the combined effect these variables may have on team effectiveness.

1.2 Structure of the thesis

This thesis consists of five chapters. Chapter one provides a contextual background for investigating the relationship between transformational leadership, organisational trust, psychological empowerment and team effectiveness. This chapter comprises the introduction, the purpose of this study and the research-initiating question.

Chapter two provides an in-depth review of the relevant literature to explore the theoretical approaches regarding transformational leadership, organisational trust, psychological empowerment and team effectiveness. Definitions and measuring instruments for each construct are elaborated on. This chapter continues with commenting on the different relationships between the four constructs, and

concludes with the construction of a theoretical structural model developed on the basis of the available literature presented in the chapter.

Chapter three is concerned with the research methodology. This chapter provides a detailed description of the research design, hypotheses, measuring instruments, the sample and the data collection process, as well as the statistical techniques used in this study.

Chapter four represents the research results. It outlines the data analysis in detail, together with the findings of the study.

Chapter five concludes this thesis with a discussion and interpretation of the research results. The limitations and recommendations for future research are discussed. Lastly, some managerial implications and concluding remarks are presented.

CHAPTER TWO

REVIEW OF RESEARCH REGARDING THE INFLUENCE OF TRANSFORMATIONAL LEADERSHIP ON ORGANISATIONAL TRUST, PYSHOLOGICAL EMPOWERMENT, AND TEAM EFFECTIVENESS

2.1 Introduction

Chapter two entails a comprehensive review on a variety of literature regarding transformational leadership, organisational trust, psychological empowerment, and team effectiveness. Each of these constructs is broadly defined together with its measurement. Thereafter, explanations of the variety of relationships between the different constructs are discussed. This chapter concludes with the construction of a theoretical structural model developed on the basis of the available literature.

2.2 Team effectiveness

Chapter one introduced a better understanding on what teams entail and the benefits of using work teams within an organisation. It is necessary for organisations to have a clear and thorough understanding of what is meant by team effectiveness in order to utilise teams and enhance the overall success of the organisation. According to Ross, Jones and Adams (2008), ineffective teams cause organisations to waste their resources

2.2.1 Defining team effectiveness

Due to the complex nature of human behaviour, which is a fundamental part of teamwork, researchers have experienced multiple problems in defining the boundaries of team effectiveness and operationalising this construct (Pina et al., 2008).

According to the literature, one can distinguish between two types of models regarding team effectiveness. The first is a unidimensional model that uses objective measures of team performance, or the degree of real productivity (Shea & Guzzo; Steiner, as cited in Pina et al., 2008). The second type is multidimensional and based on the assumption that team effectiveness depends on several other variables apart from performance or productivity (Hackman; Nieva et al., as cited by Mahembe 2010). This seems to be a more realistic approach since individual team members

and work teams are embedded in a broader organisational system and environment. The environment in which the team operates directly influence the difficulty, complexity, and tempo of teams' tasks (Kozlowski & Ilgen, 2006).

A predominant multidimensional view of team effectiveness was shaped by the input-process-output (I-P-O) logic as formulated by McGrath (as cited by Kozlowski & Ilgen, 2006). In this framework input refers to the composition of the team and their collective characteristics and resources at individual, team, and organisational levels. Processes then refer to the activities the team engage when they combine their resources in order to complete the tasks at hand. According to this framework output has three facets: (1) performance as judged by relevant others external to the team, for example supervisors or other stakeholders, (2) meeting of team-members' needs, and (3) viability, or the willingness of members to remain in the team (Kozlowski & Ilgen, 2006). The output phase of this model was included based on Hackman's (as cited by Mahembe, 2010) multidimensional perspective of team effectiveness, as conceptualised by three main components. The first component relates to the judgment made by superiors or stakeholders regarding the work of the team, to review whether it meets the quality and quantity standards. The second component is about the needs of the group, whether it gets satisfied through the participation of the team. The last component refers to whether group interaction has served to maintain or strengthen the team's ability to work together (Mahembe, 2010).

Cohen and Bailey (1997) categorised effectiveness into three major dimensions according to the team's impact. The three dimensions are: (1) performance effectiveness in terms of quantity and quality of outputs, (2) attitudinal outcomes, and (3) behavioural outcomes. Examples of performance effectiveness measures include among others efficiency, productivity, response time, and customer satisfaction. Attitudinal measures comprise of satisfaction, commitment, and trust in management. Examples of behavioural outcomes include absenteeism, employee turnover, and safety (Cohen & Bailey, 1997).

Team effectiveness is defined broadly as, group-produced outputs and in terms of the consequences a team has for its members (Cohen & Baily; Guzzo & Dicksen; and Hackman, as cited in Piccoli, Powell & Ives, 2004). Irving (2005) defined team effectiveness as the attainment of common objectives or goals through the coordination of team members' activities. Piccoli, et al. (2004) further explained, for

teams to be classified as effective they need to produce high quality and levels of outputs in the form of goods and services. Team members should also find the working experience satisfactory.

Adam et al. (as cited in Ross et al., 2008) conducted a pilot study in 2002 on the performance of student teams. They identified seven constructs of effective teaming namely: (1) clearly defined goals, (2) common purpose, (3) role clarity, (4) psychological safety, (5) mature communication, (6) productive conflict resolution, and (7) accountable interdependence. Clearly defined goals should be quantifiable and refers to commonly agreed upon statements that define the task that needs to be completed. This helps the team members to maintain focus and manage the scope of the task, which will enhance the probability of team success. Common purpose is the main objective of the team upon which all team members should agree. The objective should be an adequate representation of the team's goals that needs to be accomplished (Ross et al., 2008). Role clarity refers to the common understanding of each team member's individual expected role as well as the role of other team members. With a clear understanding of team roles, task assignments are well understood; duplication and role ambiguity are avoided. The shared belief that the team is safe for interpersonal risk taking is perceived as psychological safety (Edmondson, as cited in Ross et al., 2008). Team members will be more comfortable in the team if a climate exists characterised by interpersonal trust and mutual respect. In a psychological safe context, team members are more prone to affirm each other for contributions made and therefore encouraging team members to be more effective.

Mature communication refers to the ability of team members to express ideas clearly with convincing reasoning. It is also important for every team member to be able to listen intently without interrupting, to clarify what was said and give constructive feedback. Actions taken to resolve conflict within the team should be productively. Productive conflict resolution include facilitating the solution of the problem, increasing team cohesiveness, exploring alternative options, including all team members affected by conflict, and enhancing the decision making process. Lastly, accountable interdependence refers to each team member's responsibility and accountability for the team's output. Team members should understand the mutual

dependence of all team members' responsibility towards achieving team goals (Ross et al., 2008).

Thamhain (as cited in Ross et al., 2008) measured 25 variables related to overall team performance. This study resulted in 13 variables that showed a significant and strong correlation with team performance. These 13 variables resemble and compliments the seven constructs identified by Adam, et al. (as cited in Ross, et al., 2008). The 13 variables were identified as follows: (1) interesting and stimulating work, (2) accomplishment and recognition, (3) conflict and problem resolution, (4) clear organisational objectives, (5) job skills and expertise, (6) direction and leadership, (7) trust, respect and credibility, (8) cross-functional cooperation and support, (9) effective communications, (10) clear project plan and support, (11) autonomy and freedom, (12) ability of dealing with risk, and (13) effort and commitment to results (Thamhain, as cited in Ross, et al., 2008).

Ross, et al., (2008) defined team effectiveness by evaluating five broad principles contributing to team effectiveness, which they presented as a mathematical model. The five broad principle variables used to evaluate team effectiveness were as follows: performance, behaviour, attitude, team member style, and corporate culture. Performance is the extent to which the output conforms to the customer's standard of quality, quantity, and timeliness. Behaviours refers to the way in which team members act and react to each other and circumstances, as well as perceived behavioural control. Attitude is about team members' feelings of psychological safety, willingness to cooperate, reception and giving of feedback, as well as accepting responsibility. Team members' individual characteristics also affect the effectiveness of the team as a whole. For example, assertiveness and responsiveness is the basis on how team members perceive each other. Lastly, corporate culture is the business climate in which the team operates and has a significant influence that can either enhance or diminish team effectiveness (Ross, et al., 2008). The mathematical equation is then portrayed as: TE = f(P,B,A,M,C). This indicates that team effectiveness is a function of performance (P), behaviour (B), attitude (A), team member style (M), and corporate culture (C). Therefore, if any of these five variables are improved it will result in an improvement of overall team effectiveness (Ross et al., 2008).

Hackman (2002) identified the following conditions to ensure and increase team effectiveness: (a) that it is a real team rather than just a team in name only, (b) a compelling direction for the teams work exist, (c) it has an enabling structure that facilitates teamwork, (d) organisational support, and (e) sufficient expert coaching is available within a team. For a team to be considered a real team it needs to have a team task, clear boundaries, clearly assigned authority to make team decisions, and membership stability. Compelling direction refers to whether the team has clear, challenging, and consequential goals that focus on the outcomes to be accomplished rather than the means necessary to reach goals. Enabling structure refers to the team's tasks, composition, and norms of conduct which enable rather than hinder teamwork. Organisational support refers to whether the team receives adequate resources, rewards, information, education, intergroup cooperation, and support needed for team members. Expert coaching is the availability of a competent coach to help and guide team members with potential issues or existing problems which hinder the accomplishment of team tasks. A coach can help team members to take advantage of emerging opportunities and improve the coordination and collaboration of the team (Hackman, 2002). Costa (2003) summarised Hackman's definition of team effectiveness by noting that it should measure the output of teams, the state of the group as a performing unit, as well as the impact of the group on its individual members.

Mayo (as cited in Irving & Longbotham, 2007) was one of the first authors to notice the contribution of leadership together with the fostering of positive conditions within the organisation, to developing team effectiveness.

2.2.2 Measuring team effectiveness

To provide a single-scale assessment of team effectiveness, Larson and LaFasto developed the Team Effectiveness Questionnaire (TEQ). This questionnaire, based on Larson and LaFasto (1989) grounded theory work, attempted to identify the essential characteristics of team effectiveness (Mahembe, 2010). The TEQ has a Cronbach's alpha coefficient of .85. Behaviours is clustered into eleven basic items that measure eight factors identified as measuring team effectiveness (Mahembe, 2010). The eight factors are as follow: (1) clear inspirational goal, (2) result driven structure, (3) competent team members, (4) unified commitment, (5) collaborative

climate, (6) standard excellence, (7) external support and recognition, and (8) principled leadership (Mahembe, 2010).

In a study by Hu and Liden (2011) on the antecedents of team effectiveness they used a four-item scale developed by Liden, Wayne, and Stilwell (1993). Two upper level managers were used to evaluate the team's performance on a 7-point Likert scale (1 indicating unacceptable and 7 outstanding performance). The scores were then averaged to form the team's performance score. This scale resulted in an interrater reliability of .95.

The impact of organisational context on work team effectiveness was studied by Doolen et al., 2003. For the purpose of this study a Team Survey was developed to assess organisational factors, team processes, as well as team member satisfaction. Each of these constructs was evaluated using multiple items rated on a 6-point Likert-type scale ranging from strongly disagree to strongly agree. Reliabilities for each subscale were assessed using Cronbach's alpha and ranged from .733 to .946 (Doolen et al., 2003).

Another team effectiveness questionnaire was developed to evaluate the six core themes of team synergy, performance objectives, skills, use of resources, innovation, and quality (Bateman, Wilson, & Bingham, 2002). Team synergy refers to a sense of purpose shared among team members. A team also needs clear performance objectives which should be monitored on an on-going basis. Skills simply refer to the team members' competence to do their work effectively and whether there is some degree of flexibility in the use of skills. The use of resources dimension refers to optimal use of all resources in a team including people, buildings, and equipment. Innovation evaluates whether the team is constantly looking for ways of improving their products and services. Lastly, Quality refers to the level of customer awareness and standards that need to be identified and monitored (Bateman et al., 2002). The questionnaire utilised a 5-point Likert scale to assess levels of agreement or disagreement on specific statements. An overall Cronbach's alpha of .98 was found, indicating excellent internal consistency (Bateman et al., 2002).

Ozaralli (2003) conducted a study on the effect of transformational leadership on team effectiveness in which a 20-item scale was developed to measure team effectiveness. This scale was developed based on previous research on team

effectiveness and measured the team members' perception on how effective their work groups were based on three dimensions. The first was innovativeness, and this was measured through eight items. In-group communication was the second dimension and was measured through six of the scales' items. The last dimension, performance was measured through six items. All items were rated using a 5-point Likert scale where 1 indicated "not at all" and 5 indicated "always". This team effectiveness scale resulted in a Cronbach alpha value of .96 (Ozaralli, 2003).

Costa (2003) conducted a study in which team effectiveness was assessed in terms of perceived task performance, team satisfaction, and commitment to the organisation. In this study perceived task performance was measured with a nine-item scale "task performance" from the Expanded Delft Measurement Kit from Roe et al. (as cited in Costa, 2003). Team satisfaction was measured with a five-item scale from Smith and Barclay (as cited in Costa, 2003) that assessed the extent to which team members are satisfied with their teamwork. The last assessments of team effectiveness in this study, attitudinal commitment and continuance commitment were measured with a five-item scale developed by Freese and Schalk (as cited in Costa, 2003). To evaluate the measurement properties of the constructs Confirmatory Factor Analysis (CFA) was used.

In a study by De Jong and Elfring (2010) regarding team performance they focused on three team level processes: team reflexivity, team monitoring, and team effort. Team reflexivity refers to the extent to which team members reflect upon team's objectives, strategies and processes, and adapt them to current or expected circumstances. Team monitoring is the process of observing actions of team members and watching for errors or performance discrepancies. Suggestions and feedback should be provided to assist team members. Lastly, team effort is defined as the extent to which team members give their resources to perform team tasks. Data on team effort, monitoring, and reflexivity were collected from the members of the different teams, while team performance data were gathered from the teams' supervisors. The majority of responses were obtained on a Likert-type scale with scores one to five, 1 for "completely disagree" and 5 for "completely agree". To measure team reflexivity De Jong and Elfring (2010) used a five-item scale derived from the work of Carter and West. The items reflect on team processes, team strategies, and team goals. The measurement scale developed for team effort also

consisted of five items which was based on those used by George, Mulvey and Klein. For team performance, the scale consisted of three items: one referring to the quality of the output; the second referring to the quantity of the output; and the third one assessed the overall performance of the team. The scale ranged from scores one to ten, where 1 represented “very poor” and 10 represented “superb”. The reliability of each measurement scale was assessed by calculating the Cronbach’s alpha coefficients; the results of all the scales exceeded .80. Validity of the team constructs were determined using the CFA which yielded a significant chi-square (χ^2 - 229,90, df = 164, p = .01) and was found to be acceptable to fit the data (De Jong & Elfring, 2010).

2.3 Transformational leadership

As explained in chapter one, leadership is one of the crucial elements contributing to team effectiveness. Transformational leaders motivate their followers to achieve success while at the same time inspiring them to believe in themselves. Transformational leaders focus on developing and nurturing followers’ talents, and through their leadership actions they create and sustain trusting work relationships (Avolio et al., 2004; Bass & Avolio, 1994; Yukl, 2013;). This type of engagement from a leader is especially important in a team environment consisting of a diverse group of people. The process of leading teams to effective performance through the activities of the leader is crucial to the teams’ eventual success (Morgeson et al., 2009).

2.3.1 Defining transformational leadership

Leadership has proven a very popular phenomenon to research in the field of industrial psychology. This is understandable considering the important role a leader has to play, and the significant amount of influence leaders have over their followers. Transformational leadership has proved to be a popular leadership style when assessing in connection with team aspects since they motivate their followers to perform beyond excitation (Bass, 1985).

The idea of transformational leadership as an approach to leadership originated from the work of Burns (Krishnan & Arora, 2008). Since Burns first defined the term transformational leadership it has become one of the major leadership theories researched over the past decades (Yukl, 2013). According to Burns (1978),

transforming leadership essentially becomes moral in that it raises the level of human conduct and ethical aspirations in both the leader, as well as the follower. Transformational leadership can thus be seen as having a transforming effect on both the leader, and the follower (Burns, 1978). Transformational leaders convert their followers to disciples, in other words they develop their followers to become future leaders. Transformational leaders focus on elevating followers according to Maslow's need hierarchy to reach a point of achievement and self-actualisation; such leaders increase followers' awareness and consciousness of what is important while inspiring them to move beyond their self-interest for the good of the larger organisation/entity to which they belong (Bass, 1995). Differently stated transformational leaders heightened and arouse followers' interest in the group and/or organisation with the goal to gradually move followers from a concern for existence to a concern for achievement (Yammarino & Dubinsky, 1994). Burns (as cited by Krishnan & Arora, 2008) explained transformational leadership as a relationship between the leaders and followers where they raise one another to higher levels of morality and motivation. Transformational leadership is based on a vision to which the leader is fully committed and then empowers others to achieve that vision; with the ultimate goal being to accomplish more with less (Tacetta-Chapnick, as cited by Schlechter, 2005).

Bass (1995) further developed and refined Burns' work and described transformational leadership in terms of the impact it has on the followers. A key aspect of transformational leadership is its emphasis on follower development (Dvir, Eden, Avolio, & Shamir, 2002). Transformational leaders evaluate followers' abilities to fulfil current responsibilities, while at the same time envisioning expansion of their future responsibilities (Bass, 1985). Followers' competence as organisation members can thus be developed further as a result of a transformational leader's nurturance and vision (Bass, 1995).

Transformational leadership can be explained in terms of leaders' ability to influence the values, attitudes, beliefs, and behaviours of others by working with and through them in order to accomplish organisational goals (Rouche et al., as cited by Ozaralli, 2003). Transformational leaders develop, motivate and inspire their followers to perform beyond expectation by activating their higher order needs by fostering a

climate of trust and inspiring followers to go beyond their self-interest for the greater good of the larger system/organisation in which they operate (Bass, 1995)

The original theory of transformational leadership included only three behaviours, idealised influence, intellectual stimulation, and individualised consideration (Yukl, 2013; Yammarino et al., 1993). A revision of this theory resulted in an additional transformational behaviour to the theory of transformational leadership. The fourth dimension was called inspirational motivation and completes the definition of transformational leadership as given by Bass and Avolio (1994). For a leader to establish transformation these four key components should be incorporated in everyday leadership style and behaviours.

The four dimensions are described as follows:

1. Charisma/Idealised influence is behaviour that increases followers' identification with the leader. Behaviours such as being a role model and setting an example of making self-sacrifices to benefit the followers (Yukl, 2013). It involves gaining respect, trust, and confidence of others while providing a vision and a sense of mission (Yammarino & Dubinsky, 1994). This feeling of trust binds the follower in an unconditional belief in and identification with the leader. The leader is thus in a position to motivate followers to contribute concrete efforts to reach optimum levels of development and performance. Therefore, charisma/idealised influence refers to the leader's ability to instil pride, faith and respect while arousing and aspiring followers (Yammarino et al., 1993 Bass, 1995).
2. Individual consideration is about the leader being attentive to individual differences in subordinates' needs for growth and development. Thus creating and increasing subordinates' sense of value; recognising individual contribution; and supporting and developing individual followers according to their needs. This can take place through coaching and training followers by delegating projects and giving constant feedback in order to stimulate the learning experience (Yammarino et al., 1993). By doing this, leaders raise individual followers' level expectation and confidence to take on greater responsibility (Schlechter, 2005). Transformational leaders treat each follower as a unique individual, thus

fostering feelings of trust and satisfaction with the leader (Krishnan & Arora, 2008).

3. Intellectual stimulation refers to leaders introducing followers to challenging new ideas and motivates them to think about old problems and methods in new ways (Yammarino et al., 1993). Transformational leaders fosters creativity by encouraging subordinates to challenge prevailing assumptions and the status quo by using intelligence, rational, intuition and logic (Bass, 1990). The leader emphasise problem solving and the use of intellectual reasoning before taking action.
4. Inspirational motivation refers to leaders' ability to acts as a model by behaving in a ways that motivates and inspires followers to achieve organisational goals (Bass, 1995). This includes developing and communicating a shared vision and high expectation that are motivating, inspiring, and challenging (Wang et al., 2011).

Transformational leadership, with these four dimensions, then forms the definition utilised for the purpose of this study.

Leaders described as transformational leaders focus and concentrate their efforts on longer term goals (Howell & Avolio, 1993). Transformational leaders place value and emphasis on developing a vision and inspire followers to pursue the vision, while at the same time coaching followers to take greater responsibility in their own individual development. Transformational leaders will change and align systems to accommodate their vision rather than to work within an existing system (Howell & Avolio, 1993).

2.3.2 Measuring transformational leadership

The Multifactor Leadership Questionnaire (MLQ) was developed to provide researchers with a reliable and valid instrument that measures the behaviours underlying the transformational leadership (Boonzaier, 2008). According to Pillai, Schriesheim, and Williams (1999), the MLQ is the most widely used measure of transformational leadership.

The first version of the MLQ was developed by Bass (1985) in an attempt to measure transactional and transformational leadership. The MLQ form 1, with its 73-items revealed five leadership factors of which three were viewed as

transformational leadership. The three factors, which also formed the original definition of transformational leadership, were as follows: (1) charismatic leadership, referring to the amount of faith, respect, and inspiration provoked by the leader; (2) individualized consideration, the degree of attention and support given to individual followers; and (3) intellectual stimulation, which refers to the extent to which leaders enables followers to think in new ways about how they do things (Bass, 1985).

Bass and his colleagues revised the MLQ form 1 and added an additional factor, inspirational motivation, to transformational leadership (Bass & Avolio, 1994). The definition of transformational leadership in terms of the four dimensions namely, charisma/idealised influence, individual consideration, intellectual stimulation, and inspirational motivation as applicable to this study has been successfully measured with the MLQ.

Today there exist a great variety of versions and forms of the test, since it has continually been developed and modified by different authors as the understanding and conceptualisation of transformational leadership unravelled over the years (Bycio et al., 1995). Bass and Avolio (as cited by Pillai et al., 1999) reported a number of studies in which the MLQ was used in a wide variety of settings across different national cultures and support for the basic propositions of the model was found, proving the reliability and validity of the questionnaire.

The MLQ is a multi-rater scale, which is made up of two versions. First of which is a self-administered questionnaire (leader version) that is completed by the leaders themselves, and secondly a rater questionnaire (rater version) completed by the subordinates who then rates their leaders. The two forms consist of essentially the same questions, focussing on different perspectives, first the perspective of the leader's own leadership style, and then from the perspective of the followers (Boonzaier, 2008).

Dimensionality analysis was conducted on the MLQ to prove unidimensionality for the four subscales and resulted in satisfactory factor loadings ($0.50 < \lambda < 0.86$) (Van Aswegen & Engelbrecht, 2009). In another study by Engelbrecht and Chamberlain (2005) item analysis on the four subscales of the MLQ produced good reliabilities with Chronbach's alphas ranging from .75 to .87. A study evaluating the impact of transformational leadership on follower development and performance used the MLQ

5X and produced alphas ranging between .87 and .92 over two occasions and subsamples (Dvir et al., 2002).

Another, slightly less popular, measurement of transformational leadership is the Transformational Leadership Inventory (TLI) developed by Podsakoff and colleagues (Podsakoff et al.,1990). The TLI uses 26 items to assess six sub-dimensions of transformational leadership. The subscales are (1) articulating a vision, (2) providing an appropriate model, (3) fostering the acceptance of group goals, (4) high performance expectations, (5) individualised supports, and (6) intellectual stimulation. Internal consistency estimates for the TLI resulted in Chronbach's alphas ranging from .63 to .82 (Krüger, Rowold, Borgmann, Staufenbiel, & Heinitz, 2011).

2.4 Organisational trust

Trust has always been a prerequisite for good and healthy relationships between people. However, trust becomes even more significant with the changing work environments, in which more organisations move towards flat and team-orientated structures. Such structural changes result in more people having the responsibility to make certain decisions; in order for these decisions to be supported people need to trust in each other. This is especially important in a team environment; members need to trust their leader in order to follow eagerly, members also have to rely on one another to do their part in order to ensure the team's success.

2.4.1 Defining organisational trust

Trust is a vital element for any human relationship. Fisher and Brown (as cited by Weber, Malhotra, & Murnighan, 2005) argued that trust is the single most important element in a good working relationship. Thus, social exchange relationships cannot develop without a certain level of trust (Colquitt, Scott, & LePine, 2007). Human behaviour is known to be complex and difficult to clearly understand and conceptualise. Trust, which is an occurrence between two or more individuals, does not seem to be free from this complexity. According to Connell, Ferres, and Travaglione (2003), trust varies in nature and importance according to the context, people, situation, and task involved. Trust is especially important for South African organisations since our socio-political history and current situation creates an environment of severe mistrust among diverse groups (Engelbrecht & Cloete, 2000).

Trust can facilitate cooperation, and reduce uncertainty and its related anxieties within organisations (Weber et al., 2005). Sabel (as cited by Barney & Hansen, 1994) defined trust as: “the mutual confidence that no party to an exchange will exploit another’s vulnerability”. A popular definition that recurs in a variety of literature on trust states that trust is a psychological state that occurs when a person is willing to accept a state of vulnerability to another because of a positive expectation of the other person intentions and behaviours (Robbins & Judge, 2011; Colquitt et al., 2007; Dirks & Ferrin, 2002; Weber et al., 2005). Positive expectations refers to the belief a person holds that the actions of another will be beneficial, or at least not harmful, despite the possibility of being disappointed by the actions of the other person (De Jong & Elfring, 2010). Trust development is then the process by which this psychological state is achieved, shaped, and influenced (Weber et al., 2005).

To gain a better understanding of the dynamics of trust in an organisational context one should distinguish the two parties in the trusting relationship, the trustor and the trustee. The trustor is the trusting party, the one accepting the state of vulnerability to place trust in another person. The trustee is then the person who is being trusted by another (Engelbrecht & Cloete, 2000).

In an attempt to explain and understand the phenomenon of trust, many models distinguish trustworthiness and trust propensity, from trust (Colquitt et al., 2007; Costa, 2003; Mayer, Davis, & Schoorman, 1995; Schoorman, Mayer, & Davis, 2007). The concept of trustworthiness refers to the attributes of the trustee. A variety of attributes have been identified throughout the literature, such as availability, competence, consistency, discreetness, honesty, fairness, integrity, loyalty, openness, promise fulfilment, receptivity, motivation to lie, reliability, benevolence, motives, and kindness to name but a few (Mayer et al., 1995). But three characteristics that occur prominently in the literature in explaining trustworthiness are ability, benevolence, and integrity of the trustee (Colquitt et al., 2007; Mayer et al., 1995; Schoorman et al., 2007). Ability, which can be seen as the first component of trustworthiness refers to the group of knowledge and skills needed to do a specific job, together with the interpersonal skills and general wisdom needed to succeed in an organisation (Gaborra, as cited by Colquitt et al., 2007). The second dimension, benevolence, is defined as the extent to which a trustee is believed to want to do

good to the trustor, and not just simply for egocentric profit motives. Synonyms for benevolence can be seen as loyalty, openness, caring, or supportiveness from the trustee's side (Mayer et al., 1995). Lastly, integrity is the trustor's perception that the trustee adheres to a set of sound moral and ethical principles that the trustor finds acceptable. Integrity thus refers to fairness, justice, consistency, and promise fulfilment from the trustee's side (Mayer et al., 1995).

The ability and willingness to trust others regardless of the trustee's trustworthiness or past experience, resides in dispositional factors such as personality. Rotter (as cited by Colquitt et al., 2007) was the first to notice trust to be a component of personality, and defined interpersonal trust as a generalised expectancy that the words and promises of others can be relied on. This is referred to as trust propensity, which is proposed to be a stable internal factor in the trustor (Mayer et al., 1995). Since trust propensity is part of a person's personality, people will differ in their inherent propensity to trust others.

Smith and Barclay (as cited in Costa, 2003) found that in most definitions trust appears to be related to individual attribution about other people's intentions and motives underlying their behaviour. According to Lau and Lam (2008), the definition of interpersonal trust consists of two main components: first, a positive expectation of the behaviours and intentions of others; second, a willingness of the trustor to accept the vulnerability or to take the risk associated with the relationship (Lau & Lam, 2008). In another consistent definition, trust is defined as being a multifaceted construct consisting of trusting intentions, and trusting beliefs (Kim, Dirks, & Cooper, 2009). Trusting intentions refers to the willingness to make oneself vulnerable to another in the presence of risk, and trusting beliefs refers to the perceived trust-relevant qualities of the trustee, such as competence, integrity, or benevolence. In this definition by Kim et al. (2009) it is believed that a person's trusting intentions is influenced by ones trusting beliefs.

The trust relationship always contains an element of risk that the other party will not behave in ways favourable to all parties involved. As Rousseau et al. (cited in Costa, 2003) stated risk creates the opportunity for trust, which then again leads to risk taking. Thus, the level of trust will then be indicated by the amount of risk that a person is willing to take (Schoorman et al., 2007). Costa (2003) argues that: "Trust is not only a psychological state based on expectations and on perceived motives and

intentions of others, but also a manifestation towards these others." In other words, trust can be broken down into three parts: trust as a belief, trust as a decision, and trust as an action (Dietz & Hartog, 2006).

The decision to trust and make oneself vulnerable to another includes a cognitive as well as an affective component (Schoorman, et al., 2007). The trustor will consider another person's trustworthiness and the risk involved in trusting the person, the perception of the trustee and the perception of the risk is then weighed up against each other to come to the decision to trust or distrust. Even though this might seem a logical explanation for the trust process, it is not enough to fully understand the complexity thereof. Since a trust relationship exists between two or more people, who at the core are emotional beings, it is a vital element to consider when talking about trust. Emotions, whether related or unrelated to the trustee and/or the situation, were proven to have significant positive and negative effects on trust, depending on the emotion itself (Dunn & Schweitzer, 2005). Jones and Geroge (as cited by Schoorman et al., 2007) also stated that emotions and moods provide people with information about how they experience trust. Emotional attachments can cause the trustor to take sudden risks without any warranted evidence (Schoorman et al., 2007). Many authors assume that trust has to develop gradually over time. Gradual development then allows each party to take increasingly larger risks as their confidence in the other party's trustworthiness grow (Weber et al., 2005). Even though this is true for many instances, gradual development is not always required since research indicate individuals were found to exhibit surprisingly high levels of trust without a history of interactions with the trustee (McKnight, Cummings, & Chervany, 1998; Weber et al., 2005).

McAllister (1995) developed a model in which trust is distinguished into two types of trust, namely cognition-based trust and affect-based trust. Affect-based trust refers to the emotional bonds between individuals; this is expressed as a genuine care and concern for the welfare of others in the group. Cognition-based trust is the trust that is based on performance-relevant cognitions, for example competency, responsibility, reliability, and dependability (McAllister, 1995). It is also argued that when members of a group perceive their co-workers as competent, reliable, responsible, and dependable, thus experiencing cognition-based trust, people more easily form the emotional attachments needed for affect-based trust.

A distinction is made between trust in the organisation, trust in the leaders/managers, and trust among co-workers/team members. Trust in the organisational refers to individual's inclination to trust others within the work environment, for example, the expectation employees hold regarding the fact that their employer carries their best interest at heart. It is clear that trust within an organisation is an important factor when determining organisational success, organisational stability and the well-being of employees (Connell et al., 2003).

Leaders are seen to play a key role in determining effectiveness across all levels (e.g. individual, unit, and team level). For a leader to be effective in such environments is largely dependent on the degree of trust which co-workers and subordinates place in him/her (Burke, Sims, Lazzara, & Salas, 2007). Trust in leaders or managers, as explained by social exchange theorists Konovsky and Pugh (as cited in Lau & Lam, 2008), is obtained when subordinates believe that their leaders would engage in fair exchanges, and their citizenship behaviour would be appropriately recognised and rewarded. People will follow a leader they trust, even if they do not agree with the leader's view point of the specific matter. Thus, it is mostly the leaders' responsibility to create and foster an environment of trust.

The perception of trust may reside in the individual level, but trust as a team-level construct comes from the shared quality of these individual-level perceptions (De Jong & Elfring, 2010). Trust in team members are defined as a shared psychological state among team members comprising willingness to accept vulnerability based on positive expectations of other team members (Fulmer & Gelfand, 2012). In other words, trust among team members is simply the generalised perception of trust that team members have in their fellow team members (De Jong & Elfring, 2010). Trust allows team members to interact and engage more freely with each other which will enhance team work processes and performance (De Jong & Elfring, 2010). Team members who trust each other and operate in a psychological safe environment, in which they feel safe to take interpersonal risks, will partake more in learning behaviours, like seeking feedback, sharing information, experimenting with new ideas, asking for help, and discussing errors (Edmondson, 1999). Zand (as cited by Kiffin-Petersen, 2004) stated that if team members trust each other they: (1) exchange relevant ideas and feelings more openly, (2) define goals and problems more clearly and realistically, (3) search for alternatives more extensively, (4) have

greater influence on solutions, (5) are more satisfied with their problem solving efforts, and (6) have greater motivation to implement solutions. If team members don't trust each other they will most likely restrict their interaction with one another in order to protect themselves from vulnerability. This in turn will hinder the creativity and innovation of the team, thus reducing their productivity. Spreitzer et al. (as cited by De Jong and Elfring, 2010) studied trust in teams and found that teams with high levels of trust in their team performed better due to the fact that team members were more likely to engage in and direct their efforts towards achieving the team goals.

For the purpose of this study an overall construct of trust is defined as consisting of three dimensions namely: trust in the leader, trust in colleagues (i.e. the team members), and trust in the organisation. This overall trust construct is termed, organisational trust.

2.4.2 Measuring organisational trust

A variety of instruments have been developed to measure the concept of trust. Butler (1991) developed an instrument measuring trust based on specific conditions of trust. The Conditions of Trust Inventory (CTI) is often used to measure trustworthiness and interpersonal trust (Engelbrecht & Cloete, 2000). The CTI consist of 10 conditions and an overall trust scale. The 10 conditions of trust include availability, competence, consistency, discreetness, fairness, integrity, loyalty, openness, promise fulfilment, and receptivity (Butler, 1991). A range of confirmatory factor analyses were used to choose the items, and the factor patterns confirmed the content and construct validity (Butler, 1991). The CTI was adapted by Engelbrecht and Cloete (2000) to better fit the South-African context. This adapted version showed high internal consistency (α = .80 to .93), and the overall trust subscale which were used to measure interpersonal trust indicated a high coefficient alpha of .93.

To measure interpersonal trust in terms of the cognitive and affective-based definitions, the Managerial Interpersonal Trust Instrument was developed by McAllister (1995). This measure consists of 11 items, six assessing levels of cognition-based trust, and the remaining five affect-based trust. A Likert-type scale ranging from 1 (strongly agree) to 9 (strongly disagree) was used as response indicators. The Managerial Interpersonal Trust Instrument was proven to be reliable

with the Cronbach's alphas for the cognition- and affect-based measures being .91 and .89, respectively.

With the definition of trust being a willingness to be vulnerable, a four-item measurement was developed (Schoorman et al., 2007). These items assess the extent to which a trustor is willing to voluntarily take risks at the hands of the trustee. In this study the trust scale resulted in a Cronbach's alpha of .82.

De Jong and Elfring (2010) developed a five-item trust scale measuring trust in peers and trust in team members. This scale included a direct measure of trust to ensure that trust, rather than trustworthiness, was being measured. The Cronbach's alpha of this intra team trust scale resulted in α = .91, and can thus be deemed a reliable measure.

A 12-item instrument measuring employee's trust in his/her supervisor was developed by Bews (as cited by Engelbrecht & Chamberlain, 2005). This scale has been developed and tested within the South African context. Bews indicated the scale's internal consistency reliability to be psychometrically sound with a Cronbach's alpha of .94 (Engelbrecht & Chamberlain, 2005).

2.5 Psychological empowerment

For the purpose of this study psychological empowerment is another important element affecting teamwork. Research has proven that empowered teams are more motivated to perform better since they believe they have the autonomy and capability to perform meaningful work that can impact their organisations (Chen et al., 2007). Empowered team members feel self-efficacious, believe they are autonomous and have an impact on their work (Ozaralli, 2003). Due to such self-efficacious belief, a team that holds the shared belief that they can successfully achieve a certain goal, has a much greater possibility of actually succeeding (Arnold, Barling, & Kelloway, 2001). This psychological empowered state will increase innovation and creativity, and will lead to more effective communication within a team. Team members who feel psychologically empowered and communicate well with each other will seek out, learn, and apply new skills and technologies to reach the team's goals (Ozaralli, 2003).

2.5.1 Defining psychological empowerment

Contemporary organisations operate in an external environment characterised by intense global competition and technological innovation and change. These constant, rapidly changing environments in which organisations have to survive and compete have created a need for employees who can take initiative, embrace risk, stimulate innovation and cope with high levels of uncertainty (Spreitzer, 1995a). Due to this many organisations and managerial teams have turned their attention to employee empowerment; with the belief that yielding central control will promote flexibility and decisiveness, as well as employee commitment and a subsequent improvement in individuals and organisational performance (Conger & Kanungo, 1988; Ozaralli, 2003). According to Conger and Kanungo (1988), the practice of empowering subordinates is a primary component of managerial and organisational effectiveness. Spreitzer (1995b) confirmed innovation and managerial effectiveness to be behavioural outcomes of interpersonal empowerment.

The term empowerment has experienced many diverse ideas and definitions over the years. In some instances empowerment is defined as an act, some consider it to be a process, while others explain it as a psychological state (Menon, 2001). The idea of empowerment was derived mainly from two theories, participative management and employee involvement. Participative management argues that managers share decision making power with employees in order to enhance their performance and satisfaction. Theories regarding employee involvement states that power, information, rewards, and training is poured down to the lowest possible level employees, to increase workers maturity (Spreitzer et al., 1997).

According to Menon (2001), there are three broad categories in the various streams of empowerment research: (a) the structural approach, (b) the motivational approach, and (c) the leadership approach. Structural empowerment is a set of practices that focuses on work arrangements and involves the delegation of authority and responsibility to employees (Mathieu, Gilson, & Ruddy, 2006). Structural empowerment can be understood by Menon's (2001) terms as an act, as well as a process; power is given to subordinates by the leader and the environment is adapted to create processes that will lead to the experience of more power. The definition of Zimmerman (1995) can thus be seen as a structural approach to empowerment since it is defined as a process by which people, organisations, and

communities gain mastery over issues of concern. Empowerment in this sense then refers to a process of delegation, information sharing and decentralisation in which employees take part in decision making and are granted the ability to significantly affect organisational outcomes (Dhladhla, 2011; Menon, 2001).

Conger and Kanungo (1988), who are deemed the pioneers of the motivational approach conceptualised empowerment as psychological enabling. Empowerment according to this approach is defined as a process of enhancing feelings of self-efficacy among organisational members. It is thus suggested that empowerment techniques that provide emotional support for subordinates and create a supportive atmosphere can be more effective in strengthening self-efficacy beliefs (Bordin, Bartram, & Casimir, 2007). By explaining empowerment in motivational terms, it then refers to the process whereby an individual's belief in his or her own self-efficacy is enhanced (Conger & Kanungo, 1988). Adding to this motivational approach to empowerment was the view that power is energy, and to empower others is to energise (Thomas & Velthouse, 1990).

Lastly, the leadership approach also emphasizes the energising aspect of empowerment. Leaders energise their followers by providing an exciting vision for the future, and at the same time empower them to act on this (Menon, 2001). Leaders also inspire subordinates to participate in the process of transforming the organisation (Yukl, 2013). Burke (as cited by Menon, 2001) suggests that leaders empower followers by providing clarity and direction, by stimulating employees through intellectually exciting ideas and encouraging them to take on difficult challenges.

The term psychological empowerment seems to differ from the regular use of the word empowerment. The term empowerment is used to explain a form of getting employee involvement, focussing on task-based involvement and attitudinal change (Wilkinson, 1998). Boren (as cited by Lee & Koh, 2001) defined empowerment as various skills and attempts to promote subordinates' capabilities and potentialities based on trust. Empowerment has also been described as an act of building, developing, and increasing employees power (Rothstein, 1995). Most of these definitions focus on empowerment depending on the manager/leader's practices and behaviours, thus the leader has to create an environment that will empower subordinates.

Psychological empowerment focus more on the intrinsic motivation and psychological state of subordinates resulting from managerial practices and behaviours, rather than managerial practices and behaviours aimed at increasing individuals' levels of power (Dhladhla, 2011; Huang, Shi, Zhang, & Cheung, 2006). Many authors use the term empowerment and psychological empowerment interchangeably. For example, Conger and Kanungo (1988) defined empowerment as a psychological state of increased self-efficacy. Upon reading this definition it is clear that it refers more to psychological empowerment rather than empowerment as defined above.

The meaning of the term psychological empowerment seems to reside more around employees' or subordinates' perceptions about their job environment. Psychological empowerment can be defined as employees' beliefs in the degree to which they can influence their work environment, their competence, the meaningfulness of their job, and their perceived autonomy (Robbins & Judge, 2011). Contemporary research on psychological empowerment focussed on explaining the empowerment process and the psychological underpinnings of the construct in terms of self-efficacy and autonomy (Conger & Kanungo, 1988; Spreitzer, 1995; Spreitzer, 1996; Spreitzer et al., 1997). Many researchers argue that psychological empowerment is multifaceted and cannot be captured by a single concept (Thomas & Velthouse, 1990).

Menon (2001) defined psychological empowerment in terms of employee-experienced power. It is argued that there are three main dimensions of the experience of power underlying the empowerment process: (1) power as perceived control, (2) power as perceived competence, and (3) power as being energised towards achieving valued goals. According to Menon (2001), perceived control must be one of the basic psychological states constituting to the experience of empowerment since it refers to an internal drive or power motive. Different authors have referred to this internal power motive as need for power, striving for personal causation, intrinsic motivation to feel competent and self-determining (McClelland, De Charms, and Deci, as cited by Menon, 2001). Empowering strategies such as delegation, increased participation, and providing adequate information and resources can lead to a sense of perceived control (Menon, 2001). The second dimension of underlying power as suggested by this definition, perceived competence, refers to a person's self-efficacy beliefs. People tend to get involved in

activities that they believe are within their power to handle, and avoid situations believed to be beyond their coping skills (Menon, 2001). Enhancing employees' self-efficacy beliefs also forms the cornerstone of Conger and Kanungo's (1988) empowerment theory. The third dimension is also termed goal internalisation and refers to the power of energising. An important energising element at a psychological level is a particular goal, especially towards a valued task or meaningful project (Menon, 2001). It is the task of the organisational leadership practices to inspire followers, to give a vision and especially in the case of transformational leaders, to transform followers' beliefs and attitudes to be in line with organisations' mission and objectives (Burns, 1978). Based on these three dimensions the following definition is articulated: "the psychologically empowered state is a cognitive state characterised by a sense of perceived control, competence, and goal internalisation" (Menon, 2001).

Mathieu et al. (2006) noted that psychological empowerment has a two-dimensional definition. On the one side psychological empowerment is defined in terms of members' experience of authority and responsibility. The second version defines psychological empowerment as consisting of four dimensions: (1) competence to perform tasks, (2) self-determination or freedom to choose how to do certain task, (3) sense of meaningfulness derived from work, and (4) the belief that one's work has an impact on the effectiveness of a larger system (Mathieu et al., 2006).

Research has indicated that ethnic group identity plays an important role in psychological empowerment (Kotze, Menon, & Vos, 2007). Due to South Africa's diverse ethnic population together with its unique history, Fourie and Van Eden (2010) conducted a qualitative study in an attempt to conceptualise psychological empowerment in the South African context. From this study a total of eight psychological empowerment dimensions emerged, namely resilience, competence, powerlessness/helplessness, sense of achievement, sense of control, meaning, making a difference, and the empowerment of others (Fourie & Van Eden, 2010).

The idea of psychological empowerment as defined in terms of four cognitive dimensions seems to be the prominent view throughout the literature (Avey, Hughes, Norman, & Luthans, 2008; Dewettinck, Singh, & Buyens, 2003; Dimitriades & Kufidu, 2005). However, this idea of psychological empowerment originated from the work of Spreitzer (1995), who defined psychological empowerment as an intrinsic motivation

to perform tasks which manifest in four cognitions: (1) meaning, (2) competence, (3) self-determination, and (4) impact.

These four dimensions can be described as follows:

1. Meaning refers to the value of a task goal or purpose, judged in relation to an individual's own ideas and standards. Meaning refers to congruence between the role requirements and the employees' beliefs and values (Quick & Nelson, 2011). If employees' tasks and work requirements are in conflict with their personal values and beliefs they will feel less motivated to perform these, and as a result will not feel empowered by such activities.
2. Competence, which is the second dimension can be viewed as synonym to self-efficacy, it refers to an individual's belief in his or her capabilities to perform the necessary activities. Without a sense of confidence in their abilities, individuals will feel incompetent which will result in a lack of a sense of empowerment (Conger & Kanungo, 1988).
3. The third empowering cognition, self-determination refers to having control over the way work gets done; it's an individual sense of having a choice in initiating and regulating one's actions. Self-determination is thus employees' perception on the autonomy in the initiation and continuation of work behaviours and processes (Dewettinck et al., 2003). If employees feel they simply have to follow instructions without any say they will lack the sense of empowerment.
4. Impact, which is the last dimension, is the degree to which an individual has influence on strategic, administrative, or operating outcomes at work (Spreitzer, 1995a). Employees need to know and believe that their job makes a difference and contribution within the organisation (Quick & Nelson, 2011).

These four dimensions include both cognitive and motivational elements of empowerment (Spreitzer, 1995b). According to Bhatnagar and Sandhu (as cited by Dhladhla, 2011), these four dimensions should be combined additively to create the overall concept of psychological empowerment. The lack of any of these dimensions will collapse the overall degree of perceived psychological empowerment.

It is clear from the literature that separate definitions can be conceptualised for empowerment and psychological empowerment, however, a precise line distinguishing these two constructs seem to be lacking. The reason for this is that

empowerment and psychological empowerment cannot truly be seen as mutually exclusive constructs. Throughout the different streams of research empowerment has been considered an act (the act of granting power to person being empowered), a process (the process that leads to the experiencing of power), and a psychological state which manifest itself through cognitions. It seems as when empowerment is explained as an act, the emphasis is on the employer or other persons (usually managers or superiors) doing the empowering. But when empowerment is explained as a process or a psychological state, the emphasis is on the employee or person being empowered (Menon, 2001). Again it can be said that these three views of empowerment are not mutually exclusive, rather they provide a comprehensive picture of the empowerment phenomenon. Structural empowerment acts, for example delegating, lead to a change in employees' perception of their work environment which again changes employees' psychological state. This interactive relationship then represents a more comprehensive view of the empowerment phenomenon (Menon, 2001). With this in mind Lee and Koh (2001) defined psychological empowerment as "the psychological state of subordinate perceiving four dimensions of meaningfulness, competence, self-determination, and impact which is affected by empowering behaviours of the supervisor." Consequently, this definition will be utilised for the purpose of this study.

2.5.2 Measuring psychological empowerment

The variety of instruments measuring psychological empowerment appears to be quite limited. The Psychological Empowerment Scale (PES), which was developed and validated by Spreitzer (1995a), seems to be the most popular instrument to use in research studies (Avey et al., 2008; Bordin et al., 2007; Chen et al., 2007; Dhladhla, 2011; Dimitriades & Kufidu, 2005; Haung et al., 2006; Kraimer, Seibert, & Liden, 1999; Seibert, Silver, & Randolph, 2004; Spreitzer & Mishra, 2002; Spreitzer et al., 1997; Wallach & Meuller, 2006). The PES measures four dimensions including meaningfulness, competence, self-determination, and impact. This 12-item questionnaire, divided into three items measuring each of the four sub-dimensions, is rated on a five-point Likert-type scale. Numerous validation studies have proven the PES to be reliable over the four subscales with Cronbach's alphas as follow: meaning $\alpha = .91$, competence $\alpha = .80$, self-determination $\alpha = .76$, and impact $\alpha = .81$ (Spreitzer & Mishra, 2002).

Another instrument measuring psychological empowerment was developed and validated by Menon (1999). This measurement consists of 15 items, with five items measuring each of the three dimensions. A six-point Likert-type scale was selected for rating each item. This measure has obtained satisfactory Cronbach's alphas for each subscale: perceived control α = .86, perceived competence α = .78, and perceived goal internalization α = .86 (Menon, 2001). Menon's 15 items psychological empowerment questionnaire was applied to a diverse South African sample from the military (Kotze et al., 2007). This instrument proved reliable over different race groups with Cronbach's alphas of .907 for the African group, .877 for the Asians and Coloureds, and .901 for the White group (Kotze et al., 2007).

2.6 The relationship between transformational leadership and trust

By definition transformational leaders inspire their followers, while at the same time earning their trust and loyalty, through the building of strong emotional bonds (Bass & Avolio, 1994; Wech, 2000). An overview of different research studies concluded that transformational leadership influences trust, both directly and indirectly. A variety of researchers found strong positive relationships between subordinates' perception of their supervisor's transformational leadership style and trust in the supervisor (Braun, Peus, Weisweiler, & Frey, 2013). However, other studies propose contradicting evidence as no direct relationship between transformational leadership and trust in the leader was found. Transformational leadership was found rather to have an indirect effect on trust, through procedural justice (Engelbrecht & Chamberlain, 2005). Leaders play an important role in their followers' perception of fairness, if followers perceive their leaders to be fair in the procedures they set up and the manner in which these are carried out, followers are more likely to place their trust in the leader.

A model testing the effect of transformational leadership behaviour on follower's trust indicated that the leader's behaviours had a significant effect on trust, explaining up to 85% of the variance in followers' trust in their leader (Podsakoff et al., 1990). Moreover, a study by Dirks and Ferrin (2002) found a strong positive relationship (r = .72) between trust in the leader and transformational leadership. This is indicative that leaders portraying a transformational leadership style is more likely to be perceived as trustworthy, which then contributes to a climate of trust among

followers. Arnold et al. (2001) conducted a study on teams and confirmed that the transformational leadership style increases trust between team members.

Trust was also found to be a mediator between transformational leadership and team effectiveness (Braun et al., 2013). Schaubroeck, Lam, and Peng (2011) also found cognition-based trust to be a strong mediator between transformational leadership and team performance.

It can therefore be hypothesised that transformational leadership will have a positive influence on organisational trust.

2.7 The relationship between organisational trust and team effectiveness

Team effectiveness can be evaluated on a number of high levels of continuous goals which require intensive cooperation from team members. Such vital cooperation is produced and enhanced by trust (Erdem, Ozen, & Atsan, 2003). A study regarding trust within teams and its relationship with performance and effectiveness provided evidence that trust is positively related to perceived task performance, team satisfaction, and relationship commitment (Costa et al., 2001).

According to Karau and Kelly (as cited in De Jong & Elfring, 2010), the theoretical suggestion is that the effect of trust is more profound in ongoing teams since they focus more on interpersonal relationships, which increase the impact of trust dynamics on team member interaction. In a study by De Jong and Elfring (2010), a positive significant relationship was found between trust and team performance. For this study the definition of trust was intra-team trust, and referred to the shared perception of trust that team members have in each other. Since an effective team can be viewed as one that performs according to expectations, this study thus provided evidence of the direct effect of trust on team effectiveness.

Erdem et al. (2003) studied the relationship between trust and team performance over different organisations and found inconsistent results. For some of the organisations an inverse relationship was found between trust among team members and critical errors. In other words, in some organisations as trust levels increase, critical errors decreased which resulted in an increase in performance. However, due to the inconsistent results (i.e. this relationship was not supported in all participating organisations), Erdem et al. (2003) concluded that the relationship between trust and team effectiveness is not necessarily a simple or consistent one

across different organisations. It is therefore important to identify other variables affecting team effectiveness, and the degree to which they are affected by, or affect the level of trust between team members.

Researchers like Boss, Larson and LaFasto, Klimoski and Karol, and Zand (as cited by Kiffin-Petersen, 2004) found that trust has an indirect effect on team effectiveness through its effect on team processes including problem solving, decision making, and communication. In an experimental study by Dirks (as cited by Kiffin-Petersen, 2004) intragroup trust was proved to be a moderator that influences team performance indirectly. High trust groups didn't necessarily produce more, rather the presence of trust appeared to help the group channel and maintain energy on the team's goals, and this resulted in improved performance.

Costa (2003) conducted a study in which she evaluated the effect of trust between team members on team effectiveness. In this study trust was defined in terms of four components namely: propensity to trust, perceived trustworthiness, cooperative behaviours, and lack of monitoring. Trust, according to this definition, was found to be positively related to the members' perceived task performance (Costa, 2003). These studies confirmed that trust is important for the successful functioning of teams within organisations.

Therefore, it can be hypothesised that organisational trust leads to team effectiveness.

2.8 The relationship between transformational leadership and psychological empowerment

Psychological empowerment develops to some degree from the behaviours of supervisors (Menon, 2001). If one thinks of the definition of structural empowerment, the role of the supervisor cannot be excluded since empowerment requires leaders to share information and knowledge and promote participative decision making. Thus, leaders have to create an empowering environment and make subordinates feel empowered, thus playing a vital role in the psychological empowerment of followers (Deci et al., as cited by Dhladhla, 2011). Some leaders' behaviour that can be identified as empowering include expressing confidence in subordinates, having high performance expectations, developing opportunities for participative decision

making, and setting of inspirational and meaningful goals while providing followers with the necessary autonomy (Conger & Kanungo, 1988).

Transformational leaders provide mentoring and coaching to their followers in order to develop their self-confidence and potential, they motivate followers to achieve beyond expected performance (Krishnan & Arora, 2008). These outcomes can be perceived as psychologically empowering, thus theoretically transformational leadership will result in enhancing follower's psychological empowerment. Transformational leaders' ability to provide an exciting vision for the future are seen to energise and hence also empower followers to act (Ozaralli, 2003).

A study by Jung and Sosik (2002) assessed transformational leadership in a group setting. The results revealed a significant positive relationship between transformational leadership and psychological empowerment (Jung & Sosik, 2002). Another study established that transformational leadership correlates significantly with psychological empowerment for both direct and indirect followers (Avolio, Zhu, Koh, & Bhatia, 2004). In a team context transformational behaviour of leaders has been shown to have a moderate positive correlation with followers' self-reported empowerment (Ozaralli, 2003).

It can therefore be hypothesised that transformational leadership will have a positive effect on followers' psychological empowerment.

2.9 The relationship between psychological empowerment and organisational trust

Employees who feel more empowered at work are more likely to have greater levels of trust in their leader and their organisation (Zhu, May, & Avolio, 2004). In other words, when employees perceive their work environment to be empowering, as a result they perceive a climate of trust (Laschinger & Finegan, 2005). It can be argued that those who find meaning in their work are more likely to completely immerse themselves in their work roles and place themselves in a more vulnerable, trusting position when exposing their true selves at work (May et al., as cited by Huang, 2012). Furthermore, individuals that feel more competent in their ability to adequately handle their work roles and tasks are more likely to take risks and similarly pacing them in more open and vulnerable positions. It is also clear to see how feelings of self-determination associated with the sharing and delegation of control by leaders

reciprocally relate to the development of employees' trust in their leaders (Whitener, Brodt, Korsgaard, & Werner, 1998).

Teachers who reported certain aspects of psychological empowerment in that they found their work to be important and personally meaningful, who reported significant work autonomy, and who perceived they have influence over their work environment also reported higher levels of interpersonal trust (Moye, Henkin, & Egley, 2005). Huang (2012) tested a model that assumed that psychological empowerment could have a direct effect on trust in immediate supervisors. The path linking psychological empowerment with trust in one's leader was positively significant ($\beta = .52$, $p <. 01$). Another study resulted in the development of a theoretical model in which psychological empowerment was again assumed to influence trust in the leader (Zhu et al., 2004). Laschinger and Finegan (2005) proved a significant link between structural empowerment and trust in the leader ($\beta = .25$).

It is thus hypothesised if this study that psychological empowerment will have a positive influence on organisational trust.

2.10 The relationship between psychological empowerment and team effectiveness

Jung and Sosik (2002) established that psychological empowerment has an indirect effect on team effectiveness, through the mediating effect of collective-efficacy. Collective-efficacy in this study referred to the confidence the team has in their abilities, mainly based on past experiences.

Most of the empowerment research has been conducted on the individual level. In a process to overcome this limitation a study was done with a focus on the empowerment climate within a working unit and its effect on performance was evaluated (Seibert et al., 2004). Empowerment climate was defined as the shared perception regarding the extent to which the organisation makes use of structures, policies, and practices supporting employee empowerment. Evidence was found that empowerment climate is significantly related to work-unit performance. Empowerment climate also affects individual performance through the mediating effect of psychological empowerment (Seibert et al., 2004).

Team empowerment refers to the shared perception among team members regarding the team's collective level of empowerment (Chen et al., 2007). Mathieu et

al. (2006) defined team empowerment as the extent to which members can solve problems on their own, make business decisions, and are accountable and accept responsibility for the outcomes of these decisions. Teams that are more empowered believe that they have the collective ability to accomplish work related tasks, are perceived to be intrinsically meaningful and significantly important for the organisation, and as a group they have a higher degree of choice or discretion in everyday work related decisions (Seibert, Wang, & Courtright, 2011). Team empowerment was found to have a significant, positive direct relationship with the qualitative performance of a team (Mathieu et al., 2006). Seibert et al. (2011) conducted a study focussing on teams in which a significant positive correlation of .51 was found between team empowerment and team performance. Similar results was found by Chen et al. (2007) when team empowerment was found to significantly, positively relate to team performance. However, for teams working with customers directly, no direct relationship was found between team psychological empowerment and customer satisfaction. Such a relationship, according to Mathieu et al. (2006), is fully mediated through team processes.

In a study, specifically focused on teams, a high positive correlation was found between psychological empowerment and perceived team effectiveness (Ozaralli, 2003). Furthermore, this study established that the dimension of meaningfulness had the strongest relationship to overall perceived team effectiveness. Meaningfulness was defined as including the sub-dimensions of meaning and goal-internalization.

For the purpose of this study it is hypothesised that psychological empowerment will positively influence team effectiveness.

2.11 The relationship between transformational leadership and team effectiveness

Transformational leaders by definition inspire followers to accomplish challenging goals and perform beyond expectation. By appealing to followers' self-interest as well as shared values, transformational leaders assist followers to collectively maximise performance (Howell & Avolio, 1993). Thus, theoretically there is no doubt that transformational leadership will enhance team effectiveness.

Braun et al. (2013) conducted a study in which they found significant empirical evidence supporting the direct, strong, and positive relationship between team

members' perception of their supervisor's transformational leadership and team performance. In other words, team members who reported that they followed a transformational leader perceived their team as being more effective. A high, positive correlation was found between transformational leadership and subordinates' perceived team effectiveness (Ozaralli, 2003)

In another study it was found that transformational leaders enhance team performance by promoting team cooperation (Zhang, Cao, & Tjosvold, 2011). Transformational leaders promote team cooperation by encouraging team members to adopt a cooperative, rather than a competitive, approach to conflict management. Zhang et al. (2011) argue that conflict is one of the most common and important phenomena in team interactions. The results of this study therefore suggest that transformational leaders help team members manage conflict for their mutual benefit, which then leads to increased team cooperation and hence team performance.

Schaubroeck et al. (2011) established that even though a variety of mediators and moderators are present in the relationship between transformational leadership and team effectiveness, there is also a definite direct relationship. In this study a direct relationship between transformational leadership and team performance was discovered (Schaubroeck et al., 2011). Jung and Sosik (2002) established similar results. In their study transformational leadership was shown to affect a team's performance through various mediators and moderators, as well as directly.

It can therefore be hypothesised that transformational leadership will have a direct and positive influence on team effectiveness.

2.12 The structural model

Based on the literature review and the different relationships between transformational leadership, organisational trust, psychological empowerment, and team effectiveness, as highlighted by the literature review, a structural model was conceptualised. This structural model which is depicted below in Figure 2.1 reflects the proposed linkages between the different constructs.

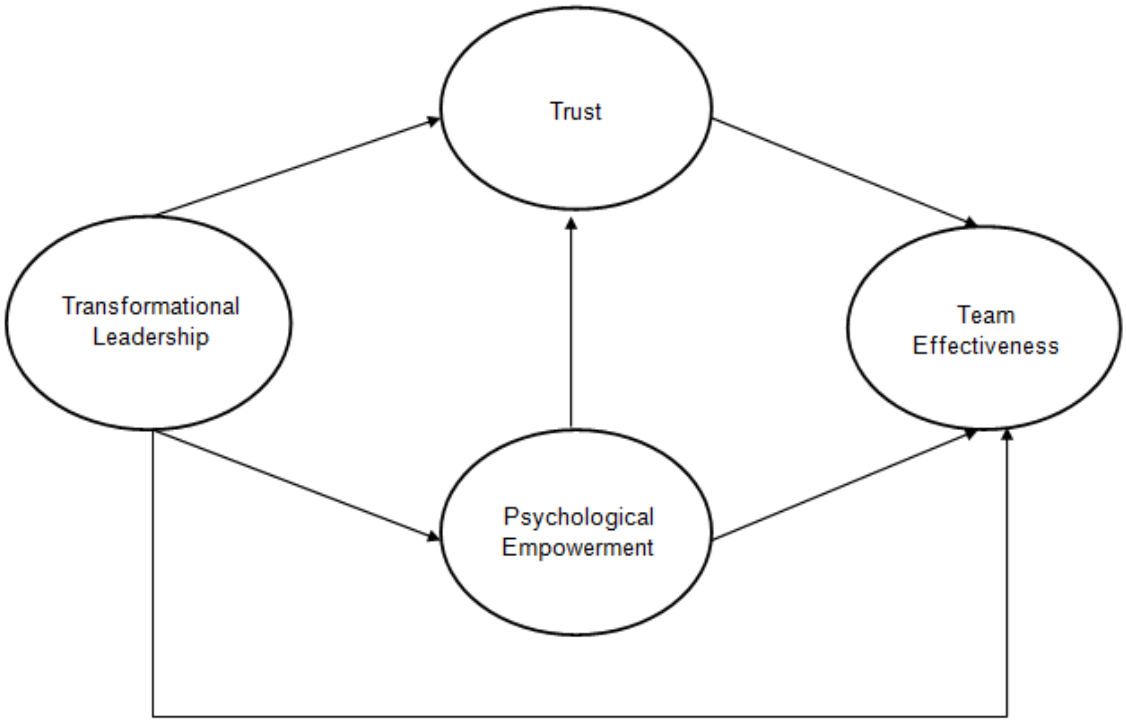

***Figure 2.1*: Conceptual structural model representing the relationship between transformational leadership, organisational trust, psychological empowerment, and team effectiveness**

2.13 Conclusion

This chapter presented a theoretical and empirical overview of the literature on transformational leadership, organisational trust, psychological empowerment, and team effectiveness. Specific focus was placed on how these constructs are conceptualised and defined in the literature, as well as on the instruments used to measure these constructs. Based on previous literature regarding the relationships between these constructs, and logic reasoning, a structural model was developed and will be tested in the following chapter.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

After an in-depth study of the appropriate constructs in the current literature as portrayed in chapter two, relationships between transformational leadership, organisational trust, psychological empowerment, and team effectiveness were suggested in the form of a structural model. In order to adhere to the primary objective of this study namely, to evaluate the influence of transformational leadership on trust, psychological empowerment, and team effectiveness, it was necessary to fit the structural model and to empirically investigate the hypotheses that go with it.

Chapter three thus presents the substantive research hypotheses, the research design, method of sampling, measuring instruments and statistical analysis procedure that were used to establish the model fit and the strength and paths of the envisaged hypotheses.

3.2 Research design

The research design is seen to be the plan, guideline, or blueprint of how research should be performed (Babbie & Mouton, 2001).

This study follows a quantitative explanatory research approach using one measurement instrument for each variable. The structural model depicted in Figure 2.1 represents specific hypothesised relationships between the latent variables. These relationships as outlined in the six hypotheses (see Chapter Two) were tested using an ex post facto correlational research design. An ex post facto correlational design is characterised by the absence of experimental manipulation of the exogenous latent variables, as well as by an absence of using random assignment to select the participants (Babbie & Mouton, 2001). According to Babbie and Mouton (2001), a correlational design strategy is useful to measure two or more variables as they exist naturally in order to establish relationships which can be used to make predictions. Therefore this design was ideally suited for this study since the aim is to explore the existing relationships between transformational leadership, trust, psychological empowerment, and team effectiveness.

The structural model depicted in Figure 3.1 consists of one exogenous latent variable en three endogenous variables. The correlational design can be schematically portrayed as follows:

$[X_{11}]$	$[X_{21}]$	Y_{11}	Y_{21}	Y_{31}	Y_{41}	Y_{51}	Y_{61}
$[X_{12}]$	$[X_{22}]$	Y_{12}	Y_{22}	Y_{32}	Y_{42}	Y_{52}	Y_{62}
$[X_{13}]$	$[X_{23}]$	Y_{13}	Y_{23}	Y_{33}	Y_{43}	Y_{53}	Y_{63}
...	...	...	...	...	...	…	…
$[X_{1i}]$	$[X_{2i}]$	Y_{1i}	Y_{2i}	Y_{3i}	Y_{4i}	Y_{5i}	Y_{6i}
...	...	...	...	...	...	…	…
$[X_{1n}]$	$[X_{2n}]$	Y_{1n}	Y_{2n}	Y_{3n}	Y_{4n}	Y_{5n}	Y_{6n}

3.3 Sampling

For structural equation modelling a suitable sample size is one with at least 200 observations. In order to evaluate the influence of transformational leadership on trust, psychological empowerment, and team effectiveness a sample of 224 individuals working in a team environment within different sectors was selected. For the purpose of this study the focus was on functional teams. Functional teams are organised according to similarity in the skills, expertise, and resource use of members as to permit economies of scale and efficient resources (Uhl-Bien & Graen, 1998). Within functional teams, span of control may be wider and the unit may be larger due to common technical skills. For the purpose of this study one functional team referred to a department or unit within a larger organisation in which employees share a common goal.

Based on the guidelines, the proposed structural model and the proposed procedure for operationalising the latent variables, the target population for this study was selected to be first-line/non-managerial to middle-level management employees operating in a team environment. The follower is consequently the only unit of analysis in this study (i.e. the follower can be seen as both the research subject and the research participant). This would imply that the hypotheses examined are according to the follower's perception of his/her leader's transformational leadership qualities, his/her perception of organisational trust, psychological empowerment and team effectiveness.

There are two possible ways of sampling, probability sampling and non-probability sampling. Probability sampling refers to the selection of a random sample from a list containing all the names of everyone making up the population (Babbie & Mouton, 2001). Although probability sampling is in a way the ideal and most accurate sampling method in order to get a representative sample, it is not always practically attainable. Alternatively, non-probability sampling can be used as a convenient way of obtaining the appropriate sample (Babbie & Mouton, 2001). This technique implies that individuals who presented themselves available for the study were selected. Various organisations were approached to request institutional permission to conduct the research study in the organisation. The identities of the participating organisations will not be revealed due to the possible sensitive nature of what the data may reveal.

3.3.1 Data collection procedure

A questionnaire consisting of a measurement instrument for each of the four latent variables as seen in Figure 2.1 was used for the data gathering process. Participants were required to accept the conditions specified in the instructions of the online, as well as the hard copy version of the questionnaire. In order to maintain confidentiality all questionnaires, whether online or hard copy, were completed anonymously. Participants were also guaranteed that the study holds no potential risks or discomfort and individual responses would not be revealed to managers, but rather stored directly on the database of Stellenbosch University. Managers/leaders of the subordinates participating in the study will only receive aggregate feedback on the findings of this study. Thus, no individual responses from participants could be linked to a specific manager/leader.

Respondents evaluated their leader's transformational behaviours. Together with this, respondents also reported on their own perception of the climate of organisational trust, aspects regarding psychological empowerment, and their team's effectiveness.

3.3.2 The demographic profile of the sample

The overall sample consisted of 224 individuals operating in a team environment from which 46.4% were male and 53.6% females. An average age of 38 years was established for the sample, indicating the majority of the sample was aged between

31 and 40 years. A more descriptive breakdown of the sample in terms of the age and ethnic group, job level and industry is depicted in Table 3.1.

Table 3.1:

Breakdown of Demographical variables

Variable	Frequency	Percentage (%)
Gender		
Male	104	46.4%
Female	120	53.6%
Age of participants		
Below 20	0	0%
21 – 30	51	22.8%
31 – 40	83	37.1%
41 – 50	55	24.5%
Above 50	32	14.3%
No response	3	1.3%
Ethnic group		
African	61	27.2%
Coloured	62	27.7%
Indian	6	2.7%
White	95	42.4%
Current job level		
Non-managerial	143	63.8%
Lower level management (first line management)	55	24.6%
Middle level management	22	9.8%
Upper level management	4	1.8%

Organisation's industry		
Financial services	33	14.7%
Retail	33	14.7%
Manufacturing and construction	67	29.9%
Public service	4	1.8%
Other	87	38.8%

3.4 Missing values

Missing values is the result of the unwillingness of a respondent or respondents to answer particular items in the questionnaire. Such non-response is a common problem that occurs during data gathering, and has to be resolved before the data can be analysed. The method to be used is dependent on the number of missing values. Various methods of dealing with missing values exist; some of these will be discussed:

- List-wise deletion
- Pair-wise deletion
- Imputation by matching
- multiple imputation

List-wise deletion is one of the most popular methods and refers to the deletion of the entire case when missing values are found for any of the variables (Du Toit & Du Toit, 2001). The final sample to be used in the analysis will therefore only include complete data records. On the down side, this method results in a decrease in sample size.

Pair-wise deletion on the other hand refers to the deletion of cases containing missing values only for analysis purposes. In other words the case is not deleted for the entire set of analysis but only on the particular analysis involving variables for which there are no observed scores (Byrne, 2001).

Imputation by matching entails that missing values are substituted by real values. These real values are obtained by looking at cases that show a similar response pattern to items that share a set of matching variables. This subsequently creates a completed data set (Du Toit & Du Toit, 2001).

Multiple imputation is where a number of imputations are made that each creates a completed data set. In LISREL 8.80 the missing values are substituted by average values imputed in the data set and therefore credible values are created that also reflects the uncertainties of these estimates as these values are not the true obtained scores but only approximations (Du Toit & Du Toit, 2001). The main assumptions made by multiple imputation method are that the data is missing at random and that the data follows an underlying multivariate normal distribution. For the purpose of this study the multiple imputation method was used to deal with the few missing values that were present.

3.5 Measuring instruments

Four measuring instruments were used to measure the constructs of transformational leadership, organisational trust, psychological empowerment, and team effectiveness.

3.5.1 Transformational leadership

To measure transformational leadership, with its four sub-dimensions, an adapted version of Bass and Avolio's (1995) Multifactor Leadership Questionnaire (MLQ) was used. The short form of the questionnaire, namely the MLQ 5-45, as adapted by Engelbrecht (Engelbrecht, Van Aswegen, & Theron, 2005), was utilised for the purpose of this study. This adapted scale consists of 20 items.

Satisfactory reliabilities have been reported for each of the four subscales (Engelbrecht & Chamberlain, 2005). Throughout different studies the MLQ scales proved to be reliable and possessed good predictive validity (Lowe et al., as cited in Van Aswegen & Engelbrecht, 2009). Ryan (2012) found that the Cronbach's alphas for the MLQ transformational leadership subscales were as follow: intellectual stimulation $\alpha = .768$, idealised influence $\alpha = .922$, inspirational motivation $\alpha = .885$, and individual consideration $\alpha = .872$.

For the purpose of this study only the rater version of the MLQ was utilised and was adapted to a 6-point Likert type scale in which followers could score leaders' behaviours ranging from 1 (almost never) to 6 (almost always) (Engelbrecht & Chamberlain, 2005).

3.5.2 Organisational Trust

Organisational trust was measured using an adapted 28-item version of the Workplace Trust Survey (WTS) developed by Ferres and Travaglione (2003). The WTS consists of three dimensions: trust in the leader (9 items), trust in the organisation (10 items), and trust in co-worker (9 items). The dimension of trust in co-workers was used to assess the trust team members have in their co-team members. Satisfactory Cronbach's alpha coefficients for the three sub-dimensions were established and ranged from .90 to .97 (Ferres et al., 2004). The dimensions of the WTS was scored on a 6-point Likert-type scale ranging from 1 (disagree strongly) to 6 (agree strongly).

3.5.3 Psychological empowerment

Psychological empowerment was measured with the 16-item Psychological Empowerment Scale (PES) that was developed and validated by Spreitzer (1995a). The PES consists of four sub-dimensions including meaningfulness, competence, self-determination, and impact. Each dimension consists of four items that are rated on a five-point Likert-type scale. Numerous validation studies have shown the reliabilities of these subscales to be satisfactory with Cronbach's alpha's ranging from 0.83 to 0.91 (Spreitzer, 1995a; Spreitzer, 1996). The rating scale was adapted to a 6-point Likert-type scale which ranged from 1 (disagree strongely) to 6 (agree strongly).

3.5.4 Team effectiveness

Team effectiveness was measured by the Team Effectiveness Scale (TES) developed by Engelbrecht (2013). The TES consists of 21 items and was developed from a variety of already existing questionnaires measuring some aspect of teams' performance and effectiveness. Items from the following instruments were selected and adapted: the Team Effectiveness Questionnaire (Larson & LaFasto, 2001) (2 items), the Team Commitment Survey (Benett, 1997) (3 items), and two additional

effectiveness questionnaires as developed by Bateman et al., (2002) (12 items), as well as Doolen et al., (2003) (3 items). An additional item was developed for inclusion in the TES (Engelbrecht, 2013). This item emphasises the team members' valuing and utilising of cultural diversity. This scale was developed to be rated on a 6-point Likert-type scale ranging from 1 (disagree strongly) to 6 (agree strongly).

3.6 Statistical techniques

After all the data on the four constructs had been gathered, the data was statistically analysed in order to test the hypothesised relationships between the variables. The statistical techniques that were utilised in this study were item analysis, Exploratory Factor Analysis (EFA) where appropriate, Confirmatory Factor Analysis (CFA), and Structural Equation Modelling (SEM).

3.6.1 Item Analysis

Item analysis is done in order to determine whether a measurement is reliable and to identify items in the particular scale that do not represent the specific latent variable. Items are referred to as poor items when they are unable to differentiate between various states of the latent variable it is meant to reflect, as well as when it is unable to detect states that do not reflect the latent variable. Poor items will be considered for elimination.

A measurement is reliable to the extent to which it provides the same result regardless of any opportunities for variation that might occur (Nunnally, 1978). Coefficient alphas were calculated to determine the reliability of these four scales based on internal consistency. The size of the reliability coefficient is based on both the average correlation among items (internal consistency) and the number of items (Nunnally, 1978). Guidelines that will be used to evaluate the reliabilities of the subscales and total scales are depicted in Table 3.2 (Nunnally, 1967). Cronbach's alphas range from 0 to 1 and the closer the values to 1, the greater the internal consistency of the items of the scale. All four measurement scales and subscales went through item analysis with the use of SPSS Reliability Procedure to identify possible items to be eliminated.

Table 3.2:

Nunnally's general guidelines for interpreting Reliability Coefficients

Reliability coefficient value	Interpretation
0.9 and above	Excellent
0.80 – 0.89	Good
0.70 – 0.79	Adequate
Below 0.70	May have limited applicability

3.6.1.1 Confirmatory Factor Analysis

Confirmatory Factor Analysis (CFA) is a technique for testing hypotheses or theories relating to the structure underlying a set of variables (Pallant, 2007). LISREL 8.80 was used to perform CFA separately on the different subscales used in this study. The results from CFA are discussed per dimension in terms of important fit indices (See section 3.7).

In this study an initial test of good model fit is indicated when the P-value for Close Fit > 0.05 and RMSEA < 0.08 (Kline, 2011). When this is the case, each item should be evaluated in terms of its completely standardised factor loadings (LAMDA-X). Acceptable items will have a value > 0.50, which will indicate that the item contributes successfully to the coherency of the subscale. If all items load significantly on the latent variable, the confirmatory factor analysis procedure is completed. When an item does not load significantly on the variable, the item is considered for deletion.

3.6.2 Exploratory Factor Analysis

In cases where unsatisfactory results were found for one or more of the measuring scales it was decided to use EFA to evaluate the factor structure of the measurement and remove complex items accordingly. The purpose of EFA is thus to confirm unidimensionality of each scale and subscale and to remove items with

inadequate loadings (Theron, Spangenberg, & Henning, 2004). SPSS was used to perform the unidimensionality test for each subscale.

The Principal-Axis factoring extraction method with Direct Oblimin rotation was used over the more traditional Principal Components Method with Varimax rotation, since it is a more rigorous approach. Another reason for using this method is because there is an expectation that inter-correlations exist between the factors (Fabrigar, MacCallum, Wegener, & Strahan, 1999).

Factors with eigenvalues greater than one, which is also indicated as “clear breaks” on the Scree-plot are considered to indicate the number of meaningful factors. After the number of factors is determined, the rotated matrix will be evaluated. All factors with loadings ≤ 0.30 are viewed as poor and those that load high on more than one factor will be deemed complex items, and will be removed from the data (Tabachnick & Fidell, 2001).

3.6.3 Structural Equation Modelling

Structural Equation Modelling (SEM) is the statistical technique utilised in this study. With the use of LISREL 8.80 SEM was implemented to test the fit of the structural model proposed in Figure 3.1. The purpose of SEM is to summarise the interrelationships between variables (Western & Gore, 2006). Three prominent reasons for using SEM are given by Kelloway (1998). Firstly, SEM deals directly with how the measure reflects the intended constructs through confirmatory factor analysis and allows researchers to evaluate the measurement properties of certain scales. Secondly, SEM techniques allow for specification and testing of complex paths models that incorporate the sophisticated understanding of complex phenomena. And thirdly, SEM is used to simultaneously assess the quality of measurement and examine the predictive relationships among constructs by performing confirmatory factor analysis and path analysis (Kelloway, 1998).

Through SEM, the reliability of measurement in the model can be identified which allows for accurate estimations regarding the structural relationships between the latent variables. Therefore, the researcher can develop complex relationships and test whether these relationships are reflected in the sample data. In the case where weaknesses are found, the researcher would then further explore using a modified model and a new sample (Western & Gore, 2006).

However, before SEM can be implemented the data has to undergo the multivariate normality assessment on the indicator variables used to fit both the measurement and structural models.

3.6.3.1 Multivariate normality

The underlying assumption of most multivariate analysis and statistical tests is that of multivariate normality. Multivariate normality is the assumption that all variables and all combinations of variables are normally distributed. Maximum likelihood (assumption that variables are continuous) requires the indicator variables used to operationalise the independent variables, to show a multivariate normal distribution. The null hypothesis stating that this assumption is satisfied was formally tested through PRELIS. If the data did not follow a multivariate normal distribution it was attempted to normalise the data and if this was not successful then robust maximum likelihood estimation was used.

3.6.4 The structural model

The structural model consists of a set of linear structural equations which "specifies the causal relationships among the latent variables, describes the causal effects and assigns the explained and unexplained variance" (Jöreskog & Sörbom, 1996).

The structural model, as depicted in Figure 3.1, is based on the theoretical arguments presented in Chapter two. This structural model consists out of one exogenous variable and three endogenous variables. Transformational leadership is depicted as the independent or exogenous latent variable and is identified by the symbol Ksi (ξ). Organisational trust, psychological empowerment, and team effectiveness represent the dependent or endogenous variables and are indicated with the symbol Eta (η).

In this structural model there are also various paths which represent the relationships between the different variables. The paths between the exogenous and endogenous variables are indicated with the symbol gamma (γ), while the paths between the endogenous variables are indicated with the symbol beta (β). Zeta (ζ) represents the errors in structural equations and describes the error terms of η1, η2, η3. Zeta therefore represents residual error in the latent endogenous variables.

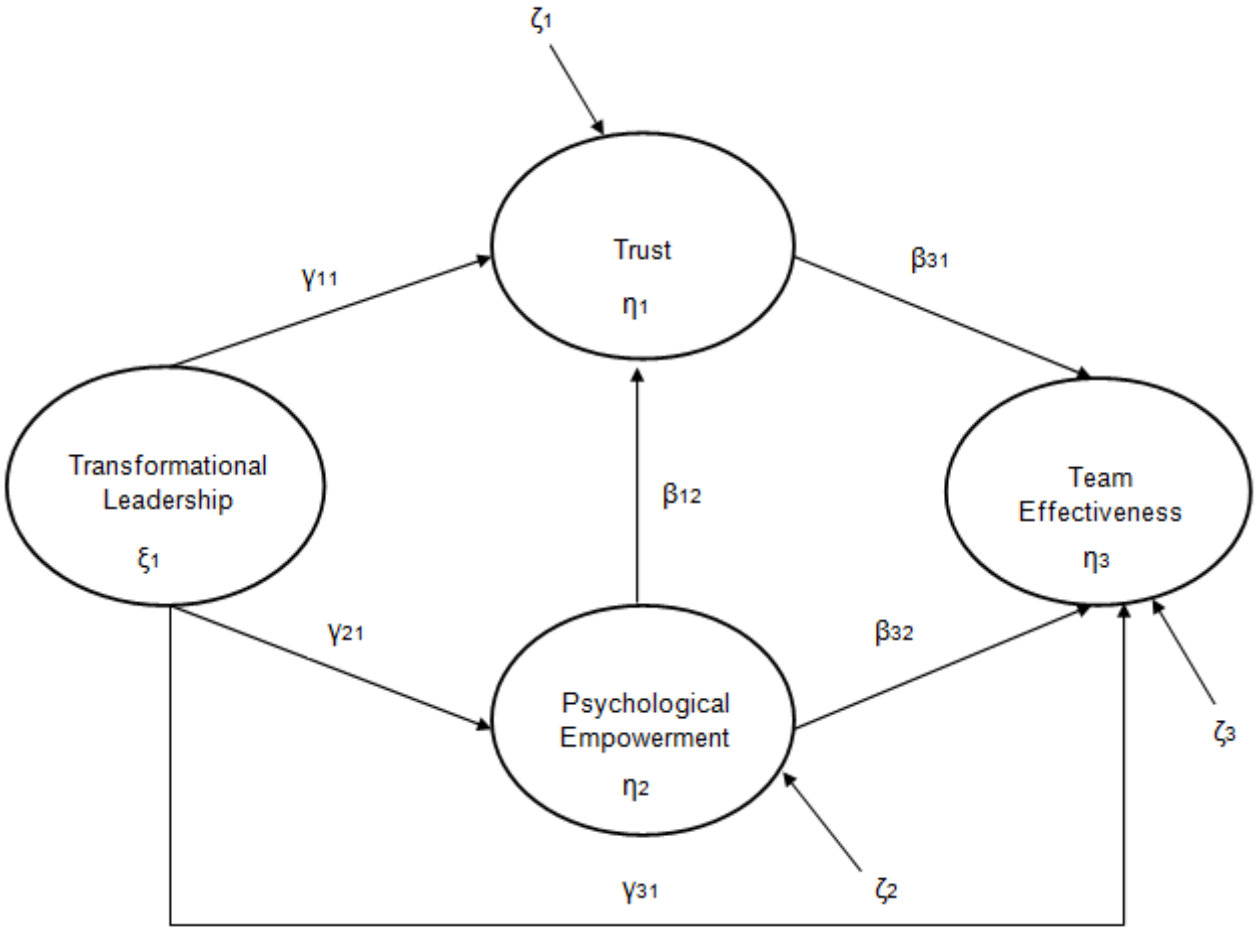

Figure 3.1: **The structural model representing the relationship between transformational leadership, organisational trust, psychological empowerment, and team effectiveness with LISREL symbols.**

The structural model matrix form:

From looking at the exogenous and endogenous variables while taking the gammas and betas into account, the matrix equation can be developed as follows:

$$\begin{bmatrix}\eta_1\\ \eta_2\\ \eta_3\end{bmatrix} = \begin{bmatrix}0 & \beta_{12} & 0\\ 0 & 0 & 0\\ \beta_{31} & \beta_{32} & 0\end{bmatrix}\begin{bmatrix}\eta_1\\ \eta_2\\ \eta_3\end{bmatrix} + \begin{bmatrix}\gamma_{11}\\ \gamma_{21}\\ \gamma_{31}\end{bmatrix}\begin{bmatrix}\xi_1\end{bmatrix} + \begin{bmatrix}\zeta_1\\ \zeta_2\\ \zeta_3\end{bmatrix}$$

$$\eta = B\eta + \Gamma\xi + \zeta$$

3.6.5 Statistical hypotheses

The overarching substantive research hypothesis of this study was to investigate the nature of the influence of transformational leadership, organisational trust, and psychological empowerment on team effectiveness. Based on logical theoretical arguments combined with existing research in the literature study the structural model as depicted in Figure 3.1 was developed to be tested. The overarching substantive research hypothesis would thus be interpreted to indicate that the structural model provides a perfect explanation of the manner in which transformational leadership, organisational trust, and psychological empowerment influence team effectiveness. The substantive research hypothesis which represents the exact model fit is tested by the Satorra-Bentler Scaled Chi-square. The close fit hypothesis is tested by the Root Mean Square Error of Approximation (RMSEA).

If the model provides a perfect explanation of the manner in which transformational leadership influence organisational trust, psychological empowerment, and team effectiveness, the substantive research hypothesis will translate into the following exact fit null hypothesis:

H_{01}: RMSEA = 0

H_{a1}: RMSEA > 0

If the model only provides an approximate account of the way in which transformational leadership influence organisational trust, psychological empowerment, and team effectiveness, the substantive research hypothesis will translate into the following close fit null hypothesis:

H_{02}: RMSEA ≤ 0.05

H_{a2}: RMSEA > 0.05

The overarching substantive research hypothesis was divided into six more detailed and specific substantive research hypotheses which can be converted into the following path coefficient statistical hypotheses:

Hypothesis 3

Transformational leadership (ξ_1) has a significant positive influence on organisational trust (η_1).

H_{03}: $\gamma_{11} = 0$

H_{a3}: $\gamma_{11} > 0$

Hypothesis 4

Transformational leadership (ξ_1) has a significant positive influence on followers' psychological empowerment (η_2).

H_{04}: $\gamma_{21} = 0$

H_{a4}: $\gamma_{21} > 0$

Hypothesis 5

Organisational trust (η_1) has a significant positive influence on team effectiveness (η_3).

H_{05}: $\beta_{31} = 0$

H_{a5}: $\beta_{31} > 0$

Hypothesis 6

Psychological empowerment (η_2) has a significant positive influence on team effectiveness (η_3).

H_{06}: $\beta_{32} = 0$

H_{a6}: $\beta_{32} > 0$

Hypothesis 7

Psychological empowerment (η_2) has a significant positive influence on organisational trust (η_1).

H_{07}: $\beta_{12} = 0$

H_{a7}: $\beta_{12} > 0$

Hypothesis 8

Transformational leadership (ξ_1) has a significant positive influence on team effectiveness (η_3).

H_{08}: $\gamma_{31} = 0$

H_{a8}: $\gamma_{31} > 0$

Table 3.3:

The Statistical hypotheses

Hypothesis 3	**Hypothesis 4**	**Hypothesis 5**
H_{03}: $\gamma_{11} = 0$	H_{04}: $\gamma_{21} = 0$	H_{05}: $\beta_{31} = 0$
H_{a3}: $\gamma_{11} > 0$	H_{a4}: $\gamma_{21} > 0$	H_{a5}: $\beta_{31} > 0$
Hypothesis 6	**Hypothesis 7**	**Hypothesis 8**
H_{06}: $\beta_{32} = 0$	H_{07}: $\beta_{12} = 0$	H_{08}: $\gamma_{31} = 0$
H_{a6}: $\beta_{32} > 0$	H_{a7}: $\beta_{12} > 0$	H_{a8}: $\gamma_{31} > 0$

3.7 Assessing Model Fit

Structural Equation Modelling is mostly used to asses model fit. A wide range of goodness-of-fit statistics that can be used to assess a model's overall fit has been developed over the years. Kelloway (1998) refers to goodness-of-fit indices for assessing absolute, comparative and parsimonious fit.

3.7.1 Absolute fit

Absolute fit indices are explained as the "proportions of the covariances in the sample data matrix explained by the model" (Kline, 2011). Therefore, the tests of absolute fit directly assess how well a model reproduces the sample data. The first measure of fit is the chi-square (χ^2) statistic, which is a traditional measure for evaluating overall fit. It provides a test of perfect fit. A statistically significant chi-square leads to the rejection of the model; indicating the model does not fit perfectly

(Diamantopoulos & Siguaw, 2000). The null hypothesis tested by the chi-square is H0: $\Sigma = \Sigma(\theta)$.

The aim here is to not reject H0 and the Satorra Bentler χ^2 statistic is used to test this hypothesis. A non-significant χ^2 indicates that the model fits the data well, indicating that the model can reproduce the population covariance matrix (Kelloway, 1998). The null hypothesis of exact fit is, however, very unrealistic, and therefore it is more appropriate to assess the p-value for the test of close fit (RMSEA < 0.05).

The chi-square is sensitive to sample size, however, and in order to avoid an increase in the χ^2 with an increase in sample size, the χ^2 should be expressed in terms of its degrees of freedom (i.e. χ^2/df). Disagreement about the interpretation of the values for χ^2/df exists in the literature, but good fit is generally indicated by values between 2 and 5. A value less than 2 indicates over fitting (Kelloway, 1998).

LISREL reports a number of Absolute fit indices. The Goodness-of-fit Index (GFI) which directly assesses how well the covariances predicted from the parameter estimates reproduces the sample covariance. The GFI ranges from 0 (poor fit) to 1 (perfect fit), with values exceeding 0.9 assumed to indicate a good fit of the model to the data (Kelloway, 1998).

The Root Mean Square Residual (RMR) is a measure of the average value of the difference between the sample covariance matrix and a fitted covariance matrix reproduced by the theoretical model (Diamantopoulos & Siguaw, 2000). It is generally accepted that the lower the index, the better the fit of the model to the data. The standardised RMR represents fitted residuals divided by their estimated standard errors and has a lower bound of 0 and an upper bound of 1, with values less than 0.05 interpreted as indicating a good fit to the data (Kelloway, 1998).

The Root Mean Square Error of Approximation (RMSEA) is regarded as one of the most informative fit indices. Smaller values indicate a better fit to the data. Values lower than 0.08 indicate a reasonable fit and a value lower than 0.05 indicates a good fit, while values below 0.01 indicate outstanding fit to the data (Diamantopoulos & Siguaw, 2000).

Another absolute fit index is the Expected Cross Validation Index (ECVI). The ECVI focuses on the overall error. It measures the difference between the fitted covariance matrix in the analysed sample and the expected covariance matrix that would be

obtained in another comparable sample. Smaller ECVI values indicate better fitting models that are believed to have the greatest potential for replication (Diamantopoulos & Siguaw, 2000).

3.7.2 Comparative fit

Comparative fit (also called incremental fit) represents the relative improvement in fit of the model compared to the statistical baseline model. The baseline model refers to the independence (null) model. According to Kelloway (1998), the null model indicates no relationship between the variables composing the model. Comparative fit measures reported are the Normed-Fit Index (NFI), the Non-Normed Fit Index (NNFI), the Incremental Fit Index (IFI), the Comparative Fit Index (CFI), the Relative Fit Index (RFI) and the Adjusted Goodness-of-Fit Index (AGFI). All of these fit indices have a range of 0 to 1. Values closer to one, especially values > 0.90, represent good fit (Kelloway, 1998).

3.7.3 Parsimonious fit

Kelloway (1998) contends that parsimonious indices of goodness-of-fit are based on the recognition that one can always obtain a better fitting model by means of estimating more parameters. This index has a built-in correction in its formula for model complexity. There is, however, no set standard for how high or low the ideal value should be (Kelloway, 1998). Although these indices can be useful when comparing two models, it is not the most important indices to consider for the evaluation of model fit. For the aforementioned reason the parsimonious fit will not be discussed in this study.

The goodness-of-fit indices as described above are summarised in Table 3.4. These indices were used for the purpose of reaching a meaningful conclusion regarding model fit.

Table 3.4

Criteria of goodness-of-fit indices

Goodness-of-fit indices	
Absolute fit measures	
Minimum fit function Chi-Square	A non-significant result indicates model fit
χ^2 /df	Values between 2 and 5 indicates good fit
Root Mean Square Error Chi-Square (RMSEA)	< 0.08 indicate reasonable fit; < 0.05 indicate good fit, and < 0.01 indicate outstanding fit.
P-Value for Test of Close Fit (RMSEA < 0.05)	Value > 0.05 indicate good fit
90% Confidence Interval for RMSEA	This is a 90% confidence interval of RMSEA testing the closeness of fit (i.e., testing the hypothesis H0: RMSEA < 0.05).
Root Mean Square Residual (RMR)	Lower values indicate better fit, with values below 0.08 indicative of good fit.
Standardised RMR	Lower values indicate better fit, with values less than 0.05 indicating good fit.
Goodness of Fit Index (GFI)	Values closer to 1 and > 0.90 represent good fit.
Incremental fit measures	
Normed Fit Index (NFI)	Values closer to 1 indicate better fit, with values > 0.09 indicative of good fit.
Non-Normed Fit Index (NNFI)	Higher values indicate better fit, with values > 0.90 indicative of good fit.
Adjusted Goodness of Fit (AGFI)	Values closer to 1 indicate better fit, with values > 0.90 indicative of good fit.
Comparative Fit Index (CFI)	Values closer to 1 indicate better fit, with values > 0.90 indicative of good fit.
Incremental Fit Index (IFI)	Values closer to 1 indicate better fit, with values > 0.90 indicative of good fit.
Relative Fit Index (RFI)	Values closer to 1 indicate better fit, with values > 0.09 indicative of good fit.
Parsimonious Fit Measures	
Parsimony Normed Fit Index (PNFI)	Values closer to 1 indicate better fit, with values > 0.09 indicative of good fit.
Parsimony Goodness of Fit Index (PGFI)	Values closer to 1 indicate better fit, with values > 0.09 indicative of good fit.

(Kelloway, 1998; Diamantopoulos & Siguaw, 2000)

3.8 Evaluation of research ethics

The purpose of reflecting on potential ethical risks associated with the proposed research is to protect the dignity, rights, safety and well-being of the research participants involved in this study. Empirical behavioural research requires the active or passive involvement of people. That may result in the dignity, rights, safety and well-being of the research participants being compromised to some degree. The critical question is whether this compromise can be justified in terms of the purpose of the research. In other words, the question is whether the costs that research participants have to incur balances with the benefits that accrue to society (Standard Operating Procedure, 2012).

There are no serious potential risks or discomforts envisaged in this study. Any concerns participants may have had regarding possible negative repercussions after evaluating their leader's/supervisor's leadership style was handled by assuring confidential use of the results. Most surveys were completed electronically on participants' own time, and submitted directly to the researcher. This was another measure to avoid possible stress for participants, since hard copies were limited. The obtained information was not used to determine the performance levels of the managers individually or on average but rather to test hypothesised relationships between the specific variables. All questionnaires were filled in anonymously, thus no inferences could be derived regarding individual employees' perception of their leader/supervisor. In other words participants' names and identities were not disclosed, and it would not be possible to determine any identities from the data submitted. Participants were not exposed to any substantial risks or discomfort other than the fact that they had to set aside approximately 30 minutes to complete the questionnaire.

Participation in this study had no direct benefit to the individual participant. Participation in the study would, however, provide the organisation with an opportunity to reflect on their leadership style as being transformational or not (as perceived by the participants), and the effect this has on team members' perceived organisational trust, their state of psychological empowerment, and teams' effectiveness.

The data collected during this study was treated as confidential. The participant's information remained anonymous and consequently only the researcher was able to

determine their identity from the data that submitted. Results were only presented in a combined form. Feedback regarding the combined results of the study was provided to the participating organisations. The results could provide an indication of whether any merit exists in developing interventions and training programmes aimed at any of these constructs.

The research participant had the right to voluntary decide whether he/she wished to accept an invitation to participate in research. In order to make an informed decision on whether he/she wished to participate in the research the participants needed to be informed on the objective and purpose of the research, what participation in the research involved, how the research was to be disseminated and used, who the researchers are, what their affiliation was, where they could make further inquiries about the research if they wished to do so, what their rights as participants are, and where they could obtain more information of their research rights (Standard Operating Procedure, 2012).

In Annexure 12 of the Ethical Rules of Conduct for Practitioners Registered under the Health Professions Act (Act no. 56 of 1974) (Republic of South Africa, 2006) it is required of a psychologist doing research to enter into an agreement with participants on the nature of the research, the participants responsibilities as well as those of the researcher. The agreement in terms of which the research participant provides informed consent should meet the following requirements according to Annexure 12 (Republic of South Africa, 2006, p.42):

> (1) a psychologist shall use language that is reasonably understandable to the research participant concerned in obtaining his or her informed consent.
>
> (2) Informed consent referred to in sub-rule (1) shall be appropriately documented, and in obtaining such consent the psychologist shall –
>
> a) inform the participant of the nature of the research;
> b) inform the participant that he or she is free to participate or decline to participate in or to withdraw from the research;
> c) explain the foreseeable consequences of declining or withdrawing;
> d) inform the participant of significant factors that may be expected to influence his or her willingness to participate (such as risks, discomfort, adverse effects or exceptions to the requirement of confidentiality);

e) explain any other matters about which the participant enquires;
f) when conducting research with a research participant such as a student or subordinate, take special care to protect such participant from the adverse consequences of declining or withdrawing from participation;
g) when research participation is a course requirement or opportunity for extra credit, give a participant the choice of equitable alternative activities; and
h) in the case of a person who is legally incapable of giving informed consent, nevertheless –
i) provide an appropriate explanation;

(ii) obtain the participants assent; and

(iii) obtain appropriate permission from a person legally authorized to give such permission.

The researcher obtained informed consent from the participants. Annexure 12 of the Ethical Rules of Conduct for Practitioners Registered under the Health Professions Act (Act no. 56 of 1974) (Republic of South Africa, 2006, p.41) requires psychological researchers to obtain institutional permission from the organisation from which research participants will be solicited:

A psychologist shall –

- obtain written approval from the host institution or organisation concerned prior to conducting research;
- provide the host institution or organisation with accurate information about his or her research proposals; and
- conduct the research in accordance with the research protocol approved by the institution or organisation concerned.

Informed institutional permission for the research was obtained from the participating organisations.

The instruments that were used to collect data from research participants all are available in the public domain. None of the instruments could be regarded as psychological tests as defined by the Health Professions Act (Republic of South Africa, 1974).

An application for ethical clearance of the proposed research study was submitted and approved by the Research Ethics Committee Human Research (Humanities) of Stellenbosch University.

3.9 Summary

After an extensive review of the literature regarding the influences of transformational leadership, organisational trust, and psychological empowerment on team effectiveness as presented in chapter two, this chapter provided an overview of the methodology that was used to statistically analyse the data obtained to test the hypothesised relationships. Also included in this chapter is the sampling procedure, information about the measurement instruments utilised, statistical hypotheses, as well as the statistical analyses used to establish the model fit and strengths of the envisaged hypotheses. The results of the research will be provided in the following chapter.

CHAPTER FOUR

RESEARCH RESULTS

4.1 Introduction

The theoretical model depicting the proposed relationship between transformational leadership, organisational trust, psychological empowerment and team effectiveness in Chapter two is based on relationships obtained from carefully investigating the literature. Based on this, hypotheses were formed which, together with the measurement and the structural model, were subjected to the methodology explained in Chapter three. Consequently, Chapter four reflects an in depth description of the results obtained through the data by means of the statistical analysis process explained previously.

The measurement models of the four underlying constructs, namely transformational leadership, organisational trust, psychological empowerment, and team effectiveness were subjected to reliability analyses, as well as fit analysis using CFA. The structural model containing the different relationships between constructs also underwent the statistical analysis to determine if the model fits the data. Hypotheses identified in chapter two were tested to determine the relationships between the constructs. This chapter provides a discussion of the outcomes of the statistical analysis of all the models and the end findings thereof.

4.2 Missing values

Given that the majority of the sample completed the online questionnaire, that permitted participants to proceed only if the previous answer was filled out, missing values did not present a significant problem and only completed questionnaires were used in the analysis. For the few questionnaires that were completed on hard copies missing values were dealt with by using the multiple imputation method with LISREL 8.80.

4.3 Item analysis

Item analysis was performed using SPSS on all four measurement scales in order to ensure internal reliability and to identify the items that did not contribute to the internal description of the latent variables. Item analysis was necessary to ensure

that each of these measuring instruments reflects the variables they were intended to reflect. The reliability of each subscale of the measurement instruments was determined using the Cronbach's alpha as indicator. Cronbach's alpha values should preferably exceed the value of .70 in order to be seen as a reliable scale (Pallant, 2007). Therefore, in this study Cronbach's alpha values of .70 was regarded as satisfactory and scales below .70 qualified for elimination.

The Corrected Item-Total Correlation was also examined since it is an indication of the degree to which each item correlates with the total score. Values lower than .30 may indicate that the item is not measuring the specific scale (Pallant, 2007). The removal of these items should be considered as it may lead to a higher Cronbach's alpha for the entire scale.

4.3.1 Reliability analysis of the Multifactor Leadership Questionnaire

The MLQ consists of 20 items which are related to four subscales namely idealised influence, individual consideration, inspirational motivation, and intellectual stimulation. Each of these subscales was subjected to item analysis.

4.3.1.1 Reliability results: Idealised Influence

Table 4.1 represents the reliability results for the Idealised Influence subscale of Transformational leadership which consists of eight items. The Cronbach's alpha of the subscale was found to be .937 which can be deemed as an excellent reliability value according to Nunnally (1967). All items presented an item-total correlation above the recommended cut-off value of .30. Hence no items were flagged as problematic for this subscale.

Table 4.1

Reliability and Item-Total statistics of the Idealised Influence subscale

Reliability Statistics		
Cronbach's Alpha	Cronbach's Alpha based on standardised items	N of items
.937	.937	8

Item-Total Statistics					
Idealised Influence Items	Scale mean if item deleted	Scale variance if item Deleted	Corrected item-total correlation	Squared multiple correlation	Cronbach's alpha if item deleted
TFL01	29.21	81.996	.795	.651	.928
TFL03	29.53	83.004	.743	.593	.931
TFL06	29.54	80.026	.778	.643	.929
TFL08	28.31	80.924	.803	.681	.927
TFL10	29.58	78.452	.848	.739	.924
TFL12	29.36	80.356	.797	.653	.927
TFL13	29.97	86.246	.662	.459	.936
TFL19	29.39	82.230	.796	.666	.928

4.3.1.2 Reliability results: Individual Consideration

For the 4-item individualised consideration dimension of the MLQ, the Cronbach's alpha resulted in a value of .899, as can be seen in Table 4.2. This was satisfactory and above the recommended value. All items have item-total correlations above.30, indicating no problematic items. Therefore, the results of the individualised consideration subscale did not raise any concerns and no items were deleted.

Table 4.2:

Reliability and Item-Total statistics of the Individual Consideration subscale

Reliability Statistics		
Cronbach's Alpha	Cronbach's Alpha based on standardised items	N of items
.899	.899	4

Item-Total Statistics					
Individual Consideration Items	Scale mean if item deleted	Scale variance if item Deleted	Corrected item-total correlation	Squared multiple correlation	Cronbach's alpha if item deleted
TFL09	11.77	19.486	.792	.673	.865
TFL11	11.59	20.387	.726	.561	.888
TFL15	11.76	19.224	.784	.637	.867
TFL17	11.82	18.623	.803	.700	.860

4.3.1.3 Reliability results: Inspirational Motivation

With regard to the 4-item inspirational motivation dimension of transformational leadership as assessed by the MLQ, the Cronbach's alpha was found to be excellent with a value of .906. All the items resulted in item-total correlation above .30 indicating no need to delete any items. The reliability and item-total results is presented in Table 4.3.

Table 4.3:

Reliability and Item-Total statistics of the Inspirational Motivation subscale

Reliability Statistics		
Cronbach's Alpha	Cronbach's Alpha based on standardised items	N of items
.906	.906	4

Item-Total Statistics					
Inspirational Motivation Items	Scale mean if item deleted	Scale variance if item Deleted	Corrected item-total correlation	Squared multiple correlation	Cronbach's alpha if item deleted
TFL05	12.84	16.025	.796	.637	.875
TFL07	12.64	17.281	.783	.621	.880
TFL14	13.06	16.252	.810	.657	.870
TFL20	12.74	16.892	.764	.590	.886

4.3.1.4 Reliability results: Intellectual Stimulation

The final subscale of transformational leadership, intellectual stimulation, consists of four items and resulted in an excellent Cronbach's alpha of .907. As can be seen in Table 4.4 the item-total correlations for all the items were satisfactory above .30, therefore no items were deleted.

Table 4.4:

Reliability and Item-Total statistics of the Intellectual Stimulation subscale

Reliability Statistics		
Cronbach's Alpha	Cronbach's Alpha based on standardised items	N of items
.907	.907	4

Item-Total Statistics					
Intellectual Stimulation Items	Scale mean if item deleted	Scale variance if item Deleted	Corrected item-total correlation	Squared multiple correlation	Cronbach's alpha if item deleted
TFL02	11.96	17.209	.758	.633	.881
TFL04	11.99	16.942	.800	.647	.876
TFL16	12.28	17.080	.768	.603	.887
TFL18	12.22	16.270	.806	.654	.873

4.3.2 Reliability analysis of the Workplace Trust Survey

The WTS consists of 28 items related to three subscales namely trust in the leader, trust in the organisation, and trust in team members. Each of these subscales was subjected to item analysis.

4.3.2.1 Reliability results: Trust in the leader

The subscale of trust in the leader consists of nine items resulted in a good Cronbach's alpha of .886, as described in Table 4.5. This was a highly satisfactory value since it is above the recommended value of .70 (Nunnally, 1967). All items presented item-total correlations above .30; therefore no items were flagged as possible poor items. In other words, the result of the item analysis did not raise any concerns regarding the trust in the leader subscale.

Table 4.5:

Reliability and Item-Total statistics of the Trust in the Leader subscale

Reliability Statistics		
Cronbach's Alpha	Cronbach's Alpha based on standardised items	N of items
.886	.886	9

Item-Total Statistics					
Trust in Leader Items	Scale mean if item deleted	Scale variance if item Deleted	Corrected item-total correlation	Squared multiple correlation	Cronbach's alpha if item deleted
Trust35	38.25	67.067	.411	.369	.890
Trust36	39.10	56.711	.711	.589	.867
Trust37	38.08	63.016	.642	.492	.874
Trust38	38.97	56.864	.716	.566	.867
Trust39	37.97	65.968	.554	.520	.881
Trust40	38.33	62.330	.630	.495	.875
Trust41	38.95	59.486	.610	.508	.877
Trust42	38.65	57.493	.751	.700	.864
Trust43	38.95	56.809	.727	.694	.866

4.3.2.2 Reliability results: Trust in team members

Trust in team members is a 9-item subscale of the WTS which resulted in a Cronbach's alpha of .934 which falls in the excellent range, according to Nunnally (1967). All items presented satisfactory item-total correlations of above .30, as can be seen in Table 4.6. Hence, no items were flagged for possible removal.

Table 4.6:

Reliability and Item-Total statistics of the Trust in team members subscale

Reliability Statistics		
Cronbach's Alpha	Cronbach's Alpha based on standardised items	N of items
.934	.935	9

Item-Total Statistics					
Trust in Team Members Items	Scale mean if item deleted	Scale variance if item Deleted	Corrected item-total correlation	Squared multiple correlation	Cronbach's alpha if item deleted
Trust44	35.74	85.845	.770	.623	.925
Trust45	35.84	83.720	.768	.649	.926
Trust46	35.54	84.375	.840	.741	.921
Trust47	35.79	83..245	.786	.668	.924
Trust48	35.19	88.658	.748	.603	.927
Trust49	35.87	86.412	.745	.659	.927
Trust50	35.77	85.103	.788	.668	.924
Trust51	35.37	88.520	.608	.533	.935
Trust52	35.23	86.930	.746	.656	.927

4.3.2.3 Reliability results: Trust in the organisation

The 10-item subscale trust in the organisation also resulted in a good Cronbach's alpha of .891. All the items indicated item-total correlations of above .30, as can be seen in Table 4.7. No concerns were raised with any items, and therefore none was deleted.

Table 4.7:

Reliability and Item-Total statistics of the Trust in the organisation subscale

Reliability Statistics		
Cronbach's Alpha	Cronbach's Alpha based on standardised items	N of items
.891	.894	10

Item-Total Statistics					
Trust in the Organisation Items	Scale mean if item deleted	Scale variance if item Deleted	Corrected item-total correlation	Squared multiple correlation	Cronbach's alpha if item deleted
Trust25	45.51	64.663	.486	.369	.889
Trust26	45.49	62.412	.705	.679	.878
Trust27	45.88	62.232	.567	.400	.884
Trust28	45.96	58.832	.674	.524	.877
Trust29	45.97	59.752	.665	.563	.878

Trust30	46.63	59.275	.535	.415	.889
Trust31	46.22	57.113	.695	.615	.876
Trust32	45.57	59.780	.701	.660	.876
Trust33	45.86	58.344	.676	.564	.877
Trust34	46.23	58.287	.663	.583	.878

4.3.3 Reliability analysis of the Psychological Empowerment Scale

The PES consists of 16 items and was developed by Spreitzer (1995a) with four subscales namely competence, impact, meaning, and self-determination. Item analysis was performed on all four of these subscales.

4.3.3.1 Reliability results: Competence

The competence subscale consists of four items and revealed a good Cronbach's alpha of .822. According to the item-total correlations, no poor items could be flagged since all the values were above .30. Therefore, the item analysis raised no concerns regarding the competence subscale. The results are shown in Table 4.8.

Table 4.8:

Reliability and Item-Total statistics of the Competence subscale

Reliability Statistics		
Cronbach's Alpha	Cronbach's Alpha based on standardised items	N of items
.822	837	4

Item-Total Statistics					
Competence Items	Scale mean if item deleted	Scale variance if item Deleted	Corrected item-total correlation	Squared multiple correlation	Cronbach's alpha if item deleted
PE53	14.56	9.745	.470	.224	.876
PE61	14.52	9.327	.745	.632	.730
PE63	14.37	10.324	.670	.510	.768
PE67	14.37	9.508	.762	.661	.725

4.3.3.2 Reliability results: Impact

The 4-item impact subscale of the PES resulted in a satisfactory Cronbach's alpha of .837 since it is above the cut of point of .70. All the items reflected sufficient item-total correlations above .30, as can be seen in Table 4.9.

Table 4.9:

Reliability and Item-Total statistics of the Impact subscale

Reliability Statistics		
Cronbach's Alpha	Cronbach's Alpha based on standardised items	N of items
.837	837	4

Item-Total Statistics					
Impact Items	Scale mean if item deleted	Scale variance if item Deleted	Corrected item-total correlation	Squared multiple correlation	Cronbach's alpha if item deleted
PE56	13.91	11.628	.654	.581	.800
PE58	14.04	11.254	.710	.614	.774
PE64	14.06	12.166	.663	.571	.795
PE66	13.86	12.452	.647	.559	.803

4.3.3.3 Reliability results: Meaning

The subscale of meaning also consists of four items and resulted in a Cronbach's alpha of .820 which can be deemed as good according to Nunnally (1967). All the items indicated item-total correlations of above .30 and therefore no items were flagged as problematic. The results are presented in Table 4.10.

Table 4.10:

Reliability and Item-Total statistics of the Meaning subscale

Reliability Statistics		
Cronbach's Alpha	Cronbach's Alpha based on standardised items	N of items
.820	.821	4

Item-Total Statistics					
Meaning Items	Scale mean if item deleted	Scale variance if item Deleted	Corrected item-total correlation	Squared multiple correlation	Cronbach's alpha if item deleted
PE54	14.28	9.602	.754	.643	.718
PE57	14.27	9.840	.656	.585	.771
PE60	14.29	11.168	.632	.451	.779
PE65	14.07	12.354	.548	.374	.815

4.3.3.4 Reliability results: Self-determination

The final subscale of the PES, self-determination, consists of four items. A satisfactory and good Cronbach's alpha of .816 was found together with satisfactory item-total correlations of above .30. Therefore it was concluded that the item analysis did not raise any concerns for any of the subscales of the psychological empowerment measurement. Results can be seen in Table 4.11.

Table 4.11:

Reliability and Item-Total statistics of the Self-determination subscale

Reliability Statistics		
Cronbach's Alpha	Cronbach's Alpha based on standardised items	N of items
.816	.815	4

Item-Total Statistics					
Self-Determination Items	Scale mean if item deleted	Scale variance if item Deleted	Corrected item-total correlation	Squared multiple correlation	Cronbach's alpha if item deleted
PE55	14.62	9.906	.676	.617	.749
PE59	14.60	9.756	.693	.624	.740
PE62	14.43	11.134	.628	.481	.773
PE68	14.33	11.863	.554	.432	.804

4.3.4 Reliability analysis of the Team Effectiveness Scale

The TES consist of 21 items and no subscales. The item statistics of the items comprising the TES were calculated and are provided in Table 4.12. An excellent Cronbach's alpha of 0.967 was found. All the items obtained item-total correlations above .30 indicating no items to be considered for removal. It can thus be said that the item analysis for the TES raised no concerns.

Table 4.12:

Reliability and Item-Total statistics of the Team Effectiveness Scale

Reliability Statistics		
Cronbach's Alpha	Cronbach's Alpha based on standardised items	N of items
.967	.968	21

Item-Total Statistics					
Team Effectiveness Items	Scale mean if item deleted	Scale variance if item Deleted	Corrected item-total correlation	Squared multiple correlation	Cronbach's alpha if item deleted
TE69	97.28	351.869	.764	.652	.966
TE70	96.90	366.900	.678	.562	.967
TE71	96.93	359.830	.703	.611	.966
TE72	96.97	358.685	.757	.699	.966
TE73	97.00	360.457	.737	.653	.966
TE74	97.08	360.831	.719	.583	.966
TE75	97.08	354.442	.774	.665	.966
TE76	97.17	356.258	.697	.579	.967
TE77	97.13	359.216	.641	.597	.967
TE78	97.07	354.179	.804	.706	.965
TE79	96.91	356.656	.816	.772	.965
TE80	96.83	361.672	.767	.739	.966
TE81	96.83	361.065	.807	.761	.966
TE82	96.96	360.931	.740	.672	.966
TE83	96.71	356.325	.811	.786	.965
TE84	96.73	358.325	.798	.771	.965
TE85	97.13	349.808	.813	.759	.965
TE86	97.50	346.628	.790	.749	.966
TE87	97.33	350.215	.782	.753	.966

TE88	97.06	357.458	.720	.683	.966
TE89	96.71	357.766	.787	.727	.966

4.3.5 Summary of the item analysis results

After all the scales and subscales underwent item analysis it was concluded that all the Cronbach's alpha values exceed the required .70 cut-off and all the items presented high item-total correlations. Consequently, no items were deleted based on the item analyses. Each scale with its subscales can therefore be considered to be internally consistent and reliable. The results of the item analyses are summarised in Table 4.13.

Table 4.13:

Summary of the item analyses results

Scale	Mean	Std deviation	Cronbach's alpha	Number of items deleted	Number of items retained
MLQ: Idealised influence	33.55	10.281	.937	0	8
MLQ: Individual consideration	15.65	5.781	.899	0	4
MLQ: Inspirational motivation	17.09	5.351	.906	0	4
MLQ: Intellectual stimulation	16.15	5.394	.907	0	4
WTS: Trust in leaders	43.41	8.699	.886	0	9
WTS: Trust in members	40.04	10.382	.934	0	9
WTS: Trust in organisation	51.04	8.560	.891	0	10
PES: Competence	19.26	4.040	.822	0	4
PES: Impact	18.63	4.474	.837	0	4
PES: Meaning	18.97	4.245	.820	0	4
PES: Self-determination	19.33	4.226	.816	0	4
TES	101.87	19.826	.967	0	21

4.4 Evaluating the measurement models

Through the use of LISREL 8.80, Confirmatory Factor Analysis (CFA) was performed on all the scales used in this study. This was done in order to investigate the goodness-of-fit between the measurement models and the obtained data by testing the hypotheses of exact fit ($H0_1$: RMSEA = 0) and close fit ($H0_2$: RMSEA $\leq$ 0.05).

The initial results of the CFA are discussed per scale in terms of two important indices of the Root Mean Square Error of Approximation (RMSEA) and a P-value for Test of Close Fit. A RMSEA value of smaller than 0.08 indicates a reasonable good model fit; RMSEA values smaller than 0.05 indicates a very good fit of the data (Diamantopoulos & Siguaw, 2000). The results is thus an indication of whether the measurement model achieved good fit or fitted poorly in terms of the P-value Test for Close Fit and RMSEA. A P-value of the Test for Close fit above 0.05 indicates that close fit has been obtained. Together with this, the factor loadings were investigated by looking at the Completely Standardised LAMBDA-X matrices. Items are interpreted to load sufficiently on the talent variable when values above 0.50 where obtained.

Different steps were followed depending on whether the initial results indicated a good or poor model fit. If poor fit was found, the modification indices were investigated in order to determine the possibility of increasing model fit.

In cases of poor fit the model's fit can be improved by freeing model parameters (Diamantopoulos & Siguaw, 2000). This involves looking at the THETA-DELTA modification indices. Theta-delta refers to the variance in measurement error terms. In other words it indicates the proportion of variance in the observed variables not explained by the latent variables linked to it, but rather by random error and systematic latent variables. Large modification index values (i.e. > 6.64 at a significant level of 0.01) are indicative of parameters that would improve the model fit if it is set free (Diamantopoulos & Siguaw, 2000; Jöreskog & Sörbom, 1996). After items with large THETA-DELTA values were identified, they were considered for removal based on the loadings obtained in the corresponding completely standardised LAMBDA-X matrices. Items with the lowest factor loadings in the completely standardised LAMBDA-X matrices were considered for removal.

4.4.1 Evaluating the Measurement Model Fit of the MLQ

The MLQ was used to assess the four dimensions of transformational leadership. Upon evaluating the measurement model of this scale all four dimensions was included simultaneously in the confirmatory factor analysis.

The initial inspection of the fit statistics indicated that the measurement model of the MLQ appeared to fit the data reasonably well (RMSEA = 0.0596; P-value for Close

Fit = 0.0765). Therefore, the H_0 for close fit cannot be rejected, indicating that the measurement model did obtain close fit.

The fit indices reported in Table 4.19 indicate that the MLQ measurement model obtained acceptable fit. The results for the absolute fit measures were calculated by a variety of values including the χ^2/df, Root Mean Residual (RMR), Standardised RMR and Goodness of Fit (GFI).

The χ^2/df ratio was calculated using the Satorra-Bentler Scaled Chi-Square divided by the Degrees of Freedom. A χ^2/df value of 1.79 was obtained which falls just below the good fit range of 2 – 5. The RMR value of .0831 also marginally missed the cut-off of 0.08 for good fit. However, the Standardised RMR value of 0.0344 fell within the range of good fit (<0.05). For the GFI, a good fit is indicated by values above 0.9 with values closer to one indicating better values. A GFI value of 0.827 was obtained which once again fell just below the cut-off value for good fit. Therefore, even though the indices for absolute fit were well in general, it was concluded that the measurement model of the MLQ only presented reasonable fit.

The results of the incremental fit indices indicated that the measurement model achieve Normed Fit Index (NFI), Non-Normed Fit Index (NNFI), Comparative Fit Index (CFI), Incremental Fit Index (IFI) and Relative Fit Index (RFI) indices that were all above .90, which represented good fit. These comparative indices therefore, appeared to reveal a positive picture of model fit. The measurement model could therefore be said to provide a credible explanation of the observed covariance matrix.

The unstandardised LAMBDA-X matrix was used to determine the significance (t-values ≥ |1.96|) of the factor loadings hypothesised by the MLQ measurement model. Significant loadings confirm the validity of the indicators. The values presented in the completely standardised LAMBDA-X solution matrix represent the regression slopes of the regression of the standardised indicator variables on the standardised latent variable. All the items loaded satisfactory and above 0.50 on the corresponding sub-dimension of the transformational leadership latent variable. This indicated that all items significantly represent the dimensions they were designed to reflect. The LAMBDA-X matrix can be seen in Table 4.14, and as a result no items were deleted.

Table 4.14

Completely standardised LAMBDA-X matrix for the MLQ

LAMBDA-X				
MLQ Items	Idealised Influence	Individual Consideration	Intellectual Stimulation	Inspirational Motivation
TFL01	0.809	-	-	-
TFL02	-	-	0.834	-
TFL03	0.754	-	-	-
TFL04	-	-	0.803	-
TFL05	-	-	-	0.831
TFL06	0.773	-	-	-
TFL07	-	-	-	0.799
TFL08	0.867	-	-	-
TFL09	-	0.876	-	-
TFL10	0.864	-	-	-
TFL11	-	0.734	-	-
TFL12	0.804	-	-	-
TFL13	0.688	-	-	-
TFL14	-	-	-	0.859
TFL15	-	0.796	-	-
TFL16	-	-	0.792	-
TFL17	-	0.883	-	-
TFL18	-	-	0.895	-
TFL19	0.845	-	-	-
TFL20	-	-	-	0.818

4.4.2 Evaluation of the Measurement model of the WTS

The Workplace Trust Survey with all three its dimensions were submitted to CFA in order to evaluate the fit of the measurement model. The initial measurement model appeared to fit the data poorly with a P-value for the Test of Close Fit of 0.000 and RMSEA of 0.112. Further investigation of the LAMBDA-X matrices indicated problematic items which loaded on more than one sub-dimension simultaneously and therefore showed low discriminant validity. After a total of 13 items were deleted reasonable fit for the measurement model was found with a P-value for the Test of Close fit of 0.0577 and RMSEA of 0.0642 (< 0.08).

As for the revised WTS the absolute fit indices reported in Table 4.19 indicates that the model only portrayed reasonable fit since the χ^2/df value of 1.918 (<2.00), the RMR of 0.115 (>0.08), the Standardised RMR of 0.0618 (>0.05), and the GFI of 0.890 (<0.90) missed the cut-off values of good fit. Overall the absolute fit indices were acceptable.

Except for the AGFI value of 0.848, the results of the incremental fit indices were all above 0.90, which represented good fit. Therefore, the overall fit indices demonstrated that the measurement model achieved reasonable fit with the data. The overall measurement model can therefore be said to provide an acceptable explanation of the observed covariance matrix.

The factor loadings of the remaining items on its specified dimensions are displayed in Table 4.15. According to the unstandardised LAMBDA-X matrix, as produced by LISREL 8.80, it was found that all indicator variables of the revised WTS loaded significantly on the corresponding sub-dimension with t-values ≥ |1.96|. Furthermore, all items, except for one, loaded satisfactory above 0.50 according to the completely standardised matrix. Even though a low factor loading of 0.388 was obtained for Item 35 it still produced a significant t-value and therefore it was not removed.

Table 4.15

Completely standardised LAMBDA-X matrix for the revised WTS

LAMBDA-X			
WTS Items	Trust in Organisation	Trust in Leader	Trust in Members
Trust27	0.622	-	-
Trust28	0.657	-	-
Trust29	0.657	-	-
Trust30	0.702	-	-
Trust31	0.746	-	-
Trust35	0.388	-	-
Trust36	-	0.767	-
Trust38	-	0.774	-
Trust40	-	0.695	-
Trust42	-	0.745	-
Trust44	-	-	0.794
Trust46	-	-	0.876

Trust47	-	-	0.779
Trust50	-	-	0.777
Trust52	-	-	0.726

4.4.3 Evaluation of the Measurement model of the PES

Upon the initial CFA, for the measurement model of the PES, poor fit was found with P-value for the Test of Close fit of 0.000 and RMSEA of 0.252. Various attempts were made to improve the fit by evaluating the LAMBDA-X and THETA-DELTA indices. Unfortunately these attempts were in vain and it was decided to evaluate the factor structure of the PES with Exploratory Factor Analysis (EFA) using SPSS.

4.4.3.1 EFA analysis of the PES

Based on the Scree plot it was suggested that a two-factor structure would be most appropriate for defining psychological empowerment as indicated by the data. The eigenvalues of the two factors were 9.312 and 2.496 explaining 58.199% and 15.598% of the variance respectively. In order to ensure that each item represented the construct underlying each factor; a factor loading of 0.30 was used as the minimum cut-off point. Secondly, each item was required to be clearly defined by only one factor. An item was retained if the difference between loadings for any given item was more than 0.10 across factors. Since all the items loaded satisfactory, no items were rejected based on the above mentioned criteria. Hence, all items were restrained and loaded on two clearly separate factors with 9 items loading on factor 1 and 7 items on factor 2 (see Table 4.16).

Table 4.16

Pattern matrix of the PES

Items	Factor 1	Factor 2
PE53	-.064	**-.901**
PE54	.007	**-.924**
PE55	-.012	**-.923**
PE56	.076	**-.747**

PE57	-.023	**-.866**
PE58	.044	**-.866**
PE59	.043	**-.812**
PE60	**.635**	-.191
PE61	**.820**	-.058
PE62	**.821**	-.012
PE63	**.735**	-.069
PE64	**.816**	-.020
PE65	**.777**	-.022
PE66	**.832**	.058
PE67	**.850**	.009
PE68	**.881**	.121

After the factor structure of the PES was confirmed by the EFA the revised measurement model with its two factor structure was again submitted through CFA.

4.4.3.2 Evaluating the revised measurement model of the PES

The revised measurement model resulted in reasonable fit with a P-value for the Test of Close fit of 0.0928 and RMSEA of 0.0611 (<0.08) (See Table 4.19). Therefore, it was determined that the null hypothesis for close fit was not rejected.

The RMR of 0.0723 showed poor fit, but a Standardised RMR of 0.0423 indicated good fit. The χ^2/df value of 1.83 and the GFI of 0.849, however, marginally missed the cut-off values of good fit. The results of the incremental fit indices indicted that all, but one, namely the AGFI were above 0.90, which represented good fit. Therefore, the overall fit indices demonstrated that the measurement model achieved reasonable fit with the data. The overall measurement model could therefore be said to provide an acceptable explanation of the observed covariance matrix.

The completely standardised matrix containing the factor loadings is presented in Table 4.17. All the factor loadings were significant and above the cut-off value of 0.50. It could therefore be concluded that the items of the PES significantly represent one of the corresponding two factors as indicated by the EFA analysis.

Table 4.17

Completely Standardised LAMBDA-X matrix for the PES

	LAMBDA-X	
PES Items	Factor 1	Factor 2
PE53	0.860	-
PE54	0.918	-
PE55	0.913	-
PE56	0.797	-
PE57	0.851	-
PE58	0.878	-
PE59	0.835	-
PE60	-	0.763
PE61	-	0.853
PE62	-	0.817
PE63	-	0.793
PE64	-	0.810
PE65	-	0.807
PE66	-	0.796
PE67	-	0.841
PE68	-	0.796

4.4.4 Evaluation of the Measurement model of the TES

The Team Effectiveness Scale was designed to be unidimensional, therefore CFA was done with all the items loading on one factor namely team effectiveness. The initial CFA results indicated poor fit with P-value for the Test of Close fit of 0.000 and RMSEA of 0.085 (>0.08). After investigation of the THETA-DELTA modification indices, items with values above 6.6349 were flagged as complex and based on their factor loadings were considered for removal. In total four items were removed from the TES, which resulted in the adapted measurement model obtaining reasonable fit with P-value for the Test of Close fit of 0.125 and RMSEA of 0.059 (<0.08).

The absolute fit indices reported in Table 4.19 indicated that the χ^2/df value of 1.78, and the GFI value of 0.858 (>0.90) marginally missed the cut-off values for good fit. However, the RMR of 0.0570, and the Standardised RMR of 0.0395, were in the

range of good fit. The incremental fit indices all indicated good fit with values above 0.90 except for the AGFI which resulted in a value of 0.817. Therefore, it could be concluded that the measurement model for the TES showed reasonable fit.

The factor loadings of the remaining items were all satisfactory (above 0.50), as presented by the LAMBDA-X matrices in Table 4.18. All the items loaded significantly and well above the cut-off value of 0.50.

Table 4.18

Completely Standardised LAMBDA-X matrix for the TES

LAMBDA-X	
TEQ Items	Factor 1
TES69	0.751
TES70	0.685
TES71	0.685
TES73	0.764
TES74	0.713
TES75	0.804
TES76	0.721
TES77	0.637
TES78	0.807
TES79	0.849
TES80	0.802
TES81	0.855
TES82	0.769
TES83	0.790
TES85	0.800
TES88	0.720
TES89	0.811

Table 4.19

Fit indices for the refined measurement models for the four measurement scales

Indices	MLQ	WTS	PES	TES
Absolute Fit measures				
Satorra-Bentler Scaled Chi-Square	293.904 (p<0.05)	166.894 (p<0.05)	188.633 (p<0.05)	211.416 (p<0.05)
Degrees of Freedom (df)	164	87	103	119
χ^2/df	1.792	1.918	1.83	1.78
Root Mean Square Error of Approximation (RMSEA)	0.0596	0.0642	0.0611	0.0590
P-Value for Test of Close Fit (RMSEA < 0.05)	0.0765	0.0577	0.0928	0.125
Root Mean Square Residual (RMR)	0.0831	0.115	0.0723	0.0570
Standardised RMR	0.0344	0.0618	0.0423	0.0395
Goodness of Fit Index (GFI)	0.827	0.890	0.849	0.858
Incremental Fit Measures				
Normed Fit Index (NFI)	0.984	0.964	0.979	0.980
Non-Normed Fit Index (NNFI)	0.992	0.979	0.988	0.990
Adjusted goodness of Fit Index (AGFI)	0.849	0.848	0.800	0.817
Comparative Fit Index (CFI)	0.993	0.982	0.990	0.991
Incremental Fit Index (IFI)	0.993	0.982	0.990	0.991
Relative Fit Index (RFI)	0.982	0.956	0.975	0.977

4.5 Reliabilities of the refined measurement scales after CFA

The reliabilities of the refined scales were found to be satisfactory ranging from .923 to .979, as can be seen in Table 4.20. All the Cronbach's alpha values after CFA can be deemed as excellent according to the guidelines provided by Nunnally (1967).

Table 4.20

Reliabilities of refined scales after CFA

Reliabilities			
Scales	Cronbach's alpha before CFA	Number of items deleted	Cronbach's alpha after CFA
MLQ	.979	0	.979
WTS	.952	13	.923
PES	.951	0	.951
TES	.967	4	.959

4.6 Fitting the overall revised Measurement Model

The overall fit of the initial measurement model was unsatisfactory with a P-value for Close fit of 0.000 and a RMSEA value of 0.0865. As a result more items had to be removed, two items from the WTS and five from the PES.

The RMSEA is an important value to consider when evaluating model fit. According to Diamantopoulos and Siguaw (2000), values smaller than 0.05 indicate good fit and values below 0.08 indicate reasonable fit. The RMSEA value of the revised measurement model resulted in 0.0611. Therefore, despite the significant P-value for Test of Close fit (p = 0.000) which indicated that the null hypothesis of close fit should be rejected; the model still presents reasonable fit based on the RMSEA.

The Satorra-Bentler Scaled Chi-Square of 3235.104 ($p < 0.01$), indicates that the null hypothesis of exact fit could be rejected. The $\chi 2/df$ ratio was calculated using the Satorra-Bentler Scaled Chi-Square divided by the degrees of freedom. The $\chi 2/df$ ratio of 1.8329 falls marginally below the range of 2 – 5 indicating good fit.

The RMR of the measurement model was found to be 0.148. According to Kelloway (1998), low values are an indication of good fit. This scale is, however, sensitive to the scale of measurement of the model variables and it is therefore difficult to determine what qualifies as a low value. Kelloway further states that LISREL provides the standardised RMR which is a better index and indicates that values lower than 0.05 represents good fit. The standardised RMR value of this measurement model was 0.0797. The GFI value of 0.625 for the measurement model was also below the range for good fit.

Comparative fit is an incremental fit index that “measures the relevant improvement in the fit of the researcher’s model over that of a baseline model, typically the independence model” (Kline, 2011). The incremental fit indices resulted in a NFI value of .960, NNFI .981, CFI .982, IFI .982 and RFI .959 which are all above .90, indicating good comparative fit relative to the independence model. The only incremental fit index that was below the cut-off for good fit was the AGFI with a value of .598.

Overall, the examination of the goodness-of-fit indices resulted in the conclusion that the revised measurement model displayed reasonable fit with the data. The fit statistics can be seen in Table 4.21

The path diagram for the overall refined measurement model is presented in Figure 4.1. The path diagram for the measurement model is an illustration showing that all items comprising of each of the scales and subscales used in this study, appeared to load significantly on the respective latent variables.

Table 4.21:

Fit statistics for the revised Measurement Model

Indices	
Absolute Fit measures	
Satorra-Bentler Scaled Chi-Square	3232.848 (p<0.05)
Degrees of Freedom (df)	1763
χ^2/df	1.8337
Root Mean Square Error of Approximation (RMSEA)	0.0611
P-Value for Test of Close Fit (RMSEA < 0.05)	0.000
Root Mean Square Residual (RMR)	0.138
Standardised RMR	0.0797
Goodness of Fit Index (GFI)	0.625
Incremental Fit Measures	
Normed Fit Index (NFI)	0.960
Non-Normed Fit Index (NNFI)	0.981
Adjusted goodness of Fit Index (AGFI)	0.598
Comparative Fit Index (CFI)	0.982
Incremental Fit Index (IFI)	0.982
Relative Fit Index (RFI)	0.959

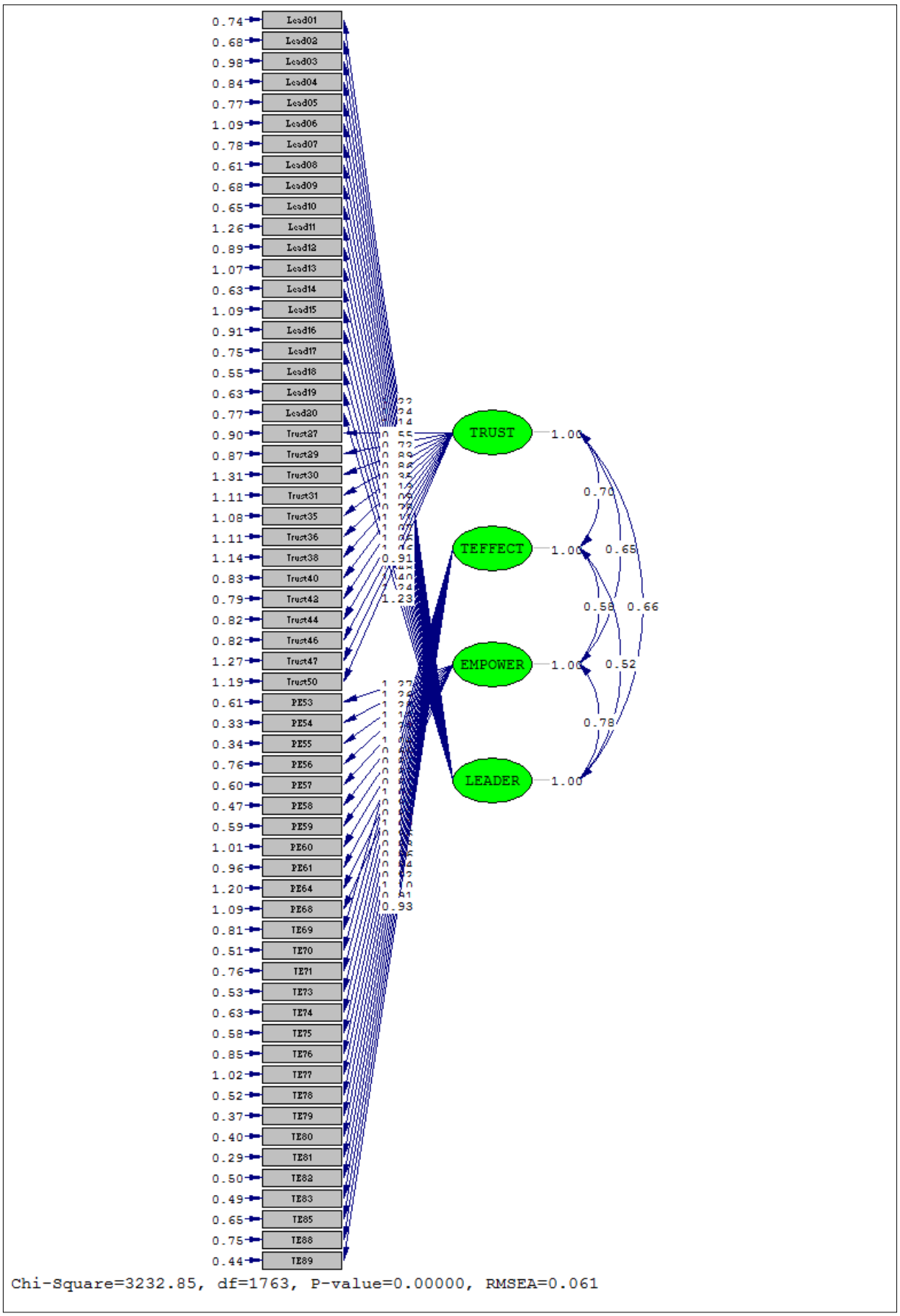

***Figure 4.1*: Path diagram for the overall refined measurement model**

4.7 Evaluating the Structural Model fit

The overall model is a combination of the structural equation system among the latent variables eta's (η's) and ksi's (ξ's) and measurement models for the observed y-indicators and x-indicators where all variables, observed and latent, are assumed measured in deviation from their means (Jöreskog & Sörbom, 1996). All the fit statistics of the structural model is shown in Table 4.22.

The RMSEA value of this structural model resulted in 0.0611 which fell within the reasonable fit range according to Diamantopoulos and Siguaw (2000). Therefore, despite the significant P-value for Test of Close fit (p = 0.000) which indicated that the null hypothesis of close fit should be rejected; it could be concluded that the model still presented reasonable fit based on the RMSEA.

The Satorra-Bentler Scaled Chi-Square of 3232.848 ($p < 0.01$), indicated that the null hypothesis of exact fit should be rejected. The $\chi 2/df$ ratio was calculated using the Satorra-Bentler Scaled Chi-Square divided by the degrees of freedom. The $\chi 2/df$ ratio of 1.8337 fell marginally below the range of 2 – 5 indicating good fit.

The RMR of the structural model was found to be .138. The standardised RMR value of this structural model was .0797, which missed the cut-off for good model fit (<0.05). The GFI value of .625 for the structural model was also below the range for good fit.

Comparative fit is an incremental fit index that "measures the relevant improvement in the fit of the researcher's model over that of a baseline model, typically the independence model" (Kline, 2011). Except for the AGFI (0.598), the incremental fit indices resulted in a NFI value of .960, NNFI 0.981, CFI 0.982, IFI 0.982 and RFI 0.959 which were all above .90, indicated good comparative fit relative to the independence model.

Overall, the examination of the goodness-of-fit indices resulted in the conclusion that the structural model displayed reasonable fit with the data. The path diagram for the overall structural model is presented in Figure 4.2.

Table 4.22

Fit statistics for the structural model

Indices	
Absolute Fit measures	
Satorra-Bentler Scaled Chi-Square	3232.848 (p<0.05)
Degrees of Freedom (df)	1763
χ^2/df	1.8337
Root Mean Square Error of Approximation (RMSEA)	0.0611
P-Value for Test of Close Fit (RMSEA < 0.05)	0.000
Root Mean Square Residual (RMR)	0.138
Standardised RMR	0.0797
Goodness of Fit Index (GFI)	0.625
Incremental Fit Measures	
Normed Fit Index (NFI)	0.960
Non-Normed Fit Index (NNFI)	0.981
Adjusted goodness of Fit Index (AGFI)	0.598
Comparative Fit Index (CFI)	0.982
Incremental Fit Index (IFI)	0.982
Relative Fit Index (RFI)	0.959

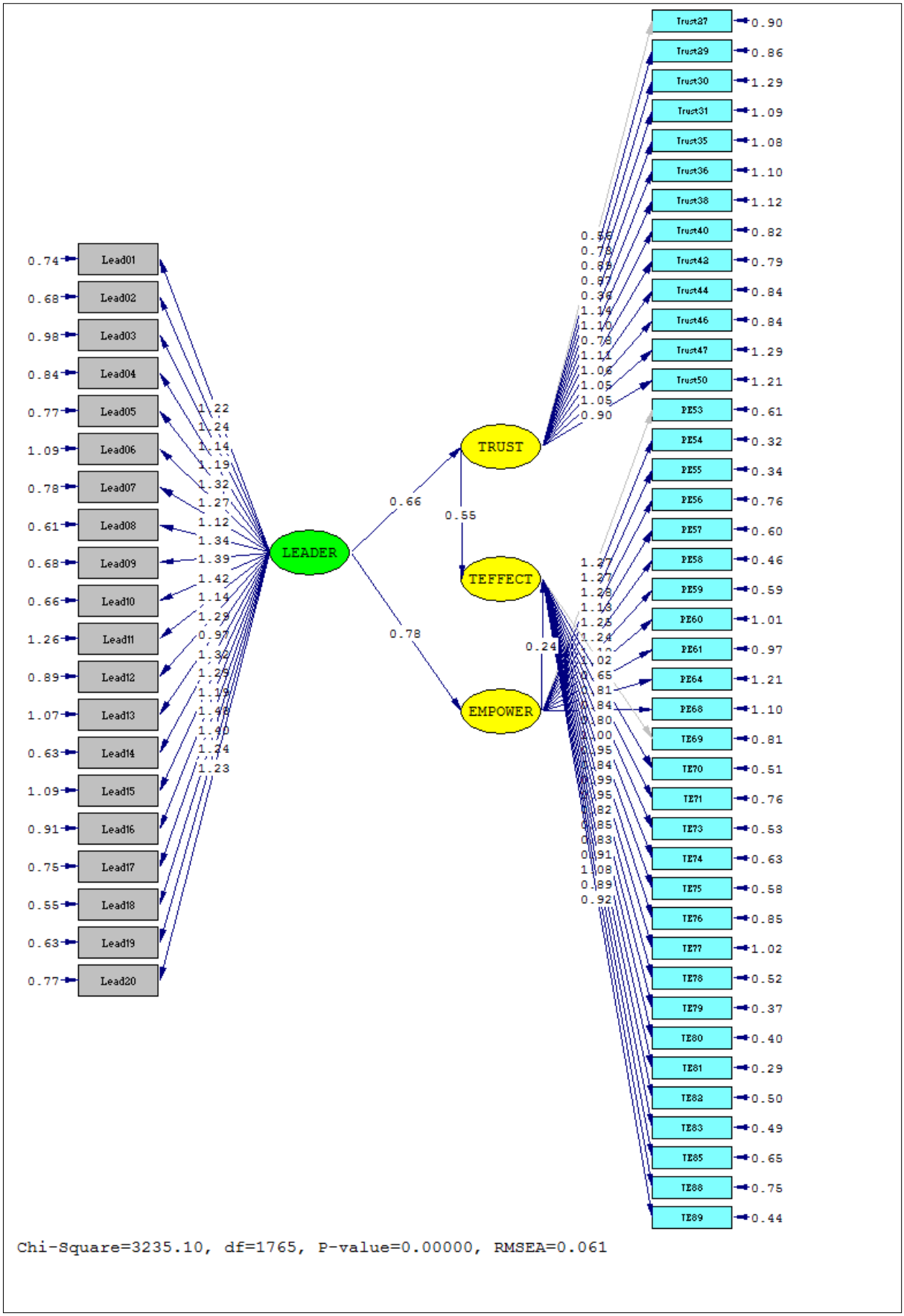

***Figure 4.2*: Path diagram for the overall refined structural model**

4.8 Relationships between the variables

After it was established that the structural model fitted the data reasonably good it is necessary to test the relationships between the endogenous and exogenous latent variables in order to assess whether the linkages specified in the conceptualisation phase, were in fact supported by the data (Diamantopoulos & Siguaw, 2000). In order to assess these relationships, three relevant issues should be looked at. The first issue is to examine the signs of the parameters representing the paths between the latent variables to determine whether the direction of the hypothesised relationships is as theoretically determined. Secondly, it is essential to investigate the magnitudes of the estimated parameters because it provides important information regarding the strength of these relationships. Lastly, the squared multiple correlations (R^2) should be considered which indicate the amount of variance in the endogenous variables that is explained by the latent variables that are linked to it (Diamantopoulos & Siguaw, 2000).

The parameters that were assessed are the freed elements of the gamma (γ) and beta (β) matrices. The unstandardised gamma matrix is used to evaluate the strength of the estimated path coefficients γ_{ij} which express the significance of the influence of ξ_j on η_i. These unstandardised γ_{ij} estimates are significant if $t > |1.96|$ (Diamantopoulos & Siguaw, 2000). A significant γ estimate would entail that the related H_0-hypothesis will be rejected in favour of the relevant H_a-hypothesis.

Table 4.23

Unstandardised GAMMA (Γ) Matrix

GAMMA	
	Transformational Leadership
Trust	0.377
	(0.128)
	2.956
Team Effectiveness	-0.040
	(0.095)
	-0.424
Empowerment	0.780
	(0.060)
	12.985

Table 4.23 presents the unstandardised gamma matrix. Transformational leadership is the only exogenous latent variable, which implies that the only hypotheses relevant to the gamma matrix are hypothesis 3 (H_{03}), hypothesis 4 (H_{04}), and hypothesis 8 (H_{08}).

Table 4.24 presents the unstandardised beta (β) matrix describes the relationships between the endogenous variables and reflects the slope of the regression in η_i and η_j. The unstandardised beta matrix is used to assess the hypothesised relationships between the endogenous variables in the structural model as stated by hypothesis 5 (H_{05}), hypothesis 6 (H_{06}), and hypothesis 7 (H_{07}). According to Diamantopoulos and Siguaw (2000), unstandardised β_{ij} estimates are also significant ($p<0.05$) if t values are > |1.96|. A significant β estimates would result in the rejection of the relevant H_0-hypothesis in favour of the relevant H_a-hypothesis.

4.8.1 Relationship between transformational leadership and organisational trust

From Table 4.23 it can be derived based on the t value of 2.956 (>1.96) that a significant positive relationship existed between transformational leadership (ξ_1) and organisational trust (η_1). Therefore, hypothesis 3 (H_{03}) could be rejected in favour of H_{a3}: $\gamma_{11} > 0$, which suggests that the proposed relationship between these two latent variable was supported.

4.8.2 Relationship between transformational leadership and psychological empowerment

Based on the t value of 12.985 which is above 1.96 as can be seen in the gamma matrix, a significant positive relationship exists between transformational leadership (ξ_1) and psychological empowerment (η_2). Therefore, hypothesis 4 (H_{04}) could be rejected in favour of H_{a4}: $\gamma_{21} > 0$, which suggests that the proposed relationship between transformational leadership and psychological empowerment was supported.

4.8.3 Relationship between transformational leadership and team effectiveness

As indicated in Table 4.23, a non-significant relationship with a t-value of -0.424 existed between transformational leadership (ξ_1) and team effectiveness (η_3).

Therefore, no support was found for a direct effect of transformational leadership on team effectiveness as stated by hypothesis 8.

4.8.4 Relationship between organisational trust and team effectiveness

As presented in the beta matrix (Table 4.24) the t value of 4.709 was above 1.96 thus indicating a significant positive relationship between organisational trust (η_1) and team effectiveness (η_3). Therefore, the null hypothesis 5 (H_{05}: $\beta_{31} = 0$) was rejected in favour of the alternative hypothesis 5 (H_{a5}: $\beta_{31} > 0$) which suggest that the proposed relationship between these two latent variables was supported.

4.8.5 Relationship psychological empowerment and team effectiveness

Based on the t value of 2.264 which is above 1.96, the null hypothesis 6 (H_{06}) could be rejected in favour of the alternative hypothesis 6 (H_{a6}). Therefore it could be derived that there exists a significant positive relationship between psychological empowerment (η_2) and team effectiveness (η_3).

4.8.6 Relationship between psychological empowerment and organisational trust

With a t value of 3.153, as indicated in Table 4.24, the null hypothesis 7 (H_{07}) could also be rejected in favour of the alternative hypothesis (H_{a7}). It could thus be concluded that a significant positive relationship was established between psychological empowerment (η_2) and organisational trust (η_1).

Table 4.24

Unstandardised BETA (B) Matrix

BETA			
	Trust	**Team Effectiveness**	**Empowerment**
Trust	-	-	0.361 (0.114) **3.153**
Team Effectiveness	0.562 (0.119) **4.709**	-	0.248 (0.109) **2.264**
Empowerment	-	-	-

4.9 Structural model modification indices

In order to determine the extent to which the structural model was successful in explaining the observed covariances among the apparent variables it is necessary to investigate the structural model modification indices. According to Jöreskog and Sörbom (1993), a modification index (MI) indicates the minimum decrease in the model's chi-square value, if a previously fixed parameter is set free and the model is re-estimated. In other words, a modification index for a particular fixed parameter indicates that if that particular parameter is to be freed in a subsequent model, then the chi-square goodness-of-fit value would be predicted to decrease by at least the value of the index. Large modification indices are characterised by values above 6.6349 which would then be indicative of parameters, that if set free, it would potentially improve the fit of the model ($p < 0.01$). However, one should take note of the fact that any adjustment to the model, as suggested by parameters with high MI values, should only be freed if it makes theoretical sense to do so (Kelloway, 1998).

The LISREL output suggested no modification indices for the gamma or beta matrices. This indicates that no additional paths exist between the latent variables which would significantly improve the fit of the structural model.

4.10 Summary

The purpose of this chapter was to report on the results obtained from this study. The chapter commenced with an investigation and refinement of the measuring instruments used. The statistical outcome of the hypothesised relationships was also determined. The following chapter will discuss in greater depth the general conclusions drawn from the results. Recommendations for future research and possible managerial implications will be presented in the conclusion.

CHAPTER FIVE

DISCUSSION OF RESULTS, CONCLUSION AND RECOMMENDATIONS FOR FUTURE RESEARCH

5.1 Introduction

After a detailed discussion of the constructs of transformational leadership, organisational trust, psychological empowerment, and team effectiveness in Chapter two, Chapter three followed with an explanation of the techniques that were used to analyse the data and produce results. A thorough explanation of the results obtained is presented in Chapter four. Even though the previous chapter presented the empirical findings, this chapter identifies the specific meaningfulness and implications of the findings.

Chapter five therefore consists of an overview regarding the purpose of the research; an explanation of the findings obtained from the data analysis process; the managerial implications of the research; as well as the limitations encountered during this study, together with suggestions for future research.

5.2 Purpose of the study

The initial purpose of this study was to identify the influence of transformational leadership, organisational trust, and psychological empowerment on team effectiveness. The importance of ensuring that work teams are effective is increasingly highlighted in the literature, because teams can increase organisational productivity; improve quality of services/products; decrease levels of absenteeism and employee turnover; and increase industrial harmony, so that finally, all of these lead to increased overall organisational performance (Doolen et al., 2003; Glassop, 2002).

However, even though many organisations follow the growing trend of using work teams, they fail to realise the important dynamics behind team effectiveness (Irving & Longbotham, 2007). Having teams that are not functioning optimally in organisations can have detrimental effects and restrict such organisations' success. Teams can waste the time and energy of members; enforce lower performance norms; create destructive conflict within and between members; and make notoriously bad decisions. Team members can also often exploit, stress, and frustrate other

members (Hackman, as cited by Trent, 2003). It is clear, however, that teams can also be extremely beneficial to organisational success when implemented and managed correctly. Thus it was the purpose of this study to shed some light on the extent to which transformational leadership, organisational trust, and psychological empowerment contributes to team effectiveness. In order to empirically evaluate this, six substantive hypotheses were deduced from the literature study presented in Chapter two. The results obtained for these hypotheses are discussed in terms of the findings obtained through the data analysis process stipulated in Chapter four.

5.3 Summary of the findings

The research objectives of the present study firstly aimed to ensure that the measurement scales utilised in this study to assess the relationships that were hypothesised were construct valid and internally reliable. Item analysis was performed using SPSS on all four measurement scales in order to ensure internal reliability and to identify items that did not contribute to the internal description of the latent variables. Item analysis was necessary to ensure that each of the measuring instruments reflected the variables they were intended to reflect. It was also imperative to explain whether the individual measurement models of all the instruments, as well as the overall structural model, displayed acceptable fit on the data when fitted by means of separate Confirmatory Factor Analyses (CFA). These statistical analyses processes were discussed in detail in Chapter three, whereas the results thereof were reported in Chapter four. The findings are discussed in the following section.

5.3.1 Conclusion regarding reliability analysis and CFA

The reliability coefficients of all the scales were determined to confirm that each of the items from the various instruments succeeded in contributing to an internally consistent description of the specific scale in question. According to Nunnally (1978), only instruments with modest reliability can be used to gather information to test hypotheses. Reliabilities were indicated by Cronbach's alpha and values above .70 were considered acceptable (Pallant, 2007). Item-total correlations of above 0.20 were also considered indicators of internal consistency (Nunnally, 1978).

According to these guidelines, the results obtained were indicated to be satisfactory for the reliability analyses before and after CFA, as presented in Table 5.1. All scales

reached reliability scores that exceeded the recommended value of .70. Furthermore, the results indicated that all items presented an item-total correlation above the recommended cut-off value of 0.20.

The initial results of the CFA were evaluated per scale in terms of the P-value Test of Close Fit, where $p > 0.05$ indicates good model fit; and the Root Mean Square Error of Approximation, where $RMSEA < 0.08$ indicates reasonably good model fit, and $RMSEA < 0.05$ indicates a very good fitting model (Diamantopoulos & Siguaw, 2000). If the original structure, including all subscale items, produced a poor fit with the data (in terms of the P-value Test of Close Fit < 0.05; $RMSEA > 0.08$), and certain items displayed insignificant completely standardised factor loadings (< 0.50), poor items were removed and a further CFA was performed on the data. However, if poor fit was still found, the modification indices of THETA-DELTA were evaluated. Model modification strives to indicate whether any of the currently fixed parameters, if set free, would significantly improve the parsimonious fit of the model. The modification indices therefore point out the extent to which the chi-square fit statistic decreases when a currently fixed parameter in the model is freed and the model is re-estimated (Jöreskog & Sörbom, 1996). In cases where large modification indices (> 6.6349 at a significance level of 0.01) were found, they were set free in order to improve the fit of the model significantly ($p < 0.01$). Further CFAs were then performed on the refined scales and subscales items until all items demonstrated satisfactory factor loadings and the measurement models indicated good fit. These results can be seen in Table 4.19. Except for the MLQ scale measuring transformational leadership, all the scales had some items removed on the basis of the CFA output. It can thus be accepted that all the refined measurement instruments could be considered reliable for gathering information to test the hypotheses.

Table 5.1

Reliability results for the measurement scales

Reliabilities			
Scales	Cronbach's alpha before CFA	Number of items deleted	Cronbach's alpha after CFA
Transformational leadership (MLQ)	.979	0	.979
Organisational trust (WTS)	.952	13	.923
Psychological empowerment (PES)	.951	0	.951
Team effectiveness (TES)	.967	4	.959

5.3.2 Conclusion regarding exploratory factor analysis

In cases where unsatisfactory results were found for one or more of the measuring scales during CFA, it was decided to use Exploratory Factor Analysis (EFA) to evaluate the factor structure of the measurement scales and remove bad items accordingly. The purpose of EFA is thus to confirm unidimensionality of each scale and subscale and to remove items with inadequate loadings (Theron, Spangenberg, & Henning, 2004).

Factors with eigenvalues greater than one, which is also indicated as "clear breaks" on the Scree plot, was considered to indicate the number of meaningful factors. After the number of factors was determined, the rotated matrix was evaluated. All factors with loadings ≤ 0.30 were viewed as poor and those that load high on more than one factor were deemed to be complex items, and removed from the data (Tabachnick & Fidell, 2001).

The only measurement scale that underwent EFA was the measurement for psychological empowerment, the PES. Originally, this scale was developed to have four subscales, namely meaning, competence, self-determination, and impact (Spreitzer, 1995a). However, based on the EFA results it was suggested that a two-factor structure would be most appropriate for defining psychological empowerment as indicated by the data. CFA was therefore done on the revised structure to evaluate and remove complex items in order to confirm fit for the measurement model of psychological empowerment. Based on the two-structure psychological

empowerment measurement model's CFA results, no complex items were identified. Hence, the model showed reasonable fit without removing any items.

5.3.3 Conclusion regarding the evaluation of the structural model

Once it was possible to conclude that each of the measuring instruments were considered to be both construct valid and internally reliable, the data obtained were analysed further to test the fit of the structural model and the direct relationships between the various latent variables. Furthermore, the data were also analysed to determine the significance of the hypothesised paths in the structural model, using structural equation modelling.

The research objective was to explain the relationships between transformational leadership, organisational trust, psychological empowerment and team effectiveness. The goodness-of-fit indices for the structural model are presented in Table 4.22.

A thorough evaluation of all the fit indices led to the conclusion that the structural model fitted the data reasonably well. At first, based on the Satorra-Bentler Scaled Chi-Square (χ^2/df) of 1.8837, it suggested that the model did not fit the data well since it marginally missed the cut-off range for good fit (2 – 5). The RMSEA value of this structural model resulted in 0.0611, indicating reasonable fit according to Diamantopoulos and Siguaw (2000). Therefore, despite the significant P-value for Test of Close fit (p = 0.000) which indicated that the null hypothesis of close fit could be rejected; the model still presented reasonable fit based on the RMSEA.

The RMR of the structural model was found to be 0.138. According to Kelloway (1998), low values are an indication of good fit. This scale is sensitive to the scale of measurement of the model variables, however, and it is therefore difficult to determine what qualifies as a low value. Kelloway further states that LISREL provides the standardised RMR which is a better index and indicates that values lower than 0.05 represents good fit. The standardised RMR value of this structural model was 0.0797, which marginally missed the cut-off value and therefore still indicated a reasonable fit.

The incremental fit indices resulted in a NFI, NNFI, CFI, IFI and RFI of above 0.90 which indicated good comparative fit relative to the independence model.

To ensure a thorough assessment of the structural model, it was also necessary to investigate the modification indices to determine the extent to which the model explained the observed covariances among the latent variables. Examination of the modification indices suggested that there were no additional paths between any latent variables that would significantly improve the fit of the proposed structural model. These results therefore indicated that the structural model was successful to the extent that it explained the observed covariances among the apparent variables.

5.3.4 Conclusion regarding the hypothesised relationships

An examination of the gamma and beta matrices was conducted in order to establish the significance of the theoretical linkages proposed in the structural model, as illustrated in Figure 3.1. The interpretation of these results provided information with which to determine whether the theoretical relationships specified at the conceptualisation stage were in fact supported by the data. Here the interpretation concerns the proposed causal linkages between the various endogenous and exogenous variables. The following section provides a discussion regarding the interpretation of these results.

5.3.4.1 Gamma matrix

The unstandardised gamma matrix was analysed and reported to describe the relationships between the exogenous and endogenous variables and to evaluate the strength of the estimated path coefficients. The unstandardised gamma matrix can be seen in Table 4.23.

The relationship between transformational leadership and organisational trust

It was hypothesised that a statistically significant positive relationship exists between transformational leadership (ξ_1) and organisational trust (η_1). The results that were obtained through the SEM statistical analysis presented support that confirmed this relationship, since a significant path was found between these two constructs. This consequently led to the rejection of the null hypothesis, thus concluding the positive relationship between transformational leadership and organisational trust, where organisational trust consists of trust in the leader, trust in team members, and trust in the organisation.

Transformational leadership is known to facilitate the development of trust in the leader for a variety of reasons. Transformational leaders are perceived as credible, thereby gaining followers' trust. Inconsistency between words and actions decrease trust, and since transformational leaders maintain consistency between spoken values and deeds (e.g. self-sacrificing behaviours) it cultivates perceptions of integrity and credibility, which enhances followers' trust (Whitener et al., 1998). Furthermore, trust in the leader stems from followers' confidence in the leader's intentions and motives, and the leader's concern for the followers, which are at the core of transformational leadership style (i.e. individual consideration) (Bartram, Casimir, Waldman, & Yang, 2006). Transformational leaders build trust by frequently empowering and encouraging followers to make their own decisions (Bass & Avolio, 1994).

This relationship between transformational leadership and trust in the leader was also confirmed by a variety of studies that reported strong positive relationships between subordinates' perception of their supervisor's transformational leadership style and trust in the leader (Bartram et al., 2006; Braun et al., 2013; Jung & Avolio, 2000).

Transformational leaders appears to create an open environment while sending out the signal that the team is a trustworthy entity to such an extent that team members develop the same perception, hence leading to an increase in trust among team members (Dionne, Sayama, Hao, & Bush, 2010). By creating a culture characterised by the values of the transformational leadership style, leaders are developing a safe environment in which members are more willing to take personal risks and trust in their team members. This relationship was confirmed in a study conducted by Arnold et al. (2001) when it was found that transformational leadership increases followers' trust among team members.

Work teams are embedded within a larger organisational context and transformational leaders act as role models by behaving in ways that motivate and inspire followers to achieve organisational goals (Bass, 1995). Therefore, it was hypothesised that, when leaders incorporate a transformational leadership style, it will also increase followers' trust in their organisation. No literature could be found that explicitly tested for this relationship. However, this study revealed a significant positive relationship between transformational leadership and the overarching

construct, organisational trust. Therefore, it can be concluded that transformational leadership results in an increase in followers' trust in their leader, their team members, and their organisation.

The relationship between transformational leadership and psychological empowerment

Through the SEM results, the hypothesised relationship between transformational leadership (ξ_1) and psychological empowerment (η_2) has been confirmed by a significant path. The null hypothesis was consequently rejected, which resulted in the conclusion that a positive relationship exists between transformational leadership and psychological empowerment.

Transformational leaders provide mentoring and coaching to their followers in order to develop their self-confidence and potential; they motivate followers to achieve beyond expected performance (Krishnan & Arora, 2008). It can thus be said that transformational leadership behaviours could result in increased psychological empowerment in followers.

This relationship between transformational leadership and psychological empowerment has been proven by many studies. Avolio et al. (2004) established that transformational leadership correlates significantly with psychological empowerment for both direct and indirect followers. A study specifically focused on a team context also confirmed that leaders incorporating a transformational leadership style positively influence followers' self-reported psychological empowerment (Ozaralli, 2003). Therefore, the positive significant relationship found in this study between transformational leadership and psychological empowerment, contributes to similar findings by various researchers.

The relationship between transformational leadership and team effectiveness

A relationship between transformational leadership (ξ_1) and team effectiveness (η_3) was also postulated in this study. However, the SEM analysis resulted in a non-significant path between the two constructs. This indicated that the null hypothesis could not be rejected, and no support was found for the hypothesised direct relationship between transformational leadership and team effectiveness. Thus, it seems as if transformational leadership not directly, but indirectly influences team effectiveness through organisational trust and psychological empowerment.

This finding is somewhat contradictory, with regard to studies in which a significant positive relationship has been found between team members' perception of their supervisors transformational leadership style and team performance (Braun et al., 2013). Schaubroeck et al. (2011) established that even though a variety of mediators and moderators are present in the relationship between transformational leadership and team effectiveness, there is also a definite direct relationship.

5.3.4.2 Beta matrix

The unstandardised beta (β) matrix, as presented in Table 4.24, was used to assess the hypothesised relationships between the endogenous variables in the structural model. The beta matrix reflects the slope of the regression of η_i and η_j.

The relationship between organisational trust and team effectiveness

The hypothesised relationship between organisational trust (η_1) and team effectiveness (η_3) was confirmed in this study. The SEM results indicated a significant path between these two latent variables. Hence, the null hypothesis was rejected in favour of the alternative hypothesis. It was therefore concluded that a positive relationship exists between organisational trust and team effectiveness.

Trust is extremely important for the effective operation of teams, as a lack of trust will result in failed communication; ineffective delegation and empowerment; and reduced work quality (Owen, as cited by Erdem et al., 2003). However, the sole existence of trust within a team will not simply increase teams' performance. Trust increases a team's effectiveness because it accelerates the appropriate levels of interaction between members (Erdem et al., 2003). In other words, if team members trust one another and their leader, they are more willing to share ideas openly; give and receive constructive criticism; and work cooperatively.

Although a direct relationship between organisational trust, especially with its three sub-dimensions, and team effectiveness has not been evaluated extensively, according to the literature, some documentation of the positive relationship between these two constructs has been found. De Jong and Elfring (2010) established a significant positive relationship between intra-team trust and team performance, as rated by supervisors. Another study also established a direct relationship between trust among team members and members' perception of their team's effectiveness (Costa, 2003).

With the positive significant relationship confirmed in this study, it can be concluded that organisational trust does play an important role in team effectiveness.

The relationship between psychological empowerment and team effectiveness

A significant positive relationship was hypothesised to exist between psychological empowerment (η_2) and team effectiveness (η_3). The SEM results revealed significant path coefficients between these two constructs, which led to the rejection of the null hypothesis. Consequently, it can be concluded that a positive relationship between psychological empowerment and team effectiveness was confirmed through statistical analysis.

Empowered teams believe that they have the collective ability to accomplish work-related tasks that are perceived to be intrinsically meaningful and significantly important for the organisation, and they, as a group, have a higher degree of choice or discretion in everyday work-related decisions (Seibert et al., 2011). Mathieu et al. (2006) conducted a study in which team empowerment was found to have a significant, positive, and direct effect on team performance. Team empowerment was referred to as the extent to which members can solve problems on their own; make business decisions; and accept responsibility for the outcomes of these decisions Mathieu et al., 2006). This relationship was further confirmed through a positive correlation between psychological empowerment and team performance (Seibert et al., 2011). Another study specifically aimed at team level found a high positive correlation between psychological empowerment and perceived team effectiveness (Ozaralli, 2003).

In the current study it was confirmed that psychological empowerment has a significant influence on team effectiveness.

The relationship between psychological empowerment and organisational trust

The final hypothesised relationship between psychological empowerment (η_2) and organisational trust (η_1), has been confirmed as a significant path through SEM analysis. The null hypothesis was consequently rejected, thereby concluding the existence of a significant positive relationship between these two constructs.

Employees who perceive their work environment as empowering, reveal increased levels of trust as a result (Laschinger & Finegan, 2005). This was confirmed in the

Laschinger and Finegan (2005) study when they established a significant path linking psychological empowerment with trust in one's leader. This relationship was also confirmed when teachers, who reported higher levels of psychological empowerment, also reported higher levels of interpersonal trust (Moye et al., 2005). Another study found a significant relationship to exist between overall psychological empowerment perceptions and cognitive-based trust in supervisors (Ergeneli, Ari, & Metin, 2007). Upon testing a structural model in which psychological empowerment was hypothesised to have a direct positive influence on trust in leaders, a significant path moreover was also proven by Huang (2012).

In the current study it was confirmed that increased levels of trust result when team members feel psychologically empowered.

5.4 Limitations of this study and suggestions for future research

Although this study provides valuable insight regarding team effectiveness and how it is influenced by leadership, organisational trust, and psychological empowerment, some limitations need to be considered in order to improve future studies.

This study firstly took the form of a single-source study since the interest was only focused on team members' perceptions regarding the constructs investigated. Multiple sources of data could be considered in future studies. This could include leaders' self-assessment with regard to their own transformational leadership style. Peer ratings and/or objective means of assessment with regard to the effectiveness of teams could also be considered.

The second, rather serious, limitation was the significant amount of poor items that were deleted, particularly from the Workplace Trust Survey (WTS). This could have impacted the construct validity negatively.

A third limitation which revealed itself during the study is the applicability of the Psychological Empowerment Scale (PES) to South African samples. The four dimensional construct as developed by Spreitzer (1995a) did not hold up during statistical analysis. The data revealed two prominent factors with regard to psychological empowerment. In another South African study using a different psychological empowerment measurement, namely the Menon Empowerment Scale, the same phenomenon of two factors was found during factor analysis (Kotze et al., 2007). Since South Africa is a very diversely ethnic country and ethnic groups have

been found to play a role in psychological empowerment, according to Kotze et al. (2007), future researchers could possibly investigate this by evaluating and defining psychological empowerment in a South African context.

The constructs in this study captured the core elements of relationships between leaders and followers and how these can influence the outcomes and productivity of teams. The study represents an attempt to explain specific relationships between these variables in order to gain a better understanding of this complex network. Although these constructs are widely defined and researched, it is impossible to determine their exact scope of impact, which presents the fourth limitation. Future studies should explore other mediating and moderating variables to clarify the relationship between transformational leadership, organisational trust, psychological empowerment, and team effectiveness (e.g. group cohesion, commitment, goal setting, job satisfaction, organisational citizenship behaviour).

Fifthly, the structural model might have excluded other significant constructs in the process of investigating what influences team effectiveness. The purpose of this study was not to tire out the nomological network of team effectiveness, however, and the focus was restricted to the important constructs of transformational leadership, organisational trust, psychological empowerment, and team effectiveness, which represents the core elements of the research that was undertaken. There may therefore be other variables which influence team effectiveness that were not investigated in this study and may comprise something that could be built on in future research.

A sixth limitation concerns the sampling method that was used. The non-probability sampling procedure that was used may have reduced the possibility of generalising the results of the study.

The final limitation that was identified concerns the statistical procedure that was followed. Several recommendations regarding the methodology that should be used in future studies are possible. In this study, factor analysis was performed on the entire dataset. Ideally, a random split of the sample from the start would have made it possible to subject the data to a second factor analysis. It is recommended that, in order to cross validate the results, future studies should empirically test the structural model on another sample to determine whether the structural model also fits a

second dataset. It is also suggested that a longitudinal study of the proposed conceptual model be undertaken to facilitate more convincing causal inferences.

5.5 Managerial implications

This study was motivated by the growing trend and interest in teamwork within an organisational context. It is continuously argued in the literature that making use of teamwork holds many benefits for organisations (Glassop, 2002; Salas et al., 2001). However, a certain level of understanding regarding teams and their functioning is required to enhance team effectiveness.

Teamwork involves performing tasks through joint work and interactions between individual members. However, team performance is not simply the combined effect of different individuals' performance, it is rather significantly determined by the way team members' constantly interact and integrate their interdependent efforts and expertise (Zhang et al., 2011). Since working in a team environment requires constant interaction between different individuals, it's important to focus on maintaining healthy relationships. This study argues that, for team members to optimally interact and integrate their diverse expertise and skills, a certain level of trust in the leader, the team, as well as in the organisation is required. Trust among team members enable members to better examine and improve team processes that lead to better performance (Kiffin-Petersen, 2004). The results of this study confirmed the important influence of organisational trust and its three dimensions (i.e. trust in the leader, trust in team members, and trust in the organisation) on team effectiveness. With such knowledge, management could implement a variety of organisational development programmes to create an open and trusting climate among team members, and between members and their leader, as well as members and the organisation.

Another important aspect that was proposed to enhance team effectiveness is psychological empowerment. For teams to be effective, all the members need to believe in the capabilities of the team, thus experiencing intrinsic motivation. This study confirmed the important and positive influence of team members' psychological empowerment on team effectiveness. Teams with high levels of psychological empowerment will be more innovative and creative; they will have better and more effective communication systems; experience higher levels of job

satisfaction; and ultimately be more effective (Spreitzer et al., 1997). Furthermore, this study also established that team members, when feeling empowered, are more likely to take personal risks in trusting their leader and co-members.

Due to different individuals with diverse skills and expertise, working in a team environment is more complex and involves more challenges than simply working individually. For a team to overcome its challenges successfully there is a great need for adequate structure to define each member's different role and responsibilities. A leader being someone who provides direction, ideas, and structure therefore is crucial for the functioning of a team. In this study it was proposed that transformational leadership will make a significant contribution to the effectiveness of teams because it focuses on the followers and on motivating them to higher levels of performance. Previous research proves that teams that are led by transformational leaders are more inclined to experience job satisfaction, to be more creative and innovative, and to display enhanced levels of effectiveness and performance (Bass, 1995). The important influence of transformational leadership on team effectiveness was confirmed in this study. Transformational leadership was found to enhance team effectiveness through the mediating effects of organisational trust and psychological empowerment. Transformational leaders focus on individual team members and on satisfying the needs of the team while fostering a culture of trust. Transformational leaders also provide mentoring and coaching to their followers, in order to develop their self-confidence and potential; they motivate followers to achieve beyond the expected. These outcomes are perceived as psychologically empowering for the team members.

Therefore, this study in proving the significant effect that transformational leadership has on trust, psychological empowerment, and team effectiveness presents evidence to promote transformational leadership development interventions within organisations making use of teams. It is possible for organisations to change their leadership style, which will be likely to result in changes in subordinates' perception, attitudes, and performance (Barling, Weber, & Kelloway, 1996). Barling et al. (1996) conducted a study in which they established the effectiveness of training managers in transformational leadership style. The effectiveness of the training sessions demonstrated not only subordinates' perception of the increased transformational leadership style displayed by leaders after the session in relation to before the

sessions, but also in increased organisational outcomes, like organisational commitment and financial indicators.

5.6 Conclusion

The data obtained from the sample and the results from the statistical analyses were presented in Chapter four. The purpose in Chapter five was to interpret the results and offer possible explanations thereof. Significant positive relationships were found to exist between transformational leadership and organisational trust, and between organisational trust and team effectiveness. Further positive relationships were found between transformational leadership and psychological empowerment, between psychological empowerment and organisational trust, as well as between psychological empowerment and team effectiveness.

Organisations continuously realise the benefits involved in using teams to reach organisational goals faster and more effectively (Salas et al., 2001). However, making use of teamwork will not automatically lead to success and beneficial outcomes for organisations. Therefore it is important to know and understand how organisations can increase team productivity and guarantee effectiveness.

In conclusion; this study has suggested and proven through statistical analysis that transformational leadership has a significant influence on team effectiveness through the mediating effects of organisational trust and psychological empowerment. These results contribute meaningful learning to the existing literature regarding teams in the workplace. In practice, it offers useful insight regarding managerial implications for companies making use of work teams. Organisations can gain insight in how to enhance the effectiveness of teams though interventions that promote transformational leadership development and psychological empowering practices, and foster organisational trust.

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