Chapter 1: Introduction to the study

1.1 Purpose of the study

Organizations worldwide are facing ever-increasing challenges of globalization and technological changes. One pathway companies can follow to circumvent these challenges is to unleash the entrepreneurial spirit that is latent in its employees, thereby enabling them to carve out new pathways in the process of initiating new ventures. The aim is to defy the status quo in their organizations and to break fresh ground (Seshadri & Tripathy, 2006).

This study focuses on corporate entrepreneurship that involves the interesting but complex dynamics of the workplace, characterized by various relationship levels between managers and subordinates. It examines leader activities and characteristics, engagement and trust relationships between employees and their managers. The study further intends to measure the impact that these factors have on each other as well as on the activities of individual intrapreneurs, where it attempts to measure the level of *innovativeness* in the workplace.

Most creative ideas are characterized by uncertainty (Kanter, 1988; Pelz, 1985; Wolfe, 1995). The study tries to unravel the complex work relationships surrounding the *innovative* process and activities and what antecedents lead up to these activities. Figure 1.1 describes the main concepts of the study, which investigates the interrelationships between employees and their leaders (LMX: leader-member exchange), employees and their engagement in work activities (work engagement), and how innovative employees (*intrapreneurs*) are at work (IWB: Innovative work behaviour).

The research conceptualized in the research model (figure 2.2) intends to describe and measure the interactions between these constructs and to further investigate to what extent the trust that employees have in their manager (TIL: trust-in-leader) mediates these interrelationships.

The conceptual approach of this research report is, to identify and examine the human behaviour and activity that increase the leadership qualities of intrapreneurial managers and supervisors within the work environment.

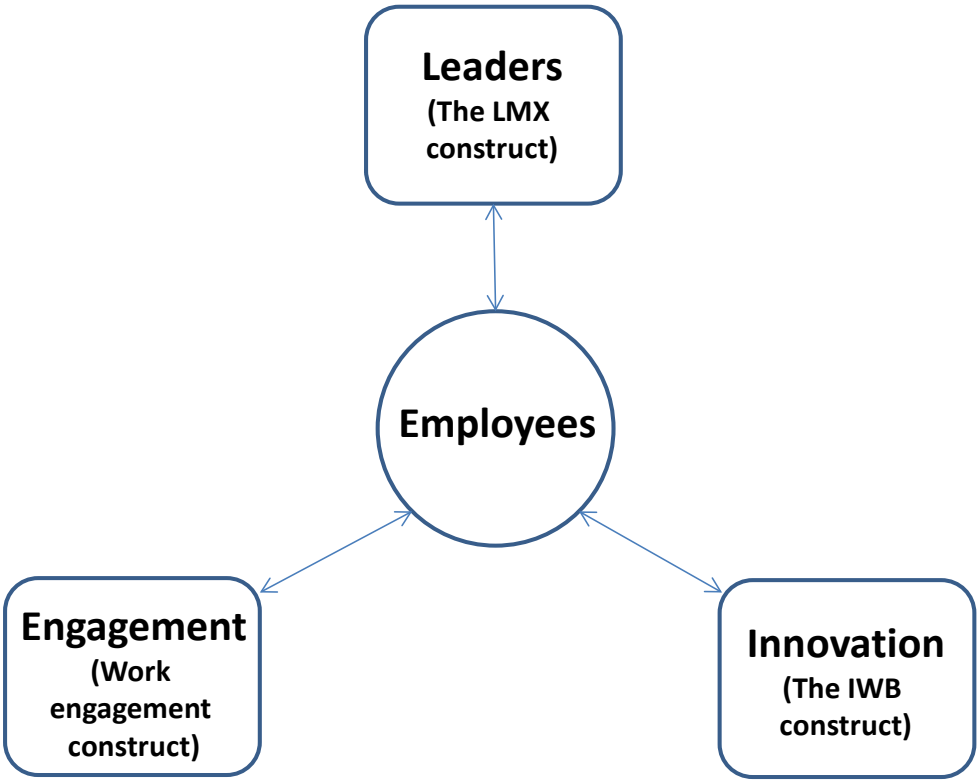


Figure 1.1: Construct interactions in the intended research

1.2 Context of the study

The focus of this study is to investigate the corporate entrepreneurial environment that involves the interrelationships between leader-member exchange (LMX), innovative work behaviour (IWB) and work engagement, and examines to what extent trust-in-leader (TIL) mediates these relationships. It also examines mediation of LMX on IWB through work engagement as a second mediating variable.

Work engagement as an antecedent of innovativeness has so far not been widely examined (Hakanen et al., 2008). Ashforth and Humphrey (1995) describe work engagement as the investment of hands, head and heart into work performance.

Most people within organizations operate with an employee mindset and will not choose the path of intrapreneurship because this path requires a great deal more from the person on various activity levels and is chosen by these people because of the challenges involved, the fulfilment it offers and the personal and professional reward (Seshadri & Tripathy, 2006).

Innovative work behaviour (IWB) is an important factor for organizational success (De Jong & Den Hartog, 2010). The importance of being able to successfully follow the process of getting an innovative idea implemented in the organization has obvious benefits as well as challenges. Approaching innovative work behaviour from an efficiency-orientated perspective, clearly indicates that employees in high-level LMX relationships are generally more confident that their innovative behaviour will have positive performance outcomes (Yuan & Woodman, 2010). This approach follows from Zhou & Woodman's (2003) publication which posits that supervisors are more likely to favourably evaluate new ideas from employees they respect and trust. It is therefore clear that elements of LMX and work engagement are antecedent to innovative work behaviour.

Shane (2003) distinguishes four dimensions of IWB, namely *idea exploration, idea generation, idea championing* and *idea implementation*, which will be examined later on in the thesis.

Leader-member exchange (LMX) theory studies the quality of the relationships between superiors and their subordinates (Morrow et al., 2005). This concept contributes strongly to the context of this study because of the importance of inter-personal relationships within the work environment. Studies done by Seshadri and Tripathy (2006) intended to understand the intrapreneurial mindset, as opposed to the employee mindset. Their research indicated that intrapreneurship is inextricably connected to leadership within organizations, including the mobilization of people towards a cause, often with significant resistance from the status quo.

Mayer reports that subordinates working in an environment characterized by high levels of trust-in-leader (TIL) are more likely to be motivated and willing to act in the best interest of the organization (Mayer et al., 1995). Research by Jafri (2012) reports that employees' innovative behaviour is significantly influenced by trust-in-leader (TIL). It appears that the level of trust held by employees towards their managers or supervisors will play a significant role in their propensity towards acting innovatively in the work environment. The work of Ozyilmaz (2010) and (Poon et al., 2006) reveal the mediating role that trust-in-leader plays on LMX. The clear inter-relationships and inter-dependence between these constructs indicate the importance of examining the work environment more carefully in order to better understand the dynamics between leaders, subordinates and innovation.

Extensive studies by Raabe and Beehr (2003) further implied that organizations should spend time and effort into developing mentoring supervisors, rather than appointing upper-level managers as mentors. The study indicated the high similarity between mentorship and LMX dimensions. There are both overlaps and differences in measuring the mentoring and leader-member exchange (LMX)

constructs. Operational similarities suggest that certain dimensions of mentorship and LMX should produce the same outcomes (Raabe & Beehr, 2003). The main dimensions of mentorship, namely *psychological support*, *career development* and *role modelling*, are characteristics that are commonly performed by managers and supervisors, even unconsciously.

It is believed that the context of this study is extremely relevant and important to the top management of corporate organizations aiming to be overall more innovative and entrepreneurial. It examines how employees work with their managers (LMX), how trust levels between these parties (TIL) influence their engagement in their work activities (work engagement), and how these antecedents ultimately affect the work innovation levels of employees (IWB) through intrapreneurial behaviour. The results of the study will give more insight into these interpersonal relationships in the work environment and will further assist managers and supervisors to align their leadership activities more effectively in order to increase organizational innovativeness and corporate entrepreneurship overall.

1.3 Problem statement

Global competition and uncertainty are forcing organizations to involve their employees innovatively (Jansson, 2000). Sustainable success is an ever-increasing, elusive achievement without engaging employees that bring high energy levels and passion into the work environment. This holds true for most organizations (Macey et al., 2009). Recent decades have seen innovation research flourish. There exists widespread agreement that the innovation process consists of *creativity* and *implementation* as its two distinguishing activities, with different potential antecedents (Axtell et al., 2000). Employees with initiative can display innovative behaviour (IWB) by copying successful work habits that are operational in other

organizational departments. In such instances their actions are *not necessarily creative, but innovative* (De Spiegelaere et al., 2014).

Transactional leaders do not change subordinates but use organizational resources to meet their followers' needs in exchange for collaboration in reaching organizational goals (Bass, 1985). The leader-member exchange (LMX) model follows a transactional approach that describes how managers use organizational resources to develop different exchange relationships with different subordinates (Yukl, 1989b). High-quality LMX relationships are characterized by higher levels of social exchange nourished by mutual trust, respect and obligation (Gaen & Uhl-Bien, 1995). High-quality LMX relationships will typically display task performance contributions from followers, like consistently volunteering to work extra hours to meet project deadlines.

Traditionally leadership and leadership effectiveness have primarily been viewed as transactional activities where leader behaviour involves exchange processes whereby subordinates' efforts are awarded (Burnes, 1978). Studies by Bass (1985), and Yukl (1989) indicated that the focus of leadership research has changed direction from simply studying the effects of transactional leadership, to examining the leadership behaviours that influence followers and contribute towards a higher awareness of the importance of task outcomes, how these behaviours advance higher-order needs and how it induces in followers the belief to put their self-interests aside and thereby benefit the organization. Yukl (1989) carries on to say that this transformational (also called "charismatic") behaviour by leaders augments transactional leader behaviour and its impact on employee outcome.

The inter-personal relationships between leaders and their subordinates directly influence the work environment and this is dependent on the trust that employees have in their managers. Cunningham & MacGregor (2000), and Lagace (1987) describe the relationship between LMX and trust-in-leader (TIL) as particularly complex.

The past several decades have seen a major concern facing both practicing managers and leadership researchers, namely, to look for and identify behaviour in leaders that make them more effective (Bass, 1981; House, 1971; House & Baetz, 1979; Stogdill, 1974; Yukl, 1989a).

Based on these arguments it became necessary to identify a field for study by combining challenges in the work environment. In order to postulate a research problem, it is important to remain cognizant of the approach to be taken in order to achieve sustainable success. Industries have a widespread challenge in addressing various leadership and management issues that directly affect the innovativeness of the organization. In the light of these pressing issues the following research problem is devised:

Problem statement:

> ***Managers and supervisors experience a common challenge when deciding on an effective approach to create trust relationships within the work environment that will be conducive towards increased work engagement, resulting in innovative work behaviour.***

1.4 Research objectives and research questions

Intrapreneurship is an important predictor of company growth. Organizations that support and implement structures and values that are conductive to intrapreneurial activities are generally more likely to experience growth as opposed to organizations which are low in such characteristics (Venter et al., 2015). The intrapreneurial intentions of entrepreneurial employees form the main interest of this study. It incorporates the five dimensions described by Dess & Lumpkin (2005) of autonomy, innovativeness, risk taking, competitive aggressiveness and pro-

activeness. This study focuses to a large extent on the innovativeness of employees and the research objectives are incorporated in the following research questions.

1.4.1 Research question 1

To what extent do strong leader-member exchange relationships strengthen the trust perspectives that employees have of their leaders?

1.4.2 Research question 2

How do trust-in-leader perceptions affect the correlations between the interrelationships of innovative work behaviour (IWB), leader-member exchange (LMX) and work engagement?

1.4.3 Research question 3

Will high-quality levels of leader-member exchange (LMX) result in high levels of innovative work behaviour (IWB)?

1.4.4 Research question 4

Will strong leader-member exchange (LMX) relationships cause high levels of work engagement?

1.4.5 Research question 5

To what extent will employees who are strongly engaged in their work display innovative work behaviour in their organizations?

1.4.6 Research question 6

Does work engagement mediate the relationship between leader-member exchange (LMX) and innovative work behaviour (IWB)?

1.5 Delimitations, significance and assumptions of the study

Leader-member exchange (LMX) theory studies the quality of the relationships between superiors and their subordinates, seen as either of high or low quality. High-quality LMX relationships reflect *trust, loyalty* and *respect*. In contrast, low-quality LMX relationships display mistrust and a lack of loyalty and respect (Morrow et al., 2005).

Innovative work behaviour (IWB) is defined as the "intentional creation, introduction and application of new ideas within a work role, group, or organization to benefit role performance, a group, or an organization" (West & Farr, 1989, pp. 15-30).

Work engagement is defined as "a discretionary effort, achieved through the behavioural investment of *physical, cognitive* and *emotional energy* in work roles" (Kahn, 1992, pp. 321-49).

The studies by Whitener et al. (1998) examined the concept of trust-in-leader (TIL) based on relational factors, organizational factors and individual factors. Rousseau et al. (1998, p. 395) defines trust as "a psychological state comprising the intention to accept vulnerability based upon positive expectations of the intentions or behaviour of another."

Mentorship is defined as "role activities that senior, experienced organizational members assume with junior members, involving work-related development and psychological support" (Kram, 1983, pp. 608-625). Mentorship as a construct will not be tested, but its main components, *career development, psychological support and role modelling* will be discussed because of its similarities to leader-member exchange (LMX) and how these mentoring dimensions can shape manager-and-supervisor styles of leadership. This approach is motivated by Raabe and Beehr's

(2003) research studies that suggest that organizations should spend time and effort in developing *mentoring supervisors,* rather than appointing upper-level managers as mentors.

This study intends to examine the complex interrelationships between managers and their subordinates in the LMX construct, how these relationships have a direct effect on innovative work behaviour (IWB) and how it is mediated by work engagement. The mediating influence of trust-in-leader (TIL) is also investigated. It is hoped that the study will shed light on how misconceptions surrounding leader-member relationships can be identified and addressed in order to provide effective guidelines to assist managers and supervisors in building trust relationships and influence employees positively towards innovative behaviour in the workplace.

1.6 Research model

The research design includes independent, dependent and mediating variables as follows:

1) Trust-in-leader (TIL)

(Mediating variable)

According to Chenhall & Langfield-Smith (2003), the trust that employees have in their leaders (TIL) is a facilitating factor in the process of reaching personal and organizational goals. It also facilitates participation in problem solving and the development of innovative strategies. Further to these assumptions, Jafri (2012) says that employees' innovative behaviour is significantly influenced by trust-in-leader.

McAllister (1995) describes two main domains for trust development, namely cognitive trust and affective trust.

Dirks and Ferrin (2002) identified two antecedents to trust, namely a relation-based antecedent and a character-based antecedent.

Podsakoff, MacKenzie, Moorman and Fetter (1990) developed a scale around their conceptualization of trust as a construct, consisting of the dimensions of faith and loyalty to a leader. The instrument was successfully tested and they concluded that the overall pattern of results indicated that all the items loaded on the trust-in-leader factor. Their trust-in-leader scale consists of a six-component questionnaire that appears in the annexure and is discussed in the methodology section of this study. It will be used in determining the trust relationship that exist between followers and their leaders in the research population of this study.

The research model for the study is described in figure 2.2. It indicates the relationships between the constructs as well as the suggested hypotheses that are discussed in the literature review.

2) Leader-member exchange (LMX)

(Independent, predictor variable)

The main outcomes of leader-member exchange (LMX) are innovative work behaviour (IWB) and intention to quit (Agarwal et al., 2012). Gaen & Uhl-Bien (1995) describe the development of LMX relationships as going through three sequential stages: stranger, acquaintance and partner.

Liden & Maslyn (1998) developed a multi-dimensional measure (MDM) for leader-member exchange (LMX). This scale is known as LMX-MDM and consists of four dimensions, namely affect, loyalty, contribution and professional respect.

The LMX-MDM twelve-point scale used in this research project appears in the annexure and is discussed in the methodology chapter of this research proposal.

3) Work engagement

(Mediating variable)

The action of the mediating variable is to explain the relationship between the dependent and independent variable. Mediation can be defined as "the complete intervention caused by the mediator variable" (Macey et al., 2009, p. 5).

Kahn (1992), cited in Agarwal et al. (2012, p. 210), defines engagement as "a discretionary effort achieved through the behavioural investment of physical, cognitive and emotional energy in work roles." Work engagement is characterized by *vigour, dedication* and *absorption*. The Utrecht work engagement scale (UWES) was developed by Schaufeli et al. (2006). 17-item and 9-item scales were suggested. The researchers tested both scales using confirmatory factor analysis (CFA) that supported the correlated three factors: Vigour, absorption, and dedication, as hypothesized. The CFA results of the 17-item UWES scale proved that the structure changed across the sample, but for the 9-item UWES scale the structure remained unchanged.

Further results from structural equation modelling (SEM) conducted on the UWES-9 scale produced high rank-order stabilities for the work engagement factors, between 0.82 and 0.86. These findings seem to prove that work engagement is a highly stable indicator of occupational well-being and that the 9-item UWES scale can be recommended for future use in research. The questionnaire making up the UWES 9-item scale, that was used in this research, appears in the annexure and is discussed in the chapter on methodology in this paper.

4) Innovative work behaviour (IWB)

(Dependent, criterion variable)

Innovative work behaviour (IWB) is an important factor for organizational success (De Jong & Den Hartog, 2010).It is the intentional action of an individual to introduce new and useful ideas in the work environment (Farr & Ford, 1990).

Shane (2003) distinguishes four distinct dimensions of innovative work behaviour (IWB), namely *idea exploration, idea generation, idea championing* and *idea implementation*. De Jong & Den Hartog (2010) propose a four-factor model to measure innovative work behaviour (IWB), based on Janssen's (2000) efforts to develop a multi-dimensional IWB instrument measure. They conducted confirmatory factor analysis (CFA) that revealed that each of the four dimensions (idea generation, exploitation, championing and implementation) contributed to the overall construct of innovative work behaviour (IWB). The relevant instrument is a 10-item scale consisting of four factors and appears in the appendix. It is discussed in the methodology chapter of this paper.

Chapter 2: Literature review

2.1 Introduction

Sustainable business success is an elusive achievement without engaging employees that bring high energy levels and passion into the work environment. Most organizations are faced with this challenge (Macey et al., 2009). To stay competitive, the ever-increasing business competition faced by organizations on a local and international level creates the need for employees to go beyond their standard work behaviour and engage **innovatively** (Janssen, 2000). Limited efforts have been made to examine work engagement as an antecedent to innovativeness (Hakanen et al., 2008). Recent decades saw innovation research flourish. There exists widespread agreement that the innovation process consists of *creativity* and *implementation* as it's two most distinguishing activities, with different potential antecedents (Axtell et al., 2000).

In recent decades organizations have developed an increasing interest in using corporate entrepreneurship (CE) to foster innovative abilities amongst their employees and thereby increasing company performance through potential new corporate venture creations. A global advancement in technological development and business competition in a market environment characterized by complexities, volatility, ambiguity, and uncertainty has made it apparent how necessary it has become for companies to be more entrepreneurial in order to survive. Companies that consider innovation to be an imperative for establishing and maintaining competitive advantage are increasingly focused on intrapreneurship and actively developing innovative entrepreneurial behaviour within their organizations (Venter et al., 2015).

A certain amount of study has been done on innovation itself, as seen for example in the EU 2020 Strategy, which was devised to achieve smart, sustainable and inclusive growth based on innovation. The ambition is to transform the EU into an innovation union through swift idea identification (generation) and commercialization (implementation) [European Commission, 2010]. In this regard, Moller (2010) states that the EU 2020 Strategy mainly focuses on science and technology, but also pays attention to social innovation and bottom-up employee driven innovation. Multiple studies have revealed the crucial importance of day-to-day workplace-related innovation for overall organizational sustainability and prosperity (Oldham & Cummings, 1996; Janssen, 2000; Getz & Robinson, 2003).

The circles of academia and policy makers are also displaying a rising interest in innovative work behaviour (IWB) and how it can be stimulated or triggered (Euwin, 2012).

One of the main outcomes of leader-member exchange (LMX) is innovative work behaviour, manifested through work engagement (Agarwal et al., 2012). The literature review intends to expand on Agarwal et al's findings and review the trust-in-leader (TIL) construct with the intention to research the extent to which it mediates the interrelationship between LMX, IWB and work engagement. The similarities between mentorship and LMX will also be investigated.

It is the specific purpose of this literature review to shed light on the extent to which these constructs influence each other, how they affect the innovation process within organizations and how this can determine intrapreneurship within organizations.

2.2 Corporate entrepreneurship (CE)

2.2.1 Defining corporate entrepreneurship (CE)

Large organizations are more commonly starting to reinvent their entrepreneurial routes when confronted with the realization that their entrepreneurial spirit diminished over time and left them with complex bureaucratic processes and hierarchy (Venter et al., 2015). Sharma & Chrisman (1999, p. 18) define corporate entrepreneurship (CE) as "the creation of a new company or the initiation of renewal or innovation through an individual or a group of individuals within an existing organization." Rutherford & Holt (2007, p. 430) regard corporate entrepreneurship (CE) as "the process of improving a company's capability to secure and employ employees' innovative skills and abilities."

In their more strategic approach, Ireland, Covin and Kuratko (2009, p. 21) defined CE as "a vision-directed, company-wide embracement of entrepreneurial behaviour that recognizes and exploits opportunities to renew the company and extend the scope of the operations." Venter et al. (2015) describe CE as entrepreneurial behaviour within incumbent organizations that is often referred to as intrapreneurship, organizational entrepreneurship, and corporate venturing that has its main aim to increase competitiveness through the process of inculcating innovation at all organizational levels, thereby striving to achieve the creation of new venture opportunities and strategic renewal.

Various terminologies are used interchangeably by certain authors to mean CE, like strategic renewal (Guth & Ginsberg, 1990), intrapreneurship (Pinchot, 1985), and internal entrepreneurship (Schollhammer, 1982).

2.2.2 Entrepreneurial orientation (EO)

Definitions

Entrepreneurial orientation (EO) is defined as "the process, practice and decision-making styles at corporate level" that is entrepreneurial in nature (Venter et al., 2015, p. 513). The way firms conduct their decision-making practices, their managerial philosophies as well as strategic behaviour entrepreneurially defines their entrepreneurial orientation (EO) (Venter et al., 2015).

Dimensions

Work by Miller (2011) on firm-level strategy-making assigns three dimensions to EO, namely proactiveness, innovativeness, and risk taking.

Dess and Lumpkin (2005) propose that EO consists of five dimensions, described as follows.

2.2.2.1 Innovativeness

Innovativeness describes the pursuit of new opportunities and novel solutions used by organizations as the key component of corporate entrepreneurial strategy. It involves creativity and experimentation leading to improved technological processes and new services (Antoncic & Hisrich, 2003). Venter et al. (2015) point out that innovativeness can be found in various forms like technological innovativeness, product market innovativeness, and administrative innovativeness. Innovation is an important part of corporate entrepreneurship (CE) (Covin & Miles, 1999).

2.2.2.2 Risk taking

Kuratko and Welsch (2001, p. 211) define risk taking as "the extent of uncertainty and potential loss associated with the possible outcomes following an action or series of actions." In the CE context, risk taking refers to the extent an organization is willing to pursue opportunities with an uncertain outcome (Thonberry, 2001).

2.2.2.3 Proactiveness

According to Frank et al. (2010) proactiveness refers to the characteristics of a company's strategic posture reflecting its ability to anticipate new developments at an early stage and act on those in a proactive manner rather than to wait for new developments and change in a reactive way.

2.2.2.4 Competitive aggressiveness

Antoncic and Hisrich (2003) describe competitive aggressiveness as the propensity of an organization to challenge its competitors. Dess & Lumpkin (2005) describe it as an organization's efforts to outperform industry rivals. Research by Rauch et al. (2009) suggests that competitive aggressiveness is characterized by a company's strong offensive approach and aggressive response to competition.

Competitive aggressiveness can successfully be used by organizational leaders where it leverages off innovativeness and proactiveness as a way of curbing industry trends that threaten the market share or overall survival of the organization.

2.2.2.5 Autonomy

Rauch et al. (2009, p. 764) define autonomy within the CE context as "the ability and the will to be self-directed in pursuit of opportunities that have to do with the independent action undertaken by entrepreneurial leaders or teams directed at bringing about a new venture and seeing it through to fruition". Research by Dess and Lumpkin (2005) suggest that organizations where autonomy is prevalent will ensure little interference with employees who come up with proposed ideas and their experimentation with it. They point out that top management support is crucial for successful development of entrepreneurial ventures.

2.2.2.6 Manifestation

Within the EO construct, entrepreneurship is regarded to be more than one act or activity, for instance, the launching of a new innovation. It views entrepreneurship as an overall strategic posture (Covin & Lumpkin, 2011).

Ireland et al. (2009, p. 21) define EO manifestation within a company as "an organizational state or quality through entrepreneurial processes and behaviour." They further indicate that EO forms part of the overall CE strategy. According to Covin & Slevin (1991) there exists recurring entrepreneurial patterns in EO firms.

Covin & Lumpkin (1991) highlight that sustained entrepreneurial behaviour within a firm has to be merged with favourable management support of engagement in uncertain entrepreneurial activities over time in order for the firm to have an EO. Wales et al. (2011) note that firms move between high EO periods (presence of sustained entrepreneurial behaviour) and low EO periods (absence of such behaviour). They argue that the occasional adoption of a more conservative strategic orientation may occasionally be beneficial to these firms.

According to Wiklund and Shepard (2011), EO firms that sustain entrepreneurial behaviour produce varied levels of performance because not all entrepreneurial activities generate revenue. Factors that help organizations to manage and shape these outcome distributions are important because they may reduce performance variances, thereby shifting the mean towards a more productive conclusion. In this regard Zahra (2013) discusses EO factors as stimulating the corporate strategic unit on a functional level. An organization's EO manifestation is therefore affected by its employees, their location in the organization, job responsibilities and the goals of the various business units, among others (Wales, 2016).

2.2.3 Corporate entrepreneurial strategy

Ireland, Covin & Kuratko (2009, p. 21) define a corporate entrepreneurial strategy as "a vision-directed, company-wide dependency on entrepreneurial behaviour to

purposefully and continuously renew the organization and shape the scope of its operations through the recognition and exploitation of entrepreneurial opportunities". Many scholars like Pinchot (1985), Hamel (2002), Kaplan & Norton (2001), and Quinn (1985) extensively discuss and highlight the importance of widespread innovation across organizations (as opposed to isolated innovation groups or teams) as an important strategy for marketplace success in the long term. This is especially true for large organizations.

2.2.4 Types of corporate entrepreneurship

2.2.4.1 Corporate venturing

Corporate venturing involves starting a new venture inside an organization that usually results from an existing core competency or process (Venter et al., 2015). Cohen (2002) is of the opinion that corporate venturing intends to create a separate entity within the organization with its own resources, funding, staff and markets. He concludes that such a new venture can be controlled within an organization, taken up as part of an existing business unit, or manifest as a separate company that can be sold off individually. According to Thornberry (2001) the creation of corporate venturing involves the creation of a new business inside an existing business that focuses on a significant new product or market opportunity. He concludes that this process is different from simply extending a product or service because it requires new knowledge on the part of the organization, even though they might leverage on existing competencies.

2.2.4.2 Intrapreneurship

Pinchot (1987, p. 14-19) conceptualized the term "intrapreneurship" and defined it as "a deliberate attempt by an existing company to inculcate the mindset and behaviours common to external entrepreneurs within its employees". Intrapreneurship at any level (individual, group, or organizational), fundamentally involves taking ownership and operating with an entrepreneurial mindset (Seshadri & Tripathy, 2006).

Venter et al. (2015) argue that companies often attempt to create an intrapreneurial mindset under all their employees, but that a better approach would be to empower specific employees as corporate entrepreneurs. These people are usually specific managers who are expected to identify and develop *innovations* with the potential to offer substantial growth opportunities.

Venter et al. (2015) describe intrapreneurship as an important predictor of company growth. Companies that introduce values and structures supporting intrapreneurial activities are more likely to experience growth than their competitors who are not focussing on these drives. The essence of intrapreneuring is to make *innovation* a reality within an incumbent organization, leading to the creation of new products, services, systems and processes.

2.2.4.3 Organizational transformation

Research by Berkinshaw (2003) found that organizational entrepreneurial transformation involves business adaptation in an ever-changing environment where organizations must align business structures and culture in such a way that it encourages entrepreneurship in employees, in order to drive the development of new business opportunities. Venter et al. (2015) point out that not all transformation in organizations comply with the requirements of CE. Such transformation must be vested in the recognition and capturing of new opportunities based on *innovation*, and a new arrangement and combination of resources.

2.2.4.4 Industry rule bending

Stopford and Baden-Fuller (1994) described industry rule bending as a type of organizational transformation with the emphasis on changing the rules of the competitive engagement which they termed frame breaking change.

Schumpeterian innovation described transformation of the enterprise, as well as transformation of the competitive environment (the industry) in such a way that it

becomes significantly different from what it was. This is referred to as "frame breaking change" that suggests a new way of thinking about competition (Schumpeter, 1934).

2.2.5 Corporate entrepreneurial climate

The way in which either a new start-up or existing business deals with growth is largely dependent on their individual culture and climate (Spinelli & Adams, 2012). Venter et al. (2015) mention that the perceptions of employees regarding their work environment, individual expectations and the practices and attitudes of key managers are all factors contributing to the establishment of a specific organizational climate that can have a significant performance impact.

Organizational climate is a determinant of organizational outcome that holds true for both small and large organizations and influences entrepreneurial efforts in companies of all sizes. The fact that employees are well aware of how their managers manage tasks and people directly affects their performance (Rogg, Schmidt, Shull & Schmitt, 2001).

Litwin and Stringer (1968) describe organizational climate by breaking the work environment down into measurable properties perceived directly or indirectly by employees who work in this environment, and is assumed to influence their motivation and behaviour. Burke and Litwin (1992) defined organizational climate as the how individuals perceive the way their work environment is managed, and how effective they and their colleagues work together.

Spinelli & Adams (2012) propose six basic themes that influence the level of organizational climate.

1. **Clarity:**

   Clearly defined policies, procedures, and structures.

2. **Standards:**

   The level of performance expected from employees.

3. **Commitment:**

   How dedicated are employees to the goals and objectives of the company?

4. **Responsibility:**

   How responsible are employees to achieve their goals without being managed?

5. **Recognition:**

   How are employees recognized and rewarded (non-monetarily)?

6. **Esprit de corps:**

   Is there a team spirit among employees with a sense of cohesion and mutual loyalty?

2.2.6 Corporate entrepreneurial culture

Burke & Litwin (1992) describe organizational culture as a set of explicit and inexplicit principles, values and rules that determine and guide organizational behaviour. Organizational climate is a prominent perception of employees regarding their work environment, whereas organizational culture exists more in the background as a set of beliefs and values (Kangis, Gordon & Williams, 2000).

2.2.7 Establishing a CE climate

Venter et al. (2015) report that literature suggests that an entrepreneurial climate requires very particular leadership within an organization. Anderson & West (1996) did extensive research on innovation and organizational climate. They indicated that there are four climate factors that are crucial for the creation of a CE climate.

1. **Participative safety:**

   How involved employees are in decision-making, and how psychologically safe they feel in proposing new ideas.

2. **Support for innovation:**

   How employees feel about the level of support they receive from the organization, as well as from their managers, to be innovative.

3. **Vision:**

   How clear and understandable is the company vision, and to what extent are employees taking ownership thereof?

4. **Task orientation:**

   How committed are employees towards high-standard work performance, and how is it controlled?

2.2.8 Characteristics of a CE climate

2.2.8.1 Entrepreneurial leadership

Cohen (2004, p. 16) defines entrepreneurial leadership as "the ability of establishing the organization's vision, and then creating the environment, systems, procedures, and culture that enable employees at all levels of the organization to take responsible initiative that can achieve the vision, as well as mobilizing other senior leaders to take responsibility at the top." Venter et al. (2015) describe entrepreneurial leadership as the courage, willingness and vision of a person who takes responsibility in making things happen, thereby liberating, focussing and directing the organization's entrepreneurial energy. The entrepreneurial leader must set the example that will encourage employees to develop their pioneering skills in an environment where restrictive structures are removed (Venter et al., 2015).

2.2.8.2 Management support

The facilitation and promotion of entrepreneurial activities within a company is referred to as management support. This support can take on various forms like backing innovative ideas or making the necessary resources available. To be successful it is necessary that the level of management support is agreed upon at the highest organizational level and expressed in a corporate entrepreneurial strategy.

Intrapreneurs can't effectively champion new ideas without management support, otherwise their intrapreneurial endeavours will ultimately fail (Venter et al., 2015). According to Stopford & Badenfuller (1994), organizations must realize that it takes time to build internal entrepreneurship based on the development of entrepreneurial systems and attitudes of employees.

2.2.8.3 Sponsors

Management support in the form of senior-level sponsors is crucial if employees want to have the confidence and passion to identify opportunities and develop them through their processes towards completion. This support from senior management creates safe environments around intrapreneurs that protect them and assist in their projects and efforts so that they do not become targets for possible elimination (Venter et al., 2015). Good senior-level sponsors facilitate access to resources and believe in the intrapreneur's endeavours (Venter et al., 2015). Jones & George (2003) describe a sponsor as a project champion who is a manager that takes ownership of a particular project, and who provides the vision and leadership to take the product or service from the idea phase towards completion.

2.2.8.4 Tolerance for risk, mistakes, and failure

An important requirement in the establishment of an intrapreneurial climate is to allow for mistakes and failures when developing new products and services. A general characteristic of intrapreneurial companies is that they are experimental in nature and supportive of trial & error (Venter et al., 2015). Cohen (2004) argues that intrapreneurial employees should be diligent and thorough when investigating a new initiative, use sound commercial reasoning and ensure that they put in the necessary effort to benefit the organization, but that the failure of any such initiative should go unpunished.

2.2.8.5 Innovation and creativity

According to Morris and Kurarko (2002), creativity is at the heart of entrepreneurship. They further argue that creativity involves that one must apply

cognitive ability and curiosity in the discovery of new things. Creativity is therefore required in the recognition of trends and patterns that define opportunities, and that is needed to develop innovative business concepts. They argue that corporate entrepreneurs must be highly creative when getting a sponsor in the organization. They must be able to successfully build and use their networks, obtain management buy-in for the concept and be able to form a team and then be able to arrange resources needed for their planned initiative while constantly overcoming encountered obstacles in the process.

Companies generally find it hard to manage innovation because they commonly insist on actions with expected results. Innovation is not creativity. It focuses on learning quickly and responding swiftly to that learning. Based on this, an intrapreneurial climate will imply that there exists an organization-wide belief in, and acceptance of *innovation* (Venter et al., 2015).

2.2.8.6 Rewards and reinforcement

Employee behaviour is significantly influenced by rewards and recognition. These reward structures will have to be properly in place if an organization expects creativity and innovation from its employees. According to Venter et al. (2015) corporate entrepreneurs want to receive recognition for the energy and effort they put into, and the risk spent in, creating new ventures. They further warn that companies that want to embrace corporate entrepreneurship must guard against losing disgruntled intrapreneurs to the outside market where they can easily start new ventures in direct competition with these companies. This can effectively be curbed by introducing the appropriate reward and reinforcement strategies that compel these intrapreneurs to take even more intrapreneurial initiative.

2.2.8.7 Vision and strategic intent

Strategic intent is usually associated with a company aiming to achieve more with its existing resources. This inevitably calls for CE initiatives that steer away from the status quo. In planning a CE strategy, an organization must first draft its strategic

intent and use this to communicate to employees what management intends to achieve (Venter et al., 2015). Employees who fully comprehend the strategic intent and the company vision are appropriately empowered to direct their efforts innovatively when it becomes obvious to do so, or when specifically required. CE will simply fail if only management buys into the strategic intent. To be successful, all employees must buy in and need to know what to do to bring it to realization (Gaw & Liu, 2004). CE is a direct result of creative talents of company employees who are aware of the company vision, understand it and also be committed to it (Cohen, 2004). According to Pinchot (1985), there is a strong correlation between innovation and employees assuming psychological ownership of the company's growth, and this fosters entrepreneurial behaviour.

2.2.8.8 Discretionary time and work

Venter et al. (2015) says that creative employees must first carefully analyse and investigate their new ideas prior to demonstrating its value to others. This requires time and effort, and companies that support CE initiatives must allow their employees to use some of their work time to freely explore these new ideas. Without this freedom and time it can be expected that very little or no intrapreneuring will happen. Kuratko and Hodgets (2004) argue that *discretion* includes more than merely allowing employees time to pursue new ideas, but also considers the extent to which employees have autonomy in how and what work to perform.

Concerning discretion, Kuratko, Ireland, Covin and Hornsby (2005) emphasize that top management must commit to intrapreneurship by allowing their employees decision-making latitude related to their work responsibilities and the removal of excessive oversight of work activities.

2.2.8.9 Multi-disciplined teamwork and diversity

Organizations that are entrepreneurial empower cross-disciplinary teams to make decisions that improve innovation. The nature of these teams is to provide an open

discussion platform that incorporates different perspectives, making them more successful than an individual approach (Venter et al., 2015). Gaw and Liu (2004) see cross-functional teams as combining new ideas, perspectives, experiences and attitudes as they unify the knowledge and experience of different employees. Organizational renewal and frame-breaking change are largely dependent on team learning. It opens up new possibilities and options for managers, freeing them from fixed patterns of thought that can easily limit progress. It can be expected that organizations focused on developing CE will make long-term investments in facilitation of the learning environment. (Stopford & Badenfuller, 1994).

2.2.8.10 Resource availability

Antonsic and Hisrich (2004) identify organizational support as an important corporate entrepreneurial force where established companies make resources like people, finance, technology, competencies, knowledge, equipment and so forth available and accessible to employees. Thompson, Stickland and Gamble (2007) describe companies with entrepreneurial inductive climates as providing intrapreneurs with greater autonomy and control over resources, which in turn supports more creative initiatives and results in greater innovation.

2.2.8.11 Continuous learning

By nature, CE involves the activities of people who constantly improve and develop themselves. Work environments that offer individuals the opportunity of personal growth will also experience that these individuals develop a propensity to continuously improve to stay ahead of the game. Such environments contribute significantly to employees' commitment and retention (Venter et al., 2015). Nicholson-Herbert, Mkhize and Schroder (2004) argue that it is less costly to retain innovative staff members, that what it is to employ and develop new individuals.

2.2.8.12 Strong customer orientation

A strong customer orientation characterizes entrepreneurial companies who invest time, energy and imagination in their customers by listening to them and

understanding them (Venter et al., 2015). Companies with a customer-focused ethos imagine what the future holds. They perceive market trends and anticipate what the demand will be, while proactively raising their customer's awareness, thereby creating and becoming the future (Dess & Lumpkin, 2005).

2.2.8.13 Flat organizational structure with open communication and strong sense of belonging

Companies are increasingly coming under pressure to be global players and still be agile and flexible to react quickly to rapid changes in their business environment. Large organizations are facing the challenge of not losing their size advantage, but at the same time trying to create a sense of a small-and-agile organization within. The speed and rate at which a business can change will be determined by its organizational structure. Entrepreneurial organizations have to be able to learn through experimentation and must be flexible and decentralized in order to provide these opportunities (Venter et al., 2015). Organizational structures of entrepreneurial organizations are typically found to be flat, people-oriented and team-based and are further characterized by informal networks and the existence of strong supporting structures for independence (McBeth & Rimac, 2004).

2.3 Trust-in-leader (TIL)

Studies done by Podsakoff et al. (1990) conclude that organizational citizen behaviour(OCB) is influenced by transactional leadership behaviour, based on the trust that followers have in their leaders. According to Dirks & Ferrin (2002), the literature studying trust approaches it from two different angles. Social exchange theory is used to describe the trust relationship between a leader and a member, and this approach is called relation-based trust. The character-based trust approach describes the perceptions of members and how vulnerable they feel towards the behaviour of their leaders.

Whitener et al. (1998) report that their research examined the trust-in-leader concept based on *relational factors, organizational factors*, and *individual factors*. In measuring trust, Dirks and Ferrin's (2002) meta-analytical model employed variables like LMX and job satisfaction, as well as certain innovative constructs like IWB (Dirks & Ferrin, 2002). The research of Ozyilmaz (2010) reveal the mediating role that trust-in-leader (TIL) plays on LMX. Poon et al. (2006) propose a model to test trust-in-leader, propensity to trust, and supervisor attributes. The supervisor attributes construct of Poon's model included *ability, benevolence* and *integrity*, and the test results indicated a positive influence on the trust-in-leader construct.

Hudson (2004) reports that the performances of subordinates are influenced by high levels of trust-in-leader that continue to influence the quality of organizational outputs. Similarly, research by Mayer et al. (1995) reports that subordinates working in an environment characterized by high levels of trust-in-leader are more likely to be motivated and willing to act in the best interest of the organization. The trust that employees have in leaders (TIL) is a facilitating factor to reach organizational and individual goals. It also facilitates employee participation when it comes to problem solving and the development of innovative strategies (Chenhall & Langfield-Smith, 2003). Further to these research findings, research by Jafri (2012) reports that employees' innovative behaviours are significantly influenced by trust-in-leader (TIL).

Tastan and Davoudi (2015) conclude that LMX and IWB are related and that the relationship is moderated by trust-in-leader (TIL). Their research found that the relation between LMX and IWB will decrease in the instance where trust-in-leader is low, and that high trust-in-leader levels will result in an increase in the relation between LMX and IWB. In their meta-analytical findings, Ferrin & Dirks (2002) report that trust-in-leader (TIL) is a significant construct and has been recognized by researchers for over forty years. They make reference to early publications in the 1960s by authors like Argyris (1962), Likert (1967), and McGregor (1967). Rousseau et al. (1998, p. 395) define trust as "A psychological state comprising the

intention to accept vulnerability based upon positive expectations of the intentions or behaviour of another." In their 1992 publication, Yukl and Van Fleet made no distinction between leaders and managers. They found the terms to be often used interchangeably in the literature (Yukl & Van Fleet, 1992). According to Ferrin & Dirks (2002) trust is linked to attitudinal outcomes, specifically organizational commitment and job satisfaction. Low levels of trust-in-leader (TIL) will likely cause psychological distress, as result of the realization by followers that important aspects of the job are controlled by the leader. This distress will likely affect followers' attitude towards the workplace. Podsakof et al. (1990) report that trust appears to be most frequently cited throughout *transformational leadership* literature (Podsakoff et al., 1990).

Research conducted by Clark & Payne (1997), Cooke & Wall (1980), and McAllister (1995) suggest that trust comprises multiple dimensions. In this regard, McAllister (1995) categorizes interpersonal trust into two dimensions: One: Cognitive trust that involves *integrity, honesty, reliability*, and *fairness*. Two: Affective trust that concerns special relationships between the referents in a trust relationship, e.g. a leader's concern about the personal welfare of a subordinate.

Ferrin & Dirks (2002) describe a correlate relationship between LMX and trust-in-leader. They further argue that the trust-in-leader construct is conceptually similar to satisfaction with the leader because they say that both constructs reflect an attitude or assessment, held by involved individuals about the same referent. Cunningham & McGregor (2000), and Lagace (1987) describe the relationship between LMX and trust-in-leader (TIL) as particularly complex, whereas Schriesheim et al. (1999) treats trust-in-leader as a sub-dimension of LMX. Brower, Schoorman and Tan (2000) propose that LMX must be viewed as comprising of two trust components, namely trust of the leader towards the subordinate, and trust of the subordinate towards the leader. They say that these trust relationships do not necessarily need to be balanced or reciprocal.

In conclusion of their meta-analytical study, Ferrin & Dirks (2002) state that their meta-analysed data indicates that trust-in-leader (TIL) is a distinct separate construct to LMX. Other research studies done on trust-in-leader (Colquitt, Conlon, Wesson, Porter & Ny, 2001; Lind & Tyler, 1988) have followed two distinct referents, namely direct leadership, for instance supervisors or managers and organizational leadership; some examples are collective leader groups and executive committees. Direct leadership typically performs supervisory activities like managing performance and day-to-day activities (Bass, 1990).

Ferrin & Dirks (2002) describe the *character-based* theory as the perceived leadership characteristics resulting in leader actions, and the *relationship-based* theory as displaying signals that point to the nature of the relationship, as two antecedents to trust relationships between leaders and their followers.

2.3.1 Hypothesis 1

Following the arguments around the relationship between LMX and trust-in-leader (TIL), the research question asks to what extent strong leader-member exchange relationships strengthen the trust perspectives that employees have of their leaders.

H1: High levels of leader-member exchange relationships have a direct, positive influence on trust-in-leader perceptions.

2.3.2 Hypotheses 2.1; 2.2; 2.3

The review of the trust-in-leader (TIL) construct revealed its mediating characteristics towards leader-member exchange (LMX), innovative work behaviour (IWB) and work engagement, and in this regard the following three hypotheses are postulated based on the research question: How do trust-in-leader perceptions affect the correlations between the interrelationships of IWB, LMX, and work engagement?

H2.1 Trust-in-leader mediates the relationship between leader-member exchange and innovative work behaviour.

H2.2 Trust-in-leader mediates the relationship between leader-member exchange and work engagement.

H2.3 Trust-in-leader mediates the relationship between work engagement and innovative work behaviour.

2.4 Leader-member exchange (LMX)

The LMX theory was originally referred to as the Vertical Dyad Linkage Theory (VDL) (Dansereau et al., 1975). High-quality LMX relationships generate leader outcomes that are more positive if compared to low levels of LMX relationships (Gerstner & Day, 1997; Krishnan, 2005; Uhl-Bien, 2006). The leader-member exchange (LMX) theory suggests that higher quality relationships between supervisors and subordinates will result in these subordinates having greater access to resources and more decision latitude, and enjoying more freedom in return for increased levels of loyalty and commitment. This availability of additional time, resources and freedom are important antecedents toward employees being able to contemplate and experiment with new ideas in the work environment (Kanter, 1988). Supervisors can provide greater access to resources as well as providing support that increases the odds of innovative behaviour being successful.

Approaching innovative work behaviour from an efficiency-orientated perspective clearly indicates that employees in high-level LMX relationships are generally more confident that their innovative behaviour will have positive performance outcomes (Yuan & Woodman, 2010). Yuan and Woodman's approach followed from Zhou and Woodman's (2003) publication that described how supervisors are more likely to favourably evaluate new ideas from employees they respect and trust.

One of the main outcomes of leader-member exchange (LMX) is innovative work behaviour (IWB), (Agarwal et al., 2012). The official work role of an employee can be a contextual factor that influences innovative work behaviour (IWB), the obligations associated with the job position, and how innovation is activated (Kanter, 1988).

Transformational leaders get followers to act the way they want through transformation (Yukl, 1989b). *Transactional leaders* do not change sub-ordinates but use organizational resources to meet their followers' needs in exchange for collaboration in reaching organizational goals (Bass, 1985). The LMX model follows a transactional approach that describes how managers use organizational resources to develop different exchange relationships with different subordinates (Yukl, 1989b). In high-quality LMX relationships subordinates normally perceive good working relationships with their superiors (Graen, Novak & Sommerkamp, 1982). Research by Graen et al. (1982), and Ferris (1985) determined that high levels of LMX are associated with increased satisfaction and productivity levels under subordinates and also cause a decreasing rate of employee turnover. Leadership is viewed as an interactional and interrelational phenomenon where managers influence subordinates (leaders to members), and the LMX theory focuses on this dyadic relationship (Gerstner & Day, 1997; Graen & Uhl-Bien, 1995).

Transformational leaders have charismatic appeal that makes them more effective than their purely transactional counterparts in creating follower-receptivity toward social exchange offers when building high quality level LMX relationships (Wang et al., 2005). LMX relationships where followers have strong personal identification towards their leader, typically display an enhanced sense of self-worth under followers in these relationships. This is based on the adoption of their leader's values, beliefs and behaviour. These actions cause followers to gain praise, recognition and increased role responsibilities that result in higher quality levels of social exchange between the parties (Wang et al., 2005).

In their study of 162 leader-member dyads in China, Wang et al. (2005) used the 12-item LMX-MDM multidimensional scale designed by Liden & Maslyn (1998) instead of the 7-item, one-dimensional scale of leader-member exchange (LMX) created by Scandura and Graen (1984). The LMX-MDM scale offers wider domain coverage with a better reflection of relational characteristics and qualities displayed in the leader and subordinate relationship, if compared to the one-dimensional LMX measuring scale. The scale consists of four distinct components, namely affect, professional respect, loyalty and contribution.

Low-quality LMX relationships are characterized by formal work contracts where employees work for money. In high quality LMX relationships managers and subordinates contribute more to exchange as what their contracts require. Relationships involve trust, respect, personal liking and joint goal achievement (Greguras & Ford, 2006).

There exists a relationship between LMX and *creativity* (Atwater & Carmeli, 2009; Scott & Bruce, 1994; Tierney et al., 1999). The role of the leader is crucial in facilitating and supporting innovation in their teams (Denti & Hemlin, 2012a).

LMX theory is based on the concept of role making (Graen & Cashmman, 1975). Deluga (1995) proposed that the LMX theory involves *social exchange*, *reciprocity*, and *equity*. Role expectations are conveyed from leaders to followers, and followers satisfying these expectations are rewarded through either tangible, or intangible means. It is noted that followers also have role expectations from their leaders regarding the way they want to be treated and the type of rewards they expect. These followers are not simply passive role recipients but may embrace, reject or even renegotiate prescribed roles assigned to them by their leaders. The dyadic exchange relationship between leaders and followers displays a reciprocal process whereby the parties bring different kinds of resources to the relationship for exchange. The quality and maturity of an LMX relationship develop over time, based on role negotiations that see leaders building relationships of varying quality with

different followers (Graen, 1976; Graen & Uhl-Bien, 1995). Low-quality LMX relationships are characterized by leaders exercising formal authority and using standard benefits to reward standard job performance. These underlying exchanges in LMX relationships are predominantly contractual in nature. On the other hand, high-quality LMX relationships are characterized by higher levels of social exchange, nourished by mutual trust, respect, and obligation (Gaen & Uhl-Bien, 1995).

High-quality LMX relationships will typically display task performance contributions from followers who are consistently volunteering to work extra hours to meet project deadlines. In return these followers will receive special privileges like access to key personnel or information or opportunities that can enhance their careers, like special work assignments, as well as increased levels of direction in doing their jobs. There appears to be striking similarities between LMX and mentorship concerning career development, social support, and role modelling, as described by Scandura and Ragins (1993).

The dimensions of LMX are *contribution, affect, loyalty*, and *professional respect*.
Graen and Uhl-Bien (1995) described the development of LMX relationships as going through three sequential stages:

1) **The stranger stage**

   Followers are issued with modest role responsibilities that are expandable. Leaders assess whether these responsibilities are successfully fulfilled.

2) **The acquaintance stage**

   As the role responsibilities expand, and are met by the followers, the leader will assign more responsibilities, greater discretion and increased benefits as reward.

3) **The partner stage**

   This stage describes mature LMX relationships that are characterized by a shift in the motivation of followers away from the need to satisfy immediate self-interests (through the process of a quidproquo transactional exchange)

to the need for satisfying work-related interests that are broader in nature, collective and long-term. It is accordingly emphasized that *task performance* can be perceived as a form of currency that exists in the social exchange activity in LMX relationships. It can be viewed as a means of reciprocative obligation fulfilment (Wang et al., 2005). Reciprocity expectations are fulfilled by high task performance activities that result from favourable treatment of followers by their leaders, based on positive *affect, mutual respect, loyalty*, and *obligation* (Liden & Maslyn, 1998).

2.5 Work engagement

"Work engagement" and "employee engagement" are often used interchangeably. Agarwal et al. (2012) prefer to use the term "work engagement" because it specifically refers to the employee's relationship with his or her work. Research done by Schaufeli et al. (2006) suggest that work engagement can be reliably measured. Hallberg and Schaufeli (2006) point out that work engagement can further be distinguished from similar constructs like job involvement and job commitment, or organizational citizenship behaviour (OCB) (Macey & Schneider, 2008).

The concept of "intrinsic motivation" is similar to work engagement, though not identical (Shalley & Gilson, 2004; Shalley, Zhou & Oldham, 2004). Intrinsic **motivation** refers specifically to a driver of employee engagement where work engagement measures the vigour, dedication and absorption that employees experience (Schaufeli et al., 2006).

Salanova, Agut and Peiro (2005) and Bakker and Demerouti (2008) point out that there exists a link between work engagement and various positive organizational outcomes related to productive employee behaviour.

2.5.1 Dimensions of work engagement

Schaufeli & Bakker (2004, pp. 293-315) define work engagement as "a positive, fulfilling, work-related state of mind that is characterized by *vigour, dedication*, and *absorption*". Work engagement is further defined as "a psychic kick of immersion, striving, absorption, focus and involvement" (Macey et al., 2009, p. 5). Kahn (1992), cited in Agarwal et al. (2012, p. 210), defines engagement as "a discretionary effort achieved through the behavioural investment of physical, cognitive and emotional energy in work roles." Ashforth and Humphrey (1995) describe work engagement as the investment of hands, head and heart into work performance.

Khan (1990, p. 694) provides a conceptual basis for engagement, defined as "the harnessing of organization members' selves to their work role by which they employ and express themselves physically, cognitively, and emotionally during work performance". Wefald and Downey (2009a) describe work engagement as a cognitive state where persistent, positive employee activities are characterized by vigour, dedication and absorption. De Spiegelaere et al. (2014) describe the work engagement construct as consisting of three distinct dimensions namely *vigour, dedication* and *absorption*. Schaufeli et al. (2002a, p. 465) established the most widely accepted definition of work engagement as "a positive, fulfilling, work-related state of mind characterized by *vigour, dedication*, and *absorption*."

Based on the literature, work engagement therefore consists of the following dimensions:

2.5.1.1 Vigour

Characteristics of vigour include mental resilience and high energy levels while working and displaying a willingness to put effort and persistence into difficult work (Schaufeli et al., 2002a). It is further described as a mental state of employees where they display high energy levels, resilience and individual willingness to apply effort and persistence towards problem solving (De Spiegelaere et al., 2014).

2.5.1.2 Dedication

Dedication describes a sense of being significant and displaying inspiration, enthusiasm and pride (Schaufeli et al., 2002a). Dedication entails the employee's feelings of inspiration and overall significance derived from work activities, characterized by enthusiasm and work pride (De Spiegelaere et al., 2014).

2.5.1.3 Absorption

Absorption refers to being deeply engrossed in one's work, which is associated with high levels of concentration. It creates the perceived feeling that time is passing quickly and that it is difficult to create distance from work (Schaufeli et al., 2002). West and Farr (1989) point out that the general notion of introducing innovation to provide benefits in the workplace requires individuals to invest substantial effort in adopting these innovations. The adoption process requires employees to become absorbed in their work (*absorption*). Innovative work behaviour (IWB) is often the cause of co-worker conflict. Janssen (2003) describes that this is particularly true among employees deeply involved in their work (*absorption*). Absorption can further be described as a state of mind where employees are found to be engrossed in their work with high concentration levels. Employees experience that time flies and that it is not easy to detach from their work (De Spiegelaere et al., 2014).

2.5.2 Predictors of work engagement

Srivastava et al. (2014) describe four predictors of engagement:

2.5.2.1 Transformational leadership

Transformational leaders provide charisma, intellectual stimulation and consideration towards the individual. They are pivotal in organizational growth by developing cultures that support creation of followers (Lockwood, 2007). The actions of transformational leaders also improve subordinate performance and the development of abilities (Evans, 2001).

2.5.2.2 Psychological capital (PSY-CAP)

Xanthopoulou et al. (2007, pp. 121-141) define psychological capital as "an individual's positive psychological state of development characterized by *self-efficacy, optimism, hope,* and *resilience*." These dimensions are described as follows:

a) **Self-efficacy:** Having confidence and putting in the right amount of effort into making a success of challenging tasks.

b) **Optimism:** The making of positive attributions towards achieving current and future success.

c) **Hope:** The perseverance towards reaching goals and constant evaluation and redirection of the process if necessary.

d) **Resilience:** Sustaining a focus on success by constantly bouncing back from problems and adversity (Luthans et al., 2007; Xanthopoulou et al., 2007).

Psychological capital (Psy-Cap) is the reason employees put in extra effort to complete a task. They are motivated through their expectations of positive results. In completing this task employees are enabled to come up with various solutions to overcome problems, and Psy-Cap assist individuals to cope better with eventual setbacks (Luthans, Avey, Avolio & Peterson, 2010).

2.5.2.3 Empowerment

Empowerment is defined as "a process of enhancing feelings of self-efficacy amongst members through the identification of conditions that foster *powerlessness* and through their removal by both formal organizational practices, and informal techniques of providing efficacy information" (Conger & Kanungo, 1987, pp. 637-647). Fernandez and Moldogaziev (2012, pp. 155-187) define empowerment as "a process which involves management practices of sharing information and rewards that in turn influence not only directly, but indirectly through impact on self-efficacy, motivation, and job satisfaction."

2.5.2.4 Job characteristics

Hackman and Lawler (1971) completed a behaviour study providing evidence that employee attitude and work behaviour are directly influenced by job characteristics. In 1976, Hackman & Oldham created a model to describe job characteristics using five core job dimensions:

a) **Skill variety**: The level to which an employee can use different skill sets to complete a job.

b) **Task identity**: To what extent does the job require completion of a specific piece of work.

c) **Task significance**: Indicates to what degree the completion of a job influences other people.

d) **Autonomy**: To what extent workers are free and independent to apply discretion in work scheduling and completion.

e) **Feedback:** Direct and clear information received, based on performance

(Hackman & Oldham, 1976).

2.5.3 Improving work engagement

According to Schaufeli and Salanova (2010), it is necessary to take an *individual* as well as an *organizational* approach in order to enhance work engagement. Shaufeli & Salanova (2010) ask two questions in order to make this approach clear. Firstly, what can employees do at work in order to flourish and thrive? Secondly, what can be done by the organization to promote a flourishing and thriving workforce?

The traditional "medical disease" model incorporates individual and organizational interventions**.** In this model, intervention will only happen with the sole intention of fixing a problem when it exists. The medical disease model offers "treatment" that is specific to the identified "disease" observed in employees. It also offers preventative measures that focus on those employees who might potentially suffer from a "disease" (Schaufeli & Salanova, 2010).

Within the occupational health psychology environment, Schaufeli and Salanova (2010) coined the concept of "amplition", defined as "positive interventions that promote, increase and improve employee health and wellbeing, including work engagement" (Schaufeli & Salanova, 2010, p. 399). Amplition is based on the positive psychological principle of improvement or betterment, in contrast to the concept of the medical disease model – fix what is broken (Seligman & Csikszentmihalyi, 2000).

According to Schaufeli and Salanova (2010), there are only a few tried-and-tested instruments aimed at evaluating these interventions. The Utrecht work engagement scale (used in the research instrument for this study) contains items that have explicit reference to positive emotions, for example: "*I am enthusiastic about my job*", and "*I feel happy when I am working intensely*" (Schaufeli et al., 2002b). Happiness refers to a more general psychological state that is free of context, in contrast, work engagement is more specifically work-related (Schaufeli & Salanova, 2010).

A meta-analysis conducted by Lyubomirsky et al. (2005) concluded that happy employees are more likely to secure job interviews; obtain better jobs with more autonomy and variety; are more positively evaluated by their superiors and by other employees; handle managerial jobs better; are less likely to show counterproductive and retaliatory workplace behaviours such as stealing, bullying, and sabotage; exhibit pro-social behaviour at work, such as altruism, courteousness and helping others; show less withdrawal behaviour, such as turnover and absenteeism; are less likely to burn out; show more extra-role behaviour (going the extra mile), and show superior performance and productivity.

2.5.3.1 Individual-based interventions

In analysing individual-based interventions, positive interventions are identified that increase happiness and work engagement of individuals. These interventions may target a change in an individual's beliefs, behaviour, goals and motives

(Schaufeli & Salanova, 2010). There are three strategies towards individual-based interventions:

2.5.3.1.1 Behavioural strategies

2.5.3.1.1.1 Practicing virtues

A basic principal of positive psychology is that sustained happiness (in this case, work engagement) is fostered by leading a meaningful, virtuous life and not purely by the pursuit of pleasure (Schaufeli & Selanova, 2010).

2.5.3.1.1.2 Being kind to others

Acts of kindness may boost happiness because it is likely to elicit positive feedback and reciprocation. It may help individuals to view themselves as altruistic, which in turn may boost their confidence levels and self-esteem (Schaufeli & Salonova, 2010). To be most effective, acts of kindness are best done in a varied manner, and in a short period of time like at a designated kindness day (Boehm & Lyubomirsky, 2009). Pursuing a kindness drive under individual employees is an active intervention method towards improving *work engagement*.

2.5.3.1.1.3 Expressing gratitude

When an individual expresses gratitude and does not take things for granted, it promotes the savouring of positive life experiences that excels self-worth and building social bonds (Schaufeli & Salanova, 2010). Expressing gratitude also acts as an "antidote to toxic work emotions", as described by Emmons (2003, p 90). Writing and sending someone who was kind or important to an individual a letter of gratitude, increases happiness (Seligman et al., 2005).

2.5.3.1.1.4 Learning to forgive

The process of forgiveness involves an individual to suppress or mitigate motivations for revenge and retaliation that is a natural response toward abuse that can constitute an insult, an offence, a desertion or a betrayal. The result of

forgiveness is the replacement of negative emotions by more positive attitudes, feelings and behaviours. People who can forgive are more likely to experience happiness and health and are overall more agreeable and serene (McCullough, 2001). Work-related abusive, threatening or harmful events occur regularly, like harassment by staff or customers, non-recognition, favouritism, negative performance feedback, missed promotion opportunities, and so forth. There is a great deal of room for forgiveness. An easy practical intervention method can be practiced by writing a fictitious letter to someone who did you wrong, granting them imaginary forgiveness (Lyubomirsky, 2007).

2.5.3.1.1.5 Sharing good news

Gable et al. (2004) reveal that there are compelling research findings that support the assumption that positive emotions are increased through the sharing of good news. The research of Bakker et al. (2006) found indications of the contagiousness of engagement in work teams that are bolstered by the increase in team spirit, following the reception of good news.

2.5.3.1.1.6 Nurturing social relationships

Social relationships offer, as their most important function, the support of others in times of distress (Schaufeli & Salanova, 2010). Social support can take the form of *practical support, information*, or *emotional support*. Viswesvaran et al. (1999) conducted a meta-analytical study involving 200 companies. The study revealed that work related social support was associated with less burnout, lower rates of withdrawal intention, self-reported health and job satisfaction. To nurture and grow social relationships at work, employees should socialize more and talk about personal matters and not just have work-related conversations (Schaufeli & Salanova, 2010).

2.5.3.1.2 Cognitive strategies

2.5.3.1.2.1 Counting one's blessings

This approach involves the savouring of positive life experiences, instead of taking them for granted. This can be achieved by keeping a journal where three to five things are recorded for which one is currently grateful. Studies done by Seligman et al. (2005) indicate that such a journal approach increased participants' happiness levels.

2.5.3.1.2.2 Cultivating optimism

Schaufeli & Salanova (2010) describe optimism as the belief that personal goals can be accomplished and the expectation of a bright future. Peterson & Steen (2002) linked optimists to happy individuals with better mental and physical health, people with higher self-regard and people with a higher level of mastery and achievement. To cultivate optimism, individuals can visualize and write about their best possible self (Schaufeli & Salanova, 2010). Research studies done by King (2001) indicate that writing a narrative of the best possible self over a period of four consecutive days resulted in an increase in happiness of monitored participants and a decrease in physical ills

2.5.3.1.2.3 Savouring

Schaufeli & Salanova (2010) describe savouring as the process of cognitive accentuation and sustainment of pleasurable moments as they unfold as well as a deliberate remembering of experiences in ways that rekindle enjoyment. People who like to savour the joys of life are more extroverted, self-confident and less depressed in general (Bryant & Veroff, 2006). Lyubomirsky (2007) suggests that work colleagues should partake in the process of reminiscing together as a strategy to foster savouring.

2.5.3.1.3 Volitional strategies

2.5.3.1.3.1 Setting and pursuing personal goals

The setting of personal goals is important in the sense that it provides a feeling of purpose and meaning. Work goals can act as powerful personal goals as well. The work of Lyubomirsky (2007) indicates various ways to set up and pursue meaningful personal goals that are *intrinsic* (gratifying in nature), *authentic* (rooted in core interests) and *harmonious* (complementary, not conflicting). To choose a long-term goal requires a critical examination of personal commitment to that goal, backed by passion and zeal. Higher-level goals (e.g. being promoted) can be broken down into lower-level goals (e.g. do a leadership course, and be more actively involved in networking), (Lyubomirsky, 2007).

Sheldon et al. (2002) found that people who set themselves goals that fit their interests and values experienced enhanced well-being and personal growth through goal attainment.

2.5.3.1.3.2 Increased resilience

Tedeshi and Calhoun (2004) describe a subset of people that, after they confronted major challenges to the extent that unsettled their personal foundations, came through those challenges experiencing growth, strengthened personal confidence, or even thriving. These people contracted a renewed belief in their ability to endure. Their social relationships improved and they developed an overall deeper philosophy of life. Research by Schaufeli and Salanova (2010) concerning personal setbacks, found that resilience is particularly fostered through the process of finding meaning in what happened.

Frattaroli (2006) reports numerous studies that support a strategy whereby individuals spend 15 to 30 minutes per day, over a period of three to five consecutive days, writing about their deepest thoughts and feelings that relates to negative events. The report concluded that the participants to these implemented

strategies experienced enhanced immune functioning & physical health, less anxiety, less distress and lower depression levels. On the other hand, they experienced higher levels of life satisfaction as well as a reduction in work absenteeism. Sutcliffe & Vogus (2003) describe resilience as the ability to maintain positivity under challenging conditions. It also include the ability to bounce back from negative events. Resilient people can absorb strain and maintain or even improve their functioning despite the presence of adversity.

Luthans et al. (2006) identified Psychological Capital(Psy-Cap) as consisting of four psychological states of an employee, namely *resilience, self-efficacy, optimism* and *hope*. Their research included an intervention strategy aimed at increasing the Psy-Cap of a group of employees based on the following steps. Firstly, the formulation of a specific work goal; Secondly, creating instructions on how best to attain this goal; Thirdly, discussing and generating the different pathways to this goal, and fourthly, group preparation to overcome obstacles on the way to achieving this goal. The study concluded that, when compared, the non-intervention control group showed a significant increase in Psy-Cap over the intervention group (Luthans et al., 2006).

2.5.3.1.4 Applying individual interventions in the workplace

Individual intervention strategies include the practicing of virtues, fostering of resilience and pursuing of meaningful personal goals based on personal core values, interests and preferences. It ultimately implies that individuals must know themselves and, be aware of their talents, values and goals at work, but also how these fit into their larger existential scheme of things (Schaufeli & Salanova, 2010).

The interpersonal aspects of work involve interacting with other people like colleagues, supervisors and customers. The most promising individual intervention strategies focus on these interpersonal aspects and include being kind to others, learning how to forgive, expressing gratitude, the sharing of good news and building social relationships.

Communication between people is inherent to most jobs, therefore these strategies can easily be applied in the work environment.

The reason for the particular effectiveness of implementing these strategies, according to Schaufeli and Salanova (2010), is twofold. First, these strategies are likely to induce positive response from others, thereby encouraging employees to continue positive behaviour that is contagious (Salanova et al., 2010b). The second reason for the effectiveness of these positive interpersonal strategies is that it acts as a double-edged sword where the employees' level of engagement is increased on the one hand, but on the other hand the social climate in the workplace is also enhanced through the fostering of group cohesion, conflict resolution, increased loyalty, development of team spirit, and an overall support of pro-social behaviour.

2.5.4 Organization-based interventions

Schaufeli and Salanova (2010) argue that a more positive approach towards organizational health provides opportunities for human resources management (HRM) and occupational health psychology (OHP) to develop a co-dependent relationship whereby an increase in one also increases the other.

HRM is primarily concerned with *organizational health* and OHP with *employee health*. Their co-dependence illustrates the growing recognition that the financial health of organizations correlates with investing in employee well-being (Goetzel et al., 2001). As stated by Schaufeli and Salanova (2010), a common goal for OHP and HRM is to promote healthy employees in healthy organizations.

In order to build work engagement, it is essential to initiate and maintain *gain spirals* that are sparked by job and personal resources through self-efficacy beliefs. These upward spirals may result in positive outcomes like extra role-performance through work engagement (Salanova et al., 2010b). Work engagement can be increased by stimulating the individual links of the gain spiral using strategies that are discussed in the following paragraphs.

2.5.4.1 Personal assessment and evaluation

The purpose of personal assessment and evaluation is ultimately to maximize the chance of placing the right individual in the right position. The idea is to create the optimal balance between personal and organizational values and goals in order to achieve a good fit. Work engagement can be enhanced through the implementation of the following strategies. Firstly, establishing and monitoring the psychological contract; Secondly, periodic work-wellness audits, and thirdly, workshops on work engagement.

2.5.4.2 Job (re)design and work changes

The (re)design of jobs aims to reduce individual exposure to psychological risks when viewed from and OHP perspective. The HRM approach aims at increasing employee motivation (Bakker & Demerouti, 2007). In the job design process, reducing job stress factors are not a practical option because it will also eliminate job challenges. The motivation potential of job resources should rather be exploited because it stimulates learning, development and personal growth. The lack of organizational resources, on the other hand, has a negative effect on employees' motivation and performance (Wong et al., 1998) because it eliminates goal accomplishments and undermines job related learning opportunities.

Work changes do not refer to any increase in provided work resources, but rather to a rearrangement of available resources (e.g. moving staff temporarily onto a project), (Kelly, 1992).

2.5.4.3 Transformational leadership

Good leaders have the capability to enhance motivation and engagement and optimize the emotional climate in the teams they lead (Schaufeli & Salanova, 2010). Transformational leaders are inspiring and visionary leaders with charismatic characters, able to motivate employees and build engagement (Bass, 1985). Transformational leaders are characterized by displaying their convictions, taking a stand, challenging followers with high standards, communicating optimism about

future goal attainment, stimulating and encouraging creativity and innovation, and listening to followers' concerns and needs (Avolio, 1998). Salanova et al. (2010b) published research results that indicate how transformational leaders increased work engagement under their followers, resulting in extra-role performance.

2.5.4.4 Work training

Research findings by Schaufeli and Salanova (2010) conclude that the cornerstone promoting work engagement is vested in efficacy beliefs built through work training. Bandura (2001) reports that self-efficacy lies at the core of human agency, and it influences employee behaviour, motivation, thinking and feelings. Further research by Salanova et al. (2010b) suggests an upward *gain spiral* where self-efficacy boosts engagement. This, in turn, increases efficacy beliefs. When designing training programmes, organizations should include practical experiences to provide experience of vocational success (this is called mastery experience). It should also provide role models (vicarious experiences), coaching (verbal persuasion), and a programme in the reduction of fear of rejection and/or failure (managing emotional stress), (Bandura, 2001).

2.5.4.5 Career management *(Mentoring dimensions)*

People are more and more faced with unstable job markets. This pressurizes employees to rely more on their own initiative in order to be employable, by developing themselves personally and professionally (Scheufeli & Salanova, 2010).
Employability describes how employees are more fit and able to do their jobs through the inclusion of a high level of engagement (Salanova & Llorens, 2008). Employees who want to remain engaged in their work need to develop themselves continuously throughout their careers. Career management can be assisted through the application of intervention tools discussed earlier in this chapter (Schaufeli & Salanova, 2010).

2.6 Innovative work behaviour (IWB)

West and Farr (1989, 15-30) define innovative work behaviour (IWB) as "the intentional creation, introduction and application of new ideas within a work role, group, or organization to benefit role performance, a group, or an organization." Innovation is change-orientated (Spreitzer, 1995; Woodman et al., 1993) and creates uncertainties and insecurities that may be resisted by certain individuals (Argyris, 1960).

Innovative work behaviour (IWB) is an important factor for organizational success (De Jong & Den Hartog, 2010). It is the intentional action of an individual to introduce new and useful ideas in the work environment (Farr & Ford, 1990). It differs from creativity because it also involves the implementation of ideas (Amabile, 1988).

Recent research treated creativity and implementation as indicating factors for success, with innovation as the underlying concept (Baer, 2012).

According to Janssen (2004), innovation is a multi-stage process that involves idea generation, idea promotion and idea realization. Each stage requires varying behavioural approaches.

2.6.1 The dimensions of innovative work behaviour

Shane (2003) distinguish four dimensions of IWB, namely *idea exploration, idea generation, idea championing* and *idea implementation*.

2.6.1.1 Idea exploration

Idea exploration refers to the process of finding ways to improve products, services or processes (Basadur, 2004). Innovation research indicates creativity and implementation as being separate activities with unique antecedents (Axtell et al.,

2006; Clegg, Unsworth, Epitropaki, & Parker, 2002; Frese et al., 1999). Axtell et al. (2000) argues that the suggestion of ideas has personal, as well as job variables as antecedents and that idea implementation is anteceded by organizational variables.

2.6.1.2 Idea generation

The concept of idea generation focuses on solving problems or improving performance through reorganization of concepts and resource combinations (Kanter, 1988). According to Axtell et al. (2006), autonomy and self-efficacy are strongly related to idea generation. Creativity includes the generation of ideas, but it is important to keep in mind that these ideas should satisfy the criteria of novelty and usefulness (Baer, 2010).

Idea generation is suggested as a prerequisite for implementation. It appears that the creative component of idea generation can restrict, rather than facilitate implementation of the idea due to the high degree of creativity (Baer, 2010).

2.6.1.3 Idea championing

Ideas need to be promoted and champions find support for their ideas by expressing enthusiasm and confidence (Howell, Shea & Higgins, 2005). Pressing for idea implementation will typically require the individual to challenge organizational power structures that cause resistance (Janssen et al., 2004; Kanter, 1988). Employees who can manage to mobilize support from key organizational allies are better positioned to sway important resource allocations and decisions in favour of their creative ideas (Howell & Higgins, 1990; Van De Ven, 1986).

2.6.1.4 Idea implementation

Idea implementation involves considerable effort to make these ideas happen, and to implement innovation as part of daily operations (Kleysen & Street, 2001). Idea implementation is anteceded by organizational variables (Axtell et al., 2000). Consistent empirical findings indicate that idea generation is a positive predictor of idea implementation (Axtell et al., 2000, 2006; Frese et al., 1999). Levitt (1963), and

West (2002) suggest that idea generation is considerably more prevalent than the process of converting these ideas into actual innovations. The connection between creativity and implementation appears to be loose, largely due to the novelty dimension of creativity.

An idea must be useful in order to be considered creative. If creative ideas prove to be useful, but fail to be implemented, the likely reason would be the influence of the novelty aspect. The strongest predictors of idea implementation are (1) participation in decision making, and (2) support for innovation (Axtell et al., 2000).

The relationship between creativity and idea implementation, and the factors that contribute to the level of this relationship, are largely unknown. The reason therefore is that most researchers focus on quantity of ideas, rather than on the nature of the employee's idea, meaning the creative aspect of the idea (Baer, 2010). Most creative ideas are characterized by uncertainty (Kanter, 1988; Pelz, 1985; Wolfe, 1995). Different viewpoints among people affected by ideas regularly cause disputes due to uncertainty. This often leads to time delays in idea implementation and even to complete failure (Frost & Egri, 1991).

Implementation instrumentality refers to the level of expected positive outcome of implementation efforts by an individual. It is an important moderating factor between creativity and implementation (Vroom, 1964). Miron et al. (2004) argue that creative individuals who are very determined in realizing their ideas are generally rated to be more innovative. Implementation instrumentality focuses on what the expected outcome of an idea implementation is and not on the innovation as such (Yuan & Woodman, 2010).

Innovative work behaviour (IWB) is based on employees finding, suggesting and implementing new and beneficial work-related ideas that benefit the organization they work for (West & Farr, 1990a).

Innovative work behaviour (IWB) is described as a multi-dimensional concept (Kanter, 1988; Scott & Bruce, 1994) whereby employees develop innovative ideas (*generation*), look for support for these ideas from others in the organization (*championing*) in order to implement them in the workplace (*implementation*), (De Spiegelaere et al., 2014).

Both Krause (2004) and Yuan & Woodman (2010) state that innovative work behaviour (IWB) literature predominantly identifies two sub-dimensions, namely idea generation and idea implementation. They define idea generation as the process where employees identify work related problems and generate innovative solutions to solve these problems. They describe idea implementation as the process whereby innovations are proposed, defended and implemented in the workplace through the actions of innovative employees.

It seems that the dimensions of idea exploration and generation, and idea championing and implementation (Shane, 2003), have been synthesized into two dimensions respectively, idea generation and idea implementation.

Amabile (1996) and De Spiegelaere et al. (2014) propose that there exist two main distinguishing arguments between IWB and employee creativity. The first argument discusses the focus in the creativity process as exclusively on idea generation. This is in contrast with IWB, which involves all employee behaviour that relates to the innovation process. The second argument discusses how creativity traditionally refers to creating something entirely new. IWB, on the other hand, focuses on something new for the relevant unit of adoption.

Employees with initiative can display innovative behaviour by copying successful work habits that are operational in other organizational departments. In such instance their actions are not necessarily creative, but innovative (De Spiegelaere et al., 2014). Concerning innovative actions, Yuan & Woodman (2010) conclude that the immediate work environment of an employee is strongly dependent on the

relationship between the employee and his/her supervisor and that it influences the employee's perception of what the possible performance outcomes of innovative attempts might be.

Research by Yuan and Woodman (2010) further suggests that employees generate, adopt and implement innovative ideas more frequently if they believe that it will benefit their work and if they perceive innovativeness to be part of their job requirements. Employees with a reputation of being innovative are more likely to display innovative behaviour, as well as believing that their innovative behaviour will benefit their work.

Research done by Far and Ford (1990) indicate that dissatisfaction, as an important individual attitude, creates in individuals the need to change. Dissatisfaction with the status-quo causes individuals to undermine the values that support the current conditions and fuel beliefs in new ideas, products and processes that can increase performance through innovative behaviour (Yuan & Woodman, 2010).

2.7 Relationship between LMX and IWB

Graen & Scandura (1987) propose that the quality of LMX relationships are reflected in individual innovativeness. Both Dansereau et al. (1975) and Graen & Scandura (1987) indicate that LMX theory is tied to innovation.

Tastan and Davoudi (2015) conclude that LMX and IWB are related and that the relationship is moderated by trust-in-leader. According to them, the relation between LMX and IWB will decrease in the instance where trust-in-leader is low and that high trust-in-leader levels will result in an increase in the relation between LMX and IWB.

Amabile et al. (2004) indicate that most of their research on high levels of LMX indicated an increase in employee creativity as well as innovative behaviour. Research results by Ruschoff (2008) concluded that the quality of LMX relationships mediate the relationship between transformational leadership and IWB.

2.7.1 Hypothesis 3

The literature indicates a positive relationship between leader- member exchange and innovative work behaviour. Will higher quality levels in LMX result in higher levels of IWB?

H3: High levels of leader-member exchange have a positive impact on levels of innovative work behaviour.

2.8 Relationship between LMX and work engagement

Leader-member exchange (LMX) theory studies the quality of relationships between superiors and their direct subordinates. High-quality levels of LMX relationships reflect *trust, loyalty* and *respect*, in contrast to low-quality levels of LMX relationships, which display mistrust and lack of loyalty and respect (Morrow et al., 2005).

According to Sparrowe and Liden (1997), high-quality LMX relationships contain individuals who receive more time, direct information and emotional support from their superiors than what is the case in low-quality level LMX relationships. They further suggest that individuals in high-quality LMX relationships experience an advantage through their supervisors introducing them to key contacts in their social networks, opening additional information streams and access to political and social resources.

High-quality LMX relationships create an environment that fosters psychological safety, creating the belief that it is safe to undertake interpersonal risk (Spreitzer et al., 2010). Work engagement is accelerated through psychological safety because of its important role in reducing the depletion of vigour, a core dimension of work engagement (Agarwal et al., 2012).

2.8.1 Hypothesis 4

It appears that work engagement is influenced by the leader-member exchange relationships that exist in work environments. Will strong LMX relationships cause high levels of work engagement?

H4: High levels of leader-member exchange have a positive influence on the level of work engagement.

2.9 Relationship between innovative work behaviour (IWB) and work engagement

Where employees' psychological contracts with their superiors are fulfilled through actions that take care of their personal and professional needs, a perceived obligation under employees is created to reciprocate in an equally positive manner. This induces obligations that drive individuals to approach their work more vigorously and with more dedication and absorption (Saks, 2006). Wefald and Downey (2009b) describe work engagement as being characterized by *vigour, dedication* and *absorption*, and indicated that work engagement contributes to the overall development of innovative work behaviour (IWB).

2.9.1 Hypothesis 5

Research by Wefald & Downey (2009a & b)report a correlation between work engagement and IWB. To what extent will employees who are strongly engaged in their work display innovative work behaviour in their organizations?

H5: High levels of work engagement will have a positive influence on innovative work behaviour.

2.10 Mentorship

Scandura and Schriesheim (1994) mention that managers in high-quality LMX relationships mentor their subordinates. In this regard, Bharnagar (2007) further argued that work engagement is enhanced through mentorship.

Mentoring is traditionally described as assistance given to junior employees by more senior and experienced individuals in the organization to assist with their development (Kram, 1983). Kram also describe mentorship as role activities that are assumed by senior, experienced organization members with junior members. There are two major dimensions associated with mentoring relationships, namely work-related development and psychological support (Kram, 1983). There is a striking resemblance between the two dimensions described by Kram (1983) and the binate taxonomy of leadership, that is work-relatedness and personal-relatedness, as developed by Blake & Mouton (1982), Fleishman& Harris(1962) and Yukl & Van Fleet (1992).

In addition to the dual concept of mentorship described here, Scandura and Ragins (1993) suggest a third dimension to mentorship they call role modelling. Mentorship is now described as the relationship between mentors and mentees based on three behaviours, namely career development, psychological support and

role modelling (Scandura & Ragins, 1993). Research suggests that mentorship helps employees in at least two of these three domains, and therefore, mentored employees are supposed to become more valuable to the organization (Raabe & Beehr, 2003).

Various researchers agree that mentorship influences three organizational outcomes, namely job satisfaction, organizational commitment and retention, also called reduced turnover (Corzine, Buntzman & Busch, 1994; Goh, 1991; Ragins & Cotton, 1999; Whitey & Coetsier, 1993).

2.10.1 Formal mentorship programs

Present research studies on formal mentorship programs focus on, and appear to address two key questions:

2.10.1.1 Perceptions

Individual perceptions of the mentoring relationship are likely to impact on that relationship. The question is how mentors and mentees perceive the mentoring relationship and how closely their perceptions are aligned (Raabe & Beehr, 2003).

2.10.1.2 Effectiveness

In answering how effective a mentoring relationship is, it needs comparisons to other relationships that are potentially important in the workplace and to be measured against certain outcomes in this regard (Raabe & Beehr, 2003). There exists a concept called mentoring substitutes whereby functions and activities with outcomes similar to the mentoring process are undertaken by people other than the formal mentors (Raabe & Beehr, 2003). Blau (1964), Homans (1958) and Thibaut & Kelley (1959) suggest that the theoretical basis of mentoring relationships are based on social exchange theory (SET).

The social exchange perspective allows mentors and mentees to make exchanges within their mentoring relationships that can often allow for benefit to both parties (Ragins & Scandura, 1999; Mullen, 1994; Kram, 1985; Phillips-Jones, 1982). Higgins and Kram (2001) note that even in the presence of a formal mentor, the possibility still exists for other people in the organization to perform some mentoring functions such as career enhancement and psychological support.

As discussed earlier, LMX theory applies to work environments where supervisors are leaders of one or more subordinates who are reporting directly to them (Danserau, Graen & Haga, 1975; Yukl & Van Fleet, 1992). Higgins & Kram (2001) indicate that the leadership literature often examines supervisor influence on subordinate outcomes and that there are similarities with mentorship outcomes. An example is a supervisor providing supportive behaviour in the workplace. Both supervisors and formal mentors influence employee outcomes, like job satisfaction and organizational commitment (Gestner & Day, 1997). Raabe and Beehr (2003) suggest that the LMX theory of leadership, similar to mentoring, focuses on the one-to-one relationships between supervisors and their subordinates.

Research by McManus et al. (1997) reported the identification of two important similar factors between LMX and mentoring, namely that both are relationships that develop in the workplace and both rest on a role-making process that is negotiated towards building a relationship (McManus & Russell, 1997).

It has been observed that supervisors are occasionally considered to be mentors and to perform mentoring functions (Scandura & Schriesheim, 1994; Tepper, 1995). Both mentoring and LMX are based on social exchange theory and each consists of work and person-related interactions. There are both overlaps and differences in measuring the mentoring and LMX constructs. Operational similarities suggest that certain dimensions of mentorship and LMX should produce the same outcomes (Raabe & Beehr, 2003).

TABLE 2.1: Comparing the LMX and mentoring dimensions

Mentoring (Dimension)	LMX (Dimension)
1) Affection	1) Psychological support
Both dimensions express positive, friendly affect, causing a parallel.	
2) Role modeling	2) Professional respect
Both dimensions create a parallel based on expressions of respect and admiration.	
3) Career development	3) Loyalty
Both dimensions demonstrate activities that help the employee in his/her career within the organization, but the approaches differ – proactiveness versus defensiveness.	

Raabe & Beehr (2003).

2.11 Transactional & transformational leadership

The past several decades have seen the emergence of a great concern for both practicing managers and leadership researchers. This involves the search for and identification of leader behaviour that increases its effectiveness (Bass, 1981; House, 1971; House & Baetz, 1979; Stogdill, 1974; Yukl, 1989b). Traditionally leadership and leadership effectiveness have been viewed as transactional activities where leader behaviour primarily involves exchange processes whereby subordinates' efforts are rewarded (Burnes, 1978). Research studies by Bass (1985) and Yukl (1989b) report that the focus of leadership research has changed direction over time. It has evolved from simply studying the effects of transactional leadership into examining the leadership behaviours that influence followers. Their research has further contributed towards a higher awareness of the importance of task outcomes, how these behaviours advance higher-order needs and how it induces the belief in followers to put their self-interests aside, thereby benefitting the whole organization.

Yukl (1989b) adds that this transformational (also called charismatic) behaviour by leaders augments transactional leader behaviour and its impact on employee outcome. This happens because followers are motivated to do more than they are expected to do when they feel trust and respect towards their leader (Yukl, 1989b).

Transformational leadership is multidimensional in nature and was described and categorized as follows by the research of Podsakoff et al. (1990):

1) Identifying and articulating a vision – Leader behaviour that focuses on opportunity recognition benefitting the organization whereby the leader will articulate and inspire others to follow their vision.
2) Providing an appropriate model – Leader behaviour that sets an example, based on values and principles of the leader.

3) Fostering the acceptance of group goals – Leader behaviour that focuses on employee cooperation with the aim to reach a common goal.

4) High performance expectations – Leader behaviour that requests expectations of quality and excellence in employee performance.

5) Providing individual support – Leader behaviour that shows respect as well as personal interest towards followers individually.

6) Intellectual stimulation – Behaviour from leaders that challenges followers to rethink and re-examine their overall work and work performance.

(Podsakoff et al., 1990)

According to Goodwin, Wofford and Whittington, transformational leadership entails an element of high-order transactional leadership. Graen and Uhl-Bien (1995) suggest that the majority of successful leaders use transformational behaviour effectively in building long-term organizational commitment and follower loyalty.

2.12 Organizational citizenship behaviour (OCB)

OCB is discretional behaviour of employees that falls outside the formal scope of their role requirements, but that have a positive impact on the functioning of the organization. It provides a good example of the type of outcome desired by transformational leadership behaviour (Organ, 1988a). The concept of occupational citizenship behaviour (OCB) is delineated into two dimensions. Firstly: *Altruism,* focusing on individual behaviour that specifically targets the helping of other people, and secondly: *Compliance,* behaviour that involves compliance with general rules, norms, and expectations (Smith, Organ, & Near, 1983).

Organ (1988b) expanded the construct into five dimensions, namely altruism, courtesy, conscientiousness, civic virtue and sportsmanship. Based on these five dimensions of OCB proposed by Organ (1988b), Podsakoff et al. (1990) developed a widely popular instrument to measure the subscales of each of the five dimensions. Williams & Anderson (1991) discussed OCB as being two-dimensional in the sense that it involves individual behaviour directed towards other individuals (OCB-I) and towards the organization (OCB-O).

2.13 Mediation between leader-member exchange (LMX) and innovative work behaviour (IWB) through work engagement

An assumed mediating hypothesis can only be tested to a limited extent using an ANOVA (analysis of variance) (Fiske, Kenny & Taylor, 1982). Judd & Kenny (1981) suggest that a series of regression models, rather than only an ANOVA, should be undertaken to test for mediation. Baron & Kenny (1986) determined that, to test for mediation, the following three regression equations should be constructed. One: Regressing the mediator on the predictor variable. Two: Regressing the criterion variable on the predictor variable. Three: Regressing the criterion variable on both the predictor and mediator variables.

Baron & Kenny (1986) continue to say that there should be separate coefficients for each equation that can be estimated and tested. In order to test for mediation, it is not necessary to conduct hierarchical or stepwise regression. Partial or semi-partial correlations are also unnecessary. The test for linkages in the mediation model is provided by these regression equations and to establish mediation, the following conditions must hold. One: The predictor variable must affect the mediator in the first equation. Two: The predictor variable must affect the criterion in the second equation. Three: The mediator variable must affect the criterion in the third equation.

The effect on the dependent variable must be less in the third equation than what it is in the second equation in the instance where all conditions hold in the predicted direction. Perfect mediation will hold if the independent variable has no effect on the dependent variable when the mediator variable is controlled (Baron & Kenny, 1986).

Research by Brown indicates that the most important type of effect for assessing mediation in structural equation modelling (SEM) is the specific indirect effect (Brown, 1997). According to Fox (1980), the part of the total indirect effect that works through one intervening variable is called the specific indirect effect. Rosenburg (1968) explain a mediation model in structural equation modelling that involves a predictor variable, a criterion variable and a mediating variable (Figure 2.1).

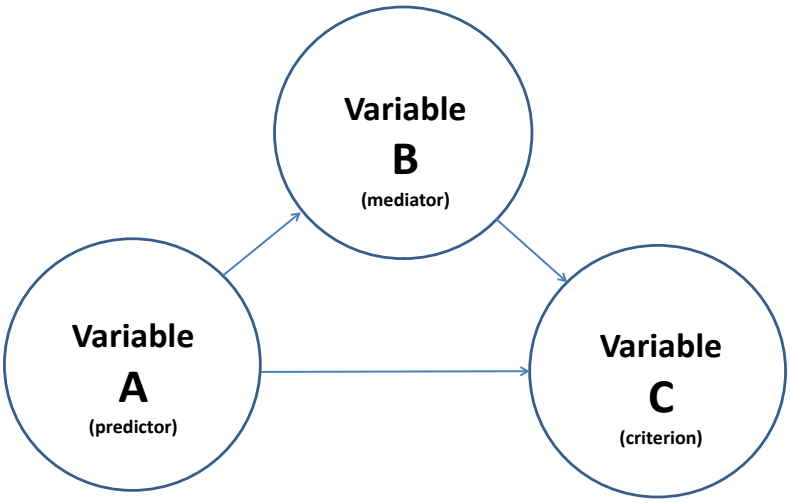


Figure 2.1: The mediation model (Rosenberg, 1968).

According to Rosenberg's (1968) mediation model, mediation occurs if variable A has an influence on both variables B and C.

A structural equation model analysis will determine the following. One: The direct effect of variable A and variable B on variable C. Two: The total independent effect of variable A on variable C. Three: The total effect of variable A + B on variable C. Four: The total indirect effect of variable A on variable C through variable B.

2.13.1 Hypothesis 6

High-quality LMX relationships create an environment that fosters psychological safety, creating the belief that it is safe to undertake interpersonal risk (Spreitzer et al., 2010). Work engagement is accelerated through psychological safety because of its important role in reducing the depletion of vigour, a core dimension of work engagement (Agarwal et al., 2012). As mentioned earlier, one of the main outcomes of leader-member exchange (LMX) is innovative work behaviour (IWB), (Agarval et al., 2012). Tastan and Davoudi (2015) also indicate that there exists a relationship between LMX and IWB.

The literature therefore indicates that there is a relationship between leader-member exchange (LMX) and innovative work behaviour (IWB). It also suggests a relationship between work engagement and LMX. Based on the Rosenberg model for mediation (figure 2.1), it appears that there exists a mediating relationship between LMX as the predictor variable, IWB as the criterion and work engagement as the mediator. In this regard the following is hypothesized.

H6 The effect of leader-member exchange on innovative work behaviour is mediated by work engagement.

2.14 Conclusion of the literature review

The focus of this study is to investigate the interrelationships between leader-member exchange (LMX), innovative work behaviour (IWB) and work engagement, and examine to what extent trust-in-leader (TIL) mediates these relationships.

It also examines mediation of LMX on IWB through work engagement as a mediating variable. The investigation is done within the realms of the corporate entrepreneurial construct (CE), and specifically focuses on intrapreneurship, because intrapreneurship encompasses all the attributes expected from employees who display innovative work behaviour (IWB).

As the meta-analysis of the literature review was expanded, it became clear that the constructs under revision have complex interrelationships that display varied research findings dependent on specific, and sometimes unique, circumstances.

The criterion in this research project is innovative work behaviour (IWB). The main focus of the research is therefore to examine what aspects of the work environment (the intended sample population) will contribute to, and influence, how innovative employees will be in their daily work activities.

The interrelationships between trust-in-leader (TIL), leader-member exchange (LMX), work engagement and innovative work behaviour (IWB).

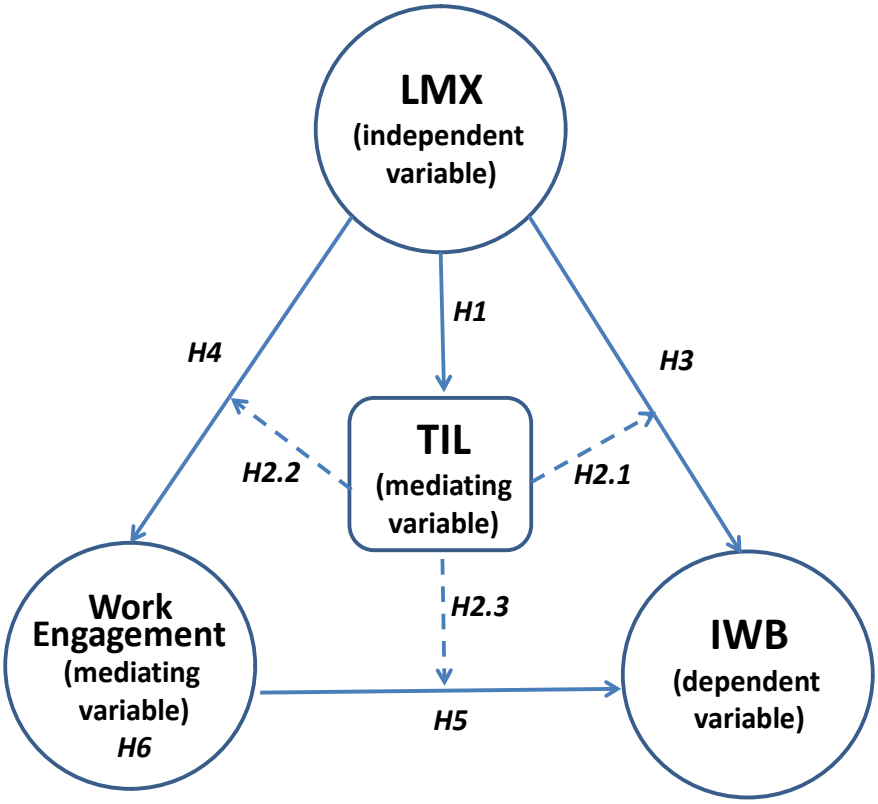


Figure 2.2: Research model

The research model (figure 2.2) describes various predictor and mediator constructs expected to have an impact on the criterion, innovative work behaviour (IWB).

The design of this research proposal involves the concept that *happy* employees who *trust* their managers will be more *engaged* in their work and will ultimately be more *innovative* and *intrapreneurial* in their day-to-day work activities.

To put this notion into a research perspective required the identification of relevant constructs to incorporate these postulations.

The leader-member exchange (LMX) construct relates to the relationship that employees have with their direct managers or supervisors. It constitutes an important part of the corporate entrepreneurial construct that involves organizational support and management approach to entrepreneurship and innovation. The literature further indicates how important the relationships between employees and their managers are in building autonomy, trust and freedom to explore new ideas, thereby fostering intrapreneurship.

Innovative work behaviour (IWB) refers to the level of innovation that an individual will display in his or her daily operations at work. Innovation is one of the core components of entrepreneurship and is therefore also core to CE and intrapreneurial behaviour in employees.

Trust-in-leader (TIL) refers to the level of trust that employees experience in their work relationship with their mangers. The CE climate is strongly dependent on how employees regard their work environment and the level of trust that exists between employees and their managers or supervisors is a crucial factor in determining the health of this climate, which can significantly impact performance.

Work engagement is the construct that covers to what extent employees are prepared to be actively involved and motivated in doing their daily work. The work environment and its organizational climate crucially influence the motivation and behaviour of employees based on their perception of how it is managed and how effectively they and their colleagues work together. Work engagement is therefore a direct indicator of potential intrapreneurial performance.

The literature review outlined that *innovation* is indirectly stimulated through work engagement. There are numerous ways and approaches available through

organization-based interventions and individual-based interventions that can successfully increase the level of employee work engagement. The quality of LMX relationships are reflected in individual innovativeness (Graen & Scandura, 1987), which is an indirect result of increased work engagement. What is more, work engagement contributes to the overall development of IWB (Wefald & Downey, 2009b).

Another interesting concept is that *mentorship* enhances work engagement (Bharnagar, 2007). Although mentorship is not studied in this research report it is important to mention that it is a function, in many instances, performed by managers and supervisors subconsciously through their daily actions of overseeing subordinates and has a positive impact on work engagement.

Research indicates that LMX and IWB are related and that it is moderated by TIL (Tastan & Davoudi, 2015). This study will not research the moderating aspect of this relationship, but rather the mediating effect of work engagement on LMX and IWB. It is however evident from these findings that the interrelationship between these constructs is complex and can easily be interpreted differently depending on specific circumstances. To emphasize this point, research findings by Ruschoff (2008) concluded that the quality of LMX relationships mediate the relationship between transformational leadership and IWB. Individuals in high-quality LMX relationships have the advantage of being introduced to important social network contacts and have more access to privileged information and political and social resources. This in turn promotes the undertaking of more risky activities that are more entrepreneurial.

Raabe & Beehr (2003) suggest that the LMX theory of leadership, similar to mentorship, focuses on the one-on-one relationships between supervisors and their sub-ordinates. Studies done by Podsakoff et al. (1990) concluded that organizational citizenship behaviour (OCB) is influenced by transactional leadership behaviour, based on the trust that followers have in their leaders (TIL). Ozyilmaz's research

(2010) reveals the mediating role that trust-in-leader (TIL) plays in leader-member exchange (LMX). Further research by Jafri (2012) concludes that innovative employee behaviour (IWB) is significantly influenced by trust-in-leader (TIL).

The literature review intended to focus the research efforts of the examined constructs into a structured format, based on tested research principles published by renowned academics. It laid the foundation on which to build a research instrument for this research report that will assist in generating professional results and also provide a comprehensive understanding and broader insight into the complex study field of the socio-economic *entrepreneurship science*.

Chapter 3: Research Methodology

3.1 Introduction

The purpose of this study is to investigate what effect the relationship between managers and subordinates have on the innovative work behaviour of individuals in the corporate environment and to what extent these relationships are affected by interpersonal trust. For this purpose, the research model has been carefully considered in the literature review and consists of a number of constructs that address the research problem.

Corporate entrepreneurship (CE) is a wide study field within the entrepreneurship science. It includes all forms of entrepreneurial activities within the work environment. This study aims to investigate the level of *intrapreneurship* within the target population and leader-member exchange (LMX), trust-in-leader (TIL), work engagement and innovative work behaviour (IWB) were identified as the main constructs of research because of their relevance towards intrapreneurial behaviour.

Leader-member exchange (LMX) theory describes the relationship between managers and their subordinates.

Trust-in-leader (TIL) theory describes the levels of trust that followers have in their leaders.

Work engagement theory focuses on the active engagement of employees in work activities that involve their physical, cognitive and emotional inputs.

Innovative work behaviour (IWB) theory focuses on the levels of creativity and innovativeness that individuals display in the work environment.

The literature review identified various interrelationships between these constructs that form the basis of the hypotheses as postulated in chapter 2. It also sparked the interest to investigate if, and to what extent, mediation exists between LMX and IWB through the activities of work engagement. The review of the trust-in-leader (TIL) construct further revealed its potential mediating characteristics towards leader-member exchange (LMX), innovative work behaviour (IWB) and work engagement and will also be investigated.

According to Field (2009) the data collection process, analysis of the data, and the generation of theories are intrinsically linked. This is specifically true for this study. Theories are developed, based on initial observations from which predictions can be made (hypotheses). To test the predictions the data is used and analysed. This analysis may support the theory or cause modification of the theory.

The research instrument used in this study is based on published research results by acclaimed academics in their studies of these respective constructs and it is believed that the results of this study will therefore be able to support, reject or propose modification of the theories. The results must also describe the demographics of the sample population in order to provide a proper understanding of the type of people who participated in this study. In this regard five demographic questions have been included in the research instrument.

The data will be analysed using IBM SPSS software and STATA (version 13) software.

3.2 Research design

The underlying guidelines in the research instrument design are for the measurements to be reliable and valid. Care should be taken that the operational requirements are practical (Cooper & Schindler, 2014). Important factors to take into consideration in the research design.

1) **Economy:** A trade-off between data and costs.
2) **Convenience:** The instrument must be easy to administer.
3) **Interpretability:** Key pieces of information are required to make interpretation possible.

(Cooper & Schindler, 2014).

The analytical purpose of this research is *exploitation, description, exclusion*, *prediction* and *evaluation*. Exploratory data analysis (EDA) is a data analysis perspective as well as a set of techniques (Cooper & Schindler, 2014).

Exploratory data analysis is based on non-probability sampling methods and uses data visualization as integral part of the data analysis process prior to hypotheses testing. Exploratory data analysis is a process of analysis where the researcher is identifying patterns in the collected data that guide the analysis process that can even suggest a revision of the original data analysis plan (Cooper & Schindler, 2014).

3.3 The research process

Field (2009) describes the research process as consisting of five stages: (1) Create a research question based on initial observations; (2) Create a theory to explain the initial observations; (3) Postulate hypotheses to test predictions based on the theory; (4) Data collection: The purpose is to test the theory, based on intended variables to be measured in a model used to test the predictions. Also decide on the best approach to measure the variables and how to manipulate them in the statistical approach, and (5) Data analysis: Concerns the fitting of a statistical model to the data to test the original predictions.

In this research the samples will be measured against the standard error to establish how it represents the population. The mean will be used to fit the researcher's statistical model of sample data and will be assessed in order to determine how well it fits (Field, 2009), in order to test the research predictions. Inferential statistics will be applied to the data to help confirm or reject predictions by indicating whether the alternative hypothesis is likely to be true (Field, 2009).

In this process the research effort aims to collect data representing the alternative hypothesis, and then explain the variables based on a statistical model that is fitted to the data (Field, 2009). If the planned research model fits the collected data well (explaining a lot of variations in scores), it will be assumed that the initial predictions are true (Field, 2009).

3.4 Population sample

3.4.1 General

Samples are commonly used by social scientists to estimate the behaviour of a population. Larger samples are more reflective of the whole population. Usually the

sample size (N) represents the total sample size, whereas (n) usually represents the size of a specific group (Field, 2009).

The purpose of this research is to identify a sample that is a good representation of the population and then use the data to make inferences about the whole population (Field, 2009). The rule-of-thumb is to obtain around 10 respondents for every predictor (this is just a generalization).

3.4.2 Sampling procedure

"When selecting a sampling procedure, the researcher must ensure that the procedure causes a relatively small sampling error, and helps to control the systematic bias in a better way" (Kothari, 2004, p. 58).

3.4.3 Sampling error

The sampling error for a specific sample design and size can be measured and the precision can be improved by increasing the sample size. Unfortunately, increasing the sample size has limitations because it increases data collection costs and it enhances the systematic bias (Kothari, 2004). The practicalities around sampling error were strong consideration points when constructing my sampling procedure and design. Limited funds and time were available, yet enough participants needed to be contacted to be included in the intended corporate sample. The researcher focused on companies based in and around Sandton, making travel easy and keeping expenses low, while still ensuring enough respondents to guarantee a strong sample that will not end up in sample error.

3.4.4 Systematic bias

“Systematic bias results from errors in the sampling procedure and it cannot be reduced or eliminated by increasing the sample size” (Kothari, 2004, p. 57).
Systematic bias results form one, or a combination of, the following factors:

(1) Inappropriate sampling frame; (2) Defective measuring device; (3) Non-respondents; (4) Indeterminacy principle; (5) Natural bias in the reporting of data (Kothari, 2004).

The researcher made a specific effort to ensure that the sample would not suffer from systematic bias by carefully designing the sample frame, researching and choosing the research instruments thoroughly, making sure that non-respondents would not negatively influence data collection, as well as constantly scrutinizing respondents for providing "bogus" answers, thereby creating a natural bias through the indeterminacy principal.

3.4.5 Steps in sampling design

Kothari (2004) constructed the following factorial dimensions in determining the sample design for an intended research study.

1) Type of universe

When developing a sample design, the set of objects (the universe) to be studied must be clearly defined. The universe will either be finite, or infinite. The research universe consisted of corporate companies in Gauteng. It was chosen because it provided a wide population to draw the sample from.

2) Sampling unit

Before selecting a sample, the researcher must determine the sampling unit, which can be, for instance, geographical (state, province, village etc.), or a social unit (school, club, organization etc.), or an individual person. It was decided that the sampling units would be employees of corporate companies that fall within the universe of the intended study. These sampling units would include managers and their subordinates working in the corporate environment.

3) Sampling frame

The sampling frame, also known as the source list, is the list from where the sample is drawn. In the instance of a finite universe, it will contain all the names/descriptions of the items of the universe that make up the sample.

The sampling frame must be a good representation of the population and consists of the sampling units (Kothari, 2004). The sampling frame for this research report incorporates the corporate work environment, where it aims to evaluate the interactions between managers and employees.

4) Size of sample

The sample size describes the number of items to be selected from the universe. The sample size should be optimum, not too large, albeit not too small. "An optimum sample is one which fulfils the requirements of efficiency, representativeness, reliability, and flexibility" (Kothari, 2004, p. 57).

The desired *precision*, as well as the acceptable *confidence level,* are important considerations when choosing the sample size. The population size must also be considered because it can limit the sample size. Budget and time constraints are further consideration factors. Concerning the study, it is believed that the population size is large and provides an abundance of possible sampling opportunities. The final sample size is believed to be adequate to justify inferences made from the data analysis based on the sample.

5) Parameters of interest

The specific population parameters must be considered when determining the sample design. It refers to the specific intentions that the researcher has concerning the population, and what exactly the research wants to focus on (Kothari, 2004).

6) Budgetary constraints

From a practical perspective, cost considerations can have a major impact on the development of a sample design, specifically when considering the type of universe, the sampling unit and the size of the sample (Kothari, 2004). Even though the budget for the study was low, the close proximity of the respondents in the sample (Sandton) caused overall expenses in data collection to be relatively low and affordable, to the extent that enough responses could be collected to guarantee successful data collection for the research.

7) Sampling procedure

When the researcher decides on the type of sample to be used, they must also decide on the technique to be used in selecting items for the sample. The technique (procedure) is, for all practical reasons, the *sample design* itself. The sampling procedure will see the researcher select a sample design that will provide the smallest sampling error for the chosen sample size (Kothari, 2004).

3.4.6 Sample design

"A sample design is a definite plan for obtaining a sample from a given population. It refers to the *technique* or *procedure* the researcher would adopt in selecting items for the sample" (Kothari, 2004, p. 55). The sample design must be determined prior to data collection and the researcher must select a sample design that is most reliable and appropriate for the research study (Kothari, 2004).

3.4.7 Characteristics of a good sample

Kothari (2004) describes the following attributes of a good sample and said that it must be, or result in: (1) A truly **representative** sample; (2) A small sampling error; (3) Viable within budget constraints; (4) A controllable systematic error, and (5) Results from the sample study to be applied to the universe with reasonable levels of confidence.

3.4.8 Sample significance for this study

The literature review indicated the different constructs I intend to investigate in this study and it guided the approach towards the process of choosing the correct sample. This process was conducted according to the following steps:

1) Sampling unit

The sampling units will be individual people working at corporate companies.

2) Sampling procedure

Sampling procedure is also referred to as the sampling design and describes the technique how I am choosing the sample for my research. It was realized that there would be a challenge in acquiring accurate data from employees with low-levels of education, especially if the research approach is cross-sectional and quantitative, using a questionnaire-type data collection instrument. It was therefore decided to focus on a population that could be reached *anonymously* by means of *emailed questionnaires*.

3) Sampling frame

The researcher's sampling frame consists of a list of companies, based in Gauteng, who indicated that they will be willing to assist me in my research efforts by distributing my questionnaires to their staff.

4) Sample size

For the purpose of data analysis in this research report, the study aims to acquire usable questionnaires from 250 individual sample units.

5) Stratification

The population of the sample consists of corporate companies within Gauteng. It was decided to follow a stratification approach towards the population and only consider the stratum that contains individuals with mostly tertiary qualifications, where this stratum can be referred to as *knowledge workers*.

6) Parameters of interest

Within the stratum identified, it is the intention to specifically target middle managers and their subordinates. This will be discussed with the various Human Resources divisions of companies that form part of the intended research, in order to ensure that the questionnaires are distributed to the correct people within their respective organizations.

3.5 Exploratory factor analysis (EFA)

"The goal of factor analysis is to achieve parsimony by using the smallest number of explanatory concepts to explain the maximum amount of common variance in a correlation matrix" (Rennie, 1997, p. 414). Almost all explanatory factor analysis use rotation. Factor analysis is an extremely useful tool in demonstrating construct validity in research results, due to its ability to detect underlying constructs (Rennie, 1997).

Correlations between indicators are related to the constructs they reflect. To accept the validity of a model, and for that matter the construct validity of the indicators, it is necessary to demonstrate at least its consistency with the data. The reflective indicators of a construct must, at a minimum, be demonstrated as being homogenous and coherent (Pedhazur & Schmelkin, 1991).

Gorsuch (1983) published that factor analysis is primarily used to develop both the operational constructs for a study and the variables for the theoretical constructs. Factor analysis can be used to assist in both theory development, i.e. exploratory factor analysis (EFA) and theory evaluation, i.e. confirmatory factor analysis (CFA), (Rennie, 1997).

The question of how many factors are required to explain the relationship between two indicators and what the estimation of the factor loadings will be concerns the exploratory factor analysis process (Pedhazur & Schmelkin, 1991).

Prior to undertaking a rotated factor analysis on collected data, the decision must be made weather the factors must be correlated, achieved through *oblique rotation*, or uncorrelated through *orthogonal rotation*. The general rule is to use oblique rotation when the primary concern is to generate results that best fit the data. If generalizability of the study results is the main objective, then orthogonal rotation is requested (Rennie, 1997). In most instances orthogonal rotation is the preferred choice. Research aims to enhance and promote knowledge in the investigated area. The resulting ability to generalize research findings becomes of utmost importance (Rennie, 1997).

Verimax is a rotational procedure that provides interpretation simplification to a higher level than other procedures and are therefore generally the logical choice (Hetzel, in press). The focus of Verimax is to clean up factors (Stevens, 1996).

3.6 Confirmatory factor analysis (CFA)

One of the main concerns of confirmatory factor analysis is parameter estimation where it is concerned with hypothesis testing, and in particular, the number of factors underlying the relations among a set of indicators (Pedhazur & Schmelkin, 1991).

As a type of structural equation modelling (SEM), confirmatory factor analysis (CFA) deals specifically with measurement of models that include the relationship between indicators (observed measures) and factors (latent variables), (Brown & Moore, 2014).

Latent variable measurement models (i.e. factor analysis) establish the number and nature of factors that account for the variation and co-variation between a set of indicators. Unobservable variables (factors) influence more than one observed measure and account for the correlations among these observed measures (Brown & Moore, 2014).

In order to describe this concept better, it can be said that the observed measures are inter-correlated and they share the same common cause, meaning that they are influenced by the same underlying construct. A confirmatory factor analysis (CFA) measurement model is parsimonious in the sense that it offers an understanding into the co-variation of a set of indicators that will be less than the number of variables (Brown & Moore, 2014).

In confirmatory factor analysis the number of factors, as well as the pattern of indicator-factor loadings are specified in advance. These pre-specified factors are evaluated based on how well the covariance matrix of the measured variable are reproduced (Brown & Moore, 2014).

When conducting a CFA analysis, a strong empirical or conceptual foundation is required to guide the specification and evaluation of the factor model (Brown & Moore, 2014).

The process of scale development and validation of constructs are often conducted at the early stages of the research evaluation process through exploratory factor analysis (EFA). Confirmatory factor analysis on the other hand is typically used at a later stage after underlying structures have been established based on prior empirical and theoretical grounds (Brown & Moore, 2014).

The latent structure of the test instrument is almost always examined through the process of scale development in the CFA analysis (Brown & Moore, 2014).

The confirmatory factor analysis verifies an instrument's underlying dimensions (factors), as well as the pattern of item-factor relationships (factor loadings). It further assists in test scoring of multi-factoral instruments. The sequence in which factors are loaded in the CFA will designate how a test might be scored, using subscales (Brown & Moore, 2014).

3.7 Structural equation modelling (SEM)

Structural equation modelling (SEM) is used to analyse multivariate data and is especially appropriate when testing theories (Bagozzi, 1980). SEM models incorporate multiple predictor and criterion variables, as well as latent constructs that might be represented by clusters of observed variables. In this regard structural equation modelling goes beyond ordinary regression models (MacCallum & Austin, 2000).

The proposed models analysed by structural equation modelling are sets of specified causal and non-causal relationships between variables (Savalei & Bentler, 2010). When correctly applied, SEM-based procedures produce substantial advantages compared to first-generation techniques like-factor analysis, principal components analyses, multiple regression or discriminant analysis.

Structural equation modelling provides greater flexibility when interpreting the interplay between theory and data where it specifically offers: (1) Model flexibility involving predictor and criterion variable relationships; (2) Flexibility to construct unobserved, latent variables; (3) Error calculations for measurements of observed variables; (4) Confirmatory analysis (CFA) where theoretical and measurement assumptions are tested against empirical data (Chin, 1998).

Clear reporting of the structural equation modelling analysis is necessary in the review procedure where enough information is required to understand the following inferences: (1) The population from where the sample was obtained; (2) the distribution of the data and determining the adequacy of the statistical estimation procedure; (3) the conceptual model, determining the appropriateness of the statistical models analysed, and (4) the statistical results, corroborating the subsequent interpretation and conclusion (Chin, 1998).

3.8 Testing for mediation

"Generally speaking, a *mediator* can be defined as the carrier or transporter of information among the causal chain of effects. A *moderator*, on the other hand, is the changer of relationship in a system" (Little et al., 2007, p. 207).

When assessing mediation, the standard convention refers to the predictor as "**X**" (the exogenous, causal influence). The criterion (dependent, outcome variable) is represented by "**Y**", and the endogenous, causal influence, or mediator, is referred to as "**M**" (Little et al., 2007, p. 208).

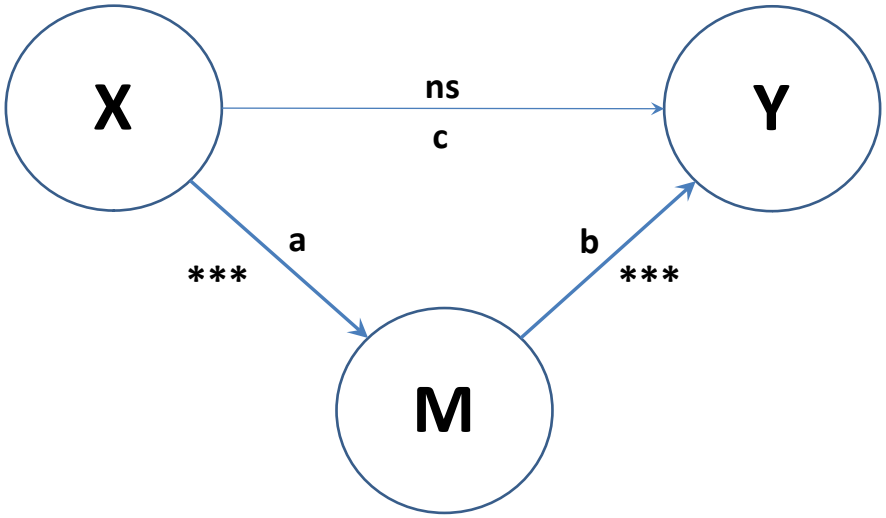
According to Baron & Kenny (1986) there are three necessary conditions to be met for mediation to occur: (1) **X** must be significantly related to **M** (2) **M** must be significantly related towards **Y** (3) The relationship of **X** towards **Y** must decrease when **M** is introduced into the model (Baron & Kenny, 1986, cited in Little et al., 2007, p. 208).

The conditions require that each of these constructs must indicate association with each other in such a way that the X-to-Y relationship must decrease substantially when M is added as predictor of Y in the model (Little et al., 2007).

The correlation structure is a key feature of the mediation analysis among the set of three variables. For example, if the X-to-M link (denoted by "a") corresponds to 0.8 correlation and the M-to-Y link (denoted by "b") also corresponds to 0.8 correlation, the implied correlation between X and Y is then 0.64 (i.e. in standardized metric: 0.8 x 0.8 = 0.64).

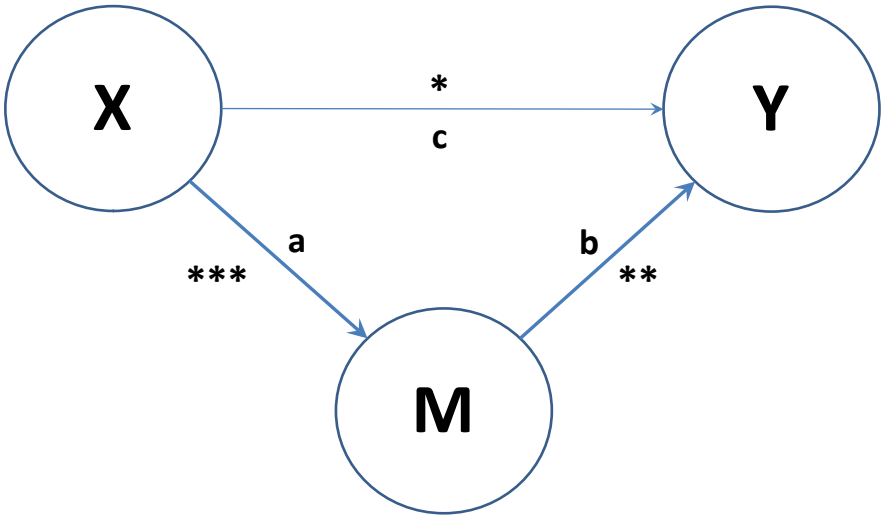
(It is also assumed that the relationship of X to Y controlling for M is zero). When this correlational structure is observed in the data, a mediation analysis will provide support for mediation (Little et al., 2007).

Figure 3.1: Full mediation



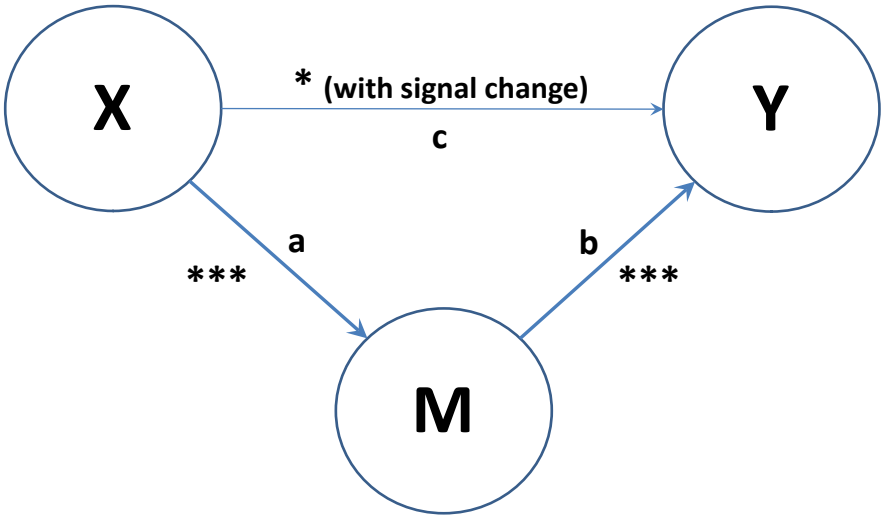
In instances where the relationship between the two constructs, X and Y, are *fully mediated,* the direct effect (b) from construct M to construct Y will account for all the significant variance of the relationship. This will mean that X influences Y indirectly through M in a significant manner (Little et al., 2007). In this occurrence there is a high significance between the relationships of X to M, and M to Y respectively, and a non-significance (ns) in the relationship between constructs X and Y.

Figure 3.2: Partial mediation



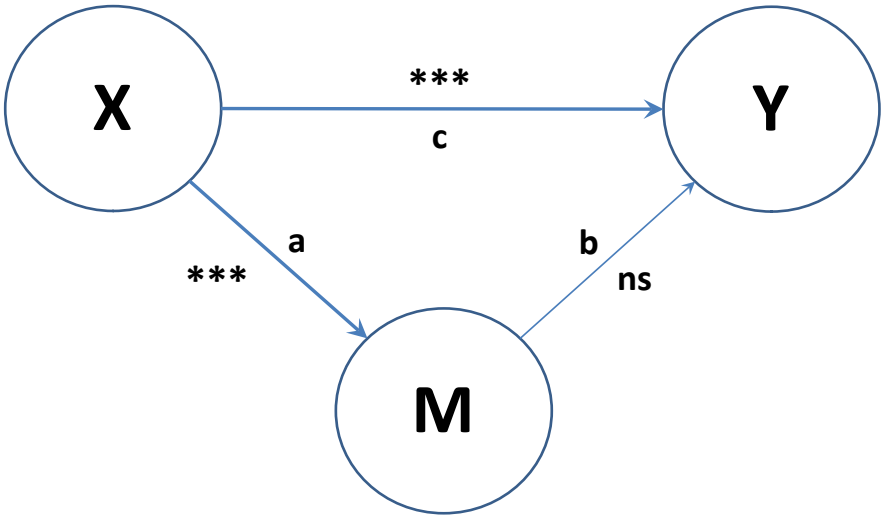
Partial mediation will be assumed in instances where the mediator construct (M) contributes to a significant, direct effect (b) on construct Y, but at the same time the relationship between construct X to construct Y (c) also remains significant. (Little et al., 2007). In this model there is a low significance in the relationship between constructs X and Y. There is a moderate significance in the relationship between constructs M and Y, and there is a strong significance in the relationship between constructs X and M.

Figure 3.3: Inconsistent mediation



Inconsistent mediation is observed when X contains two sources of variance through which it influences Y (c). This is possible when the product of (a) and (b) differs in sign from (c). This can be due to one of the channels being positive and the other negative. "One channel would influence Y via the indirect pathway of the mediator (M), while the other channel would influence Y in the opposite direction once the influence of M is accounted for in Y. In this regard both (c) and (b) would need to remain significant" (Little et al., 2007, p. 211). This model displays a strong significance in the relationships between constructs X and M, and M to Y respectively. It also indicates a weak relationship with a sign change value, but still significant, between construct X to construct Y.

Figure 3.4: No mediation



No mediation will be observed in instances where (b) is non-significant (ns) where (c) is present in the mediation model (Little et al., 2007). This model indicates a strong significance in the relationship between construct X to construct Y, this is contrary to what was discussed earlier by Little et al. (2007) that the X to Y relationship must decrease substantially when M is added as predictor of Y in the model. There further also appears to be a strong significance in the relationship between constructs X and M, and a non-significance in the relationship between constructs M and Y.

3.9 Validity and reliability of the research

1) Good measurements are characterized by *validity, reliability* and *practicality*. In this regard validity proves more valuable than reliability to the researcher (Cooper & Schindler, 2014; Trochim & Donnelly, 2006). The criteria for good research is based on four validity types. (1) Conclusion validity, the relationship between cause and effect; (2) Internal validity, is there a causal relationship?;

(3) Construct validity, can the construct be generalized?; (4) External validity, can we generalize to other persons, times and places? (Cooper & Schindler, 2014; Trochim & Donnelly, 2006)

2) A measure is reliable when it produces consistent results. Reliability is a necessary contributor to validity. Reliable instruments are robust and are based on the following points. (1) Stability, testing personal and situational fluctuations between time intervals; (2) Equivalence, testing the variations at a specific time between observers and their samples; (3) Internally consistent; (4) Testing for homogeneity among the items (Trochim & Donnelly, 2006).

The word "fit" refers to how the model is capable of reproducing the data. (in other words, usually the variance-covariance matrix). A model that is a good fit is one that proves to be reasonably consistent with the data. It also does not require re-specification. The *fit index* is computed for the main reason that the chi-square is statistically significant, but the researcher still wants to claim that the model is a good fitting model (Kenny, 2015).

3.10 Challenges during data collection

The following challenges were identified:

1) Less formal education levels produce poor questionnaire results, in the sense that a considerable percentage cannot be used because of incompletion, incorrect completion and overall unreliability of the way the questionnaire is answered.

2) Less formally educated employees mostly do not have access to email.

3) The nature of the research is the studying of the relationship between managers and subordinates. It has been observed that subordinates showed reluctance to answer questions truthfully if their managers or supervisors

were present. This concept is referred to as *the indeterminacy principle* (Kothari, 2004).

4) Time constraints – it is realized that data collection over the period of December 2017 and January 2018 will be difficult because of the year-end recess.

3.11 Reporting

Reporting on research findings is important because it concludes the research efforts. Factors to consider in this approach are the following:

1) The audience: It is important to keep in mind who the intended readers are of the research report.

2) The story: Besides the technical, statistical aspects of the study, it is important to report back on the findings in the study, with particular focus on answering the research questions.

3) Formatting considerations: In this instance the research report will be for academic purposes and presented in assignment format (Trochim & Donnelly, 2006).

3.12 Research instrument

3.12.1 Scaling

“Scaling describes the procedures of assigning numbers to various degrees of opinion, attitude, and other concepts" (Kothari, 2004, p. 76). Scaling can be done by: (1) Monitoring individual responses and placing it on a scale defined in terms of their individual characteristics, or (2) filling out questionnaires and logging the individual scores on a predetermined scale (Kothari, 2004).

A scale can be described as a continuum that incorporates responses from the highest, to the lowest score recipients received from the research questions addressed to the sample (Kothari, 2004).

3.12.2 The research instrument

The research instrument consists of a 37-item questionnaire in a 7-point Linkert scale design. It contains four scales that include the **IWB scale** (10-items), **LMX-MDM scale** (13-items), **Work engagement scale** (9-items) and the **Trust-in-leader scale** (6-items). The demographics questionnaire consists of 5 items.

3.12.3 IWB scale

De Jong & Den Hartog (2010) proposed a four-factor model to measure IWB, based on Janssen's (2000) efforts to develop a multi-dimensional IWB instrument measure. They conducted confirmatory factor analysis (CFA) revealed that each of the four dimensions, *idea generation, exploitation, championing*, and *implementation*, clearly contributed to an overall construct of IWB.

The relevant instrument is a 10-item scale consisting of four factors:

F1: Idea exploration
F2: Idea generation
F3: Idea championing
F4: Idea implementation(De Jong & Den Hartog, 2010).

De Jong & Den Hartog (2010) undertook an exploratory factor analysis (EFA) in order to group the factors in their IWB instrument. The factors, as well as their respective factor loadings appear on the innovative work behaviour research instrument.

3.12.4 LMX-MDM scale

The 11-item LMX-MDM multidimensional scale was designed by Liden & Maslyn (1998). In comparison with Graen & Scandura's (1984) 12-item, one dimensional scale of leader-member exchange (LMX), the 11-item LMX-MDM scale offers a wider domain coverage with a better reflection of relational characteristics and qualities displayed in the leader and subordinate relationship, if compared to the one-dimensional LMX measuring scale.

The LMX-MDM scale consists of four distinct constructs:

F1: Affect
F2: Professional respect
F3: Loyalty
F4: Contribution (Liden & Maslyn, 1998)

The exploratory factor analysis results conducted by Pellegrini and Scandura (2006), indicated that one of the factors did not load under the same construct as the others. Their uni-dimensional scale is therefore only an 11-item scale.

The leader-member exchange research instrument used in this study appears in the appendix and consists of a 12-item scale based on the multi-dimensional leader-member exchange (LMX-MDM) scale developed by Liden & Maslyn, 1998).

3.12.5 Work engagement scale

The Utrecht work engagement scale (UWES), was developed by Schaufeli et al. (2000). A 17-item and 9-item scale were suggested. The researchers tested both scales using confirmatory factor analysis (CFA) and exploratory factor analysis (EFA) that supported the correlated three factors as hypothesized. The CFA results of the 17-item UWES scale proved that the structure changed across the sample, but for the 9-item UWES scale the structure remained unchanged. Further results from structural equation modelling conducted on the UWES-9 scale produced *high rank-*

order stabilities for the work engagement factors, between 0.82 and 0.86. It appears that these findings prove that work engagement is a highly stable indicator of occupational well-being and that the 9-item UWES scale is recommended for future use in research. The work engagement instrument used in this study contains the following constructs with their respective factor loading scores included:

F1: Vigour

F2: Dedication

F3: Absorption

(Seppala, Mauno, Feldt, Hakanen, Kinnunen, Tolvanen, & Schaufeli, 2008, pp. 475-479).

3.12.6 The trust-in-leader (TIL) scale

Podsakoff, MacKenzie, Moorman & Fetter (1990) developed a scale around their conceptualization of trust as a construct, consisting of two dimensions*, faith* and *loyalty to a leader*. Their instrument was successfully tested with results clearly indicating that all the items loaded on the intended factor (Trust-in-leader). The construct is uni-dimensional and, in an absolute sense, this one-factor model fits the data very well (TLI=0.96). Their trust-in-leadership scale consists of a six-component questionnaire and was used in determining the trust relationship that exists between followers and their leaders in my research population.

3.13 Conclusion

The research methodology for this study describes the process and techniques to be used when collecting and analyzing data for the purpose of making inferences about the research problem and its related constructs.

The research problem is complex in the sense that it involves a variety of work-related human activities that are inter-dependant, and interrelated. It appears that high quality levels of the relationship between a manger and his/her subordinates

(LMX) will be positively influenced in the presence of high levels of trust **(TIL)**, which in turn will result in employees being more actively involved in their work **(work engagement)** that will ultimately create the ideal environment for individuals to become more innovative at work **(IWB)**. This train of thought has been analysed and hypothesized within the realms of corporate entrepreneurship (CE), and specifically *intrapreneurship*.

The research methodology is crucial in the sense that it incorporates the planning phase of the research efforts, thereby giving it direction.

Chapter 4: Presentation of results

4.1 Introduction

The purpose of this study was to determine whether the actions of trust-in-leader (TIL) has a *mediating* effect on leader-member exchange (LMX), innovative work behaviour (IWB) and work engagement (H2.1; H2.2; H2.3).

It also investigated whether *mediation* was present in the relationship between innovative work behaviour (IWB) and leader-member exchange (LMX), through work engagement activities (H6).

The interrelatedness of LMX, IWB and work engagement was investigated (H3; H4; H5).

It was further postulated that leader-member exchange (LMX) will have a positive impact on trust relationships between managers and their subordinates (TIL), (H1).

The aim was to collect sufficient data to investigate the interrelationships between these constructs, determine how they are related and to what extent they influence each other in an *intrapreneurial* context within the work environments that made up the sample population.

The research instrument consisted of 37 construct-related questions based on the literature, as well as five demographic questions. Exploratory factor analysis results (factor loading values) were available in most of the literature and it was decided to do an EFA on the collected data in order to compare the researched factors with that of the literature.

The process of analysing the research data was based on structural equation modelling (SEM). This approach was appealing because of the multi-variant makeup of the research data, based on the various constructs accumulated from the literature, and because of the generalization that structural equation modelling is especially appropriate when testing theories (Bagozzi, 1980). The SEM approach offers flexibility of predictor-criterion relationship testing, as well as flexibility to construct and test latent variables statistically. It offers error testing for observed variables and confirmatory factor analysis (CFA) testing of empirical data.

The CFA process focuses on parameter estimation and hypothesis testing (Pedzhazur & Schmelkin, 1991:67). This proved to be ideal for this study.

The first mediating hypotheses (H2.1; H2.2; H2.3) aimed to test to what extent trust-in-leader (TIL) influenced the respective strengths between the interrelationships of innovative work behaviour (IWB), leader-member exchange (LMX) and work engagement. The analysis calculated the direct, indirect and total mediating effects of trust-in-leader (TIL) on the research model.

The study further intended to test the second suggested mediating effect (H6) of work engagement on the relationship between leader-member exchange (LMX) and innovative work behaviour (IWB). The approach was to explain the relationship between leader-member exchange (LMX) as the predictor on the criterion, innovative work behaviour (IWB), through the mediating effect of work engagement. A structural equations model was also used to fit the data and test for mediation.

A total of 245 responses were collected. Of these, 48 responses were incomplete due to respondents not completing all the questions in the research instrument. It was decided to use the total number of responses (245) in conducting the exploratory factor analysis (EFA), because it provided a larger population to support the factor loadings. The total number of completed research questionnaires was 197 replies,

which were used in the confirmatory factor analysis (CFA) and structural equation modelling (SEM) analysis.

The analysed results also described the demographics of the sample population in order to provide a proper understanding of the type of individuals who participated in this study. The data was analysed using IBM SPSS software and STATA (version 13) software, producing the results detailed below.

4.2 Demographic results

For the purpose of this study, five demographic variables were included in the questionnaire, namely gender, race, period of stay (tenure), level of education and age. The purpose of the demographic questions is to provide insight into the type of individuals who participated in the research study. These demographic questions are general in nature and do not involve any sensitive personal information.

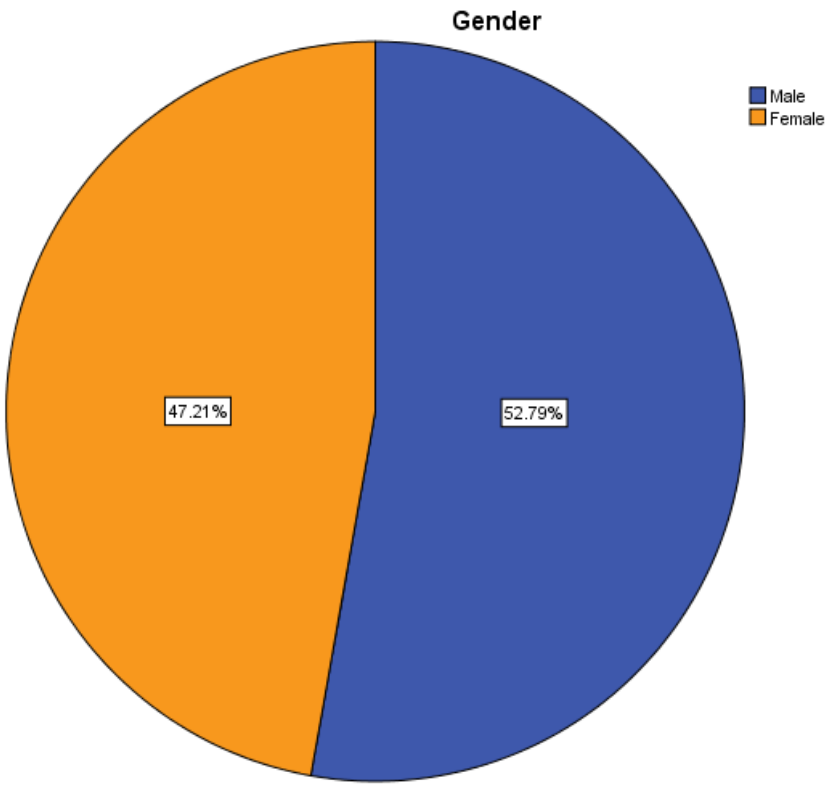


Figure 4.1: Gender

A total number of 197 respondents (N=197) took part in the study. 52.79% were male and 47.1% were female, in other words, there were 104 male respondents and 93 female respondents.

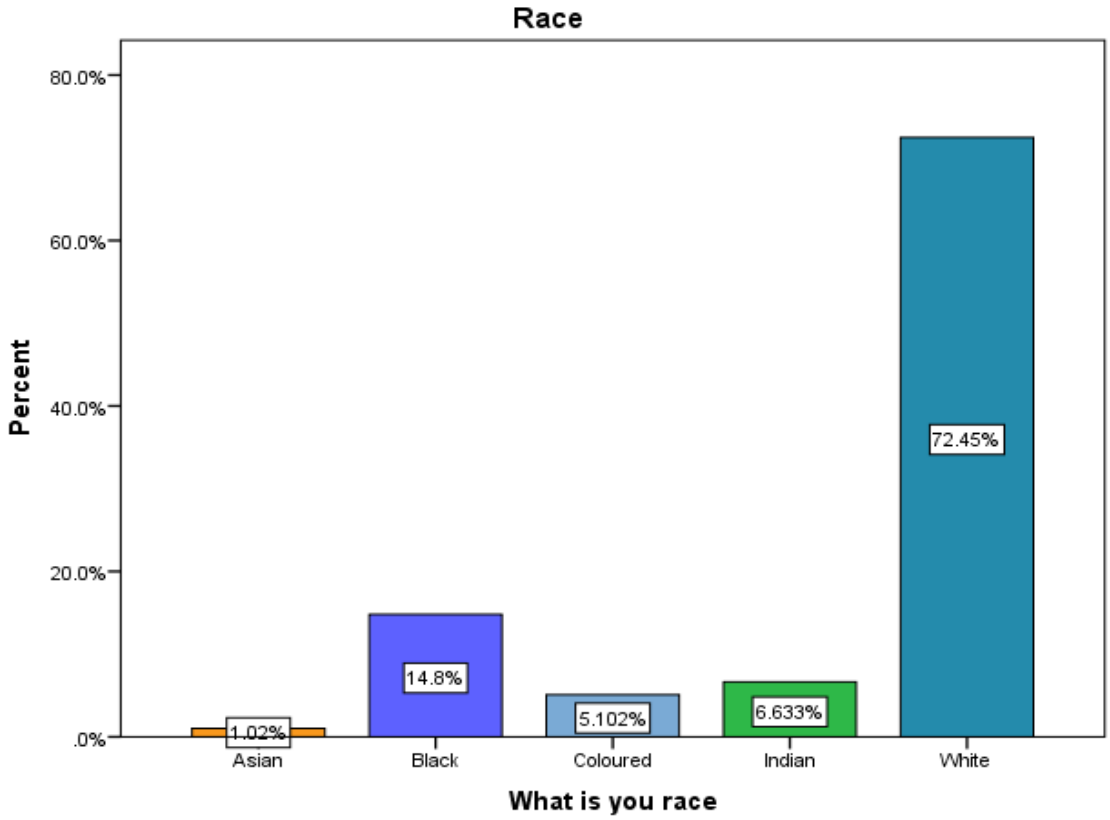


Figure 4.2: Race

White people made up the majority of the total respondents, representing 72.45% of the total respondents. This was followed by black people with 14.8%, Indian people with 6.633%, coloured people with 5.102%, and Asian people representing only 1.02% of all respondents.

The race distribution constituted the following total respondents:

- White: 143 people
- Black: 29 people
- Indian: 13 people
- Coloured: 10 people
- Asian: 2 people

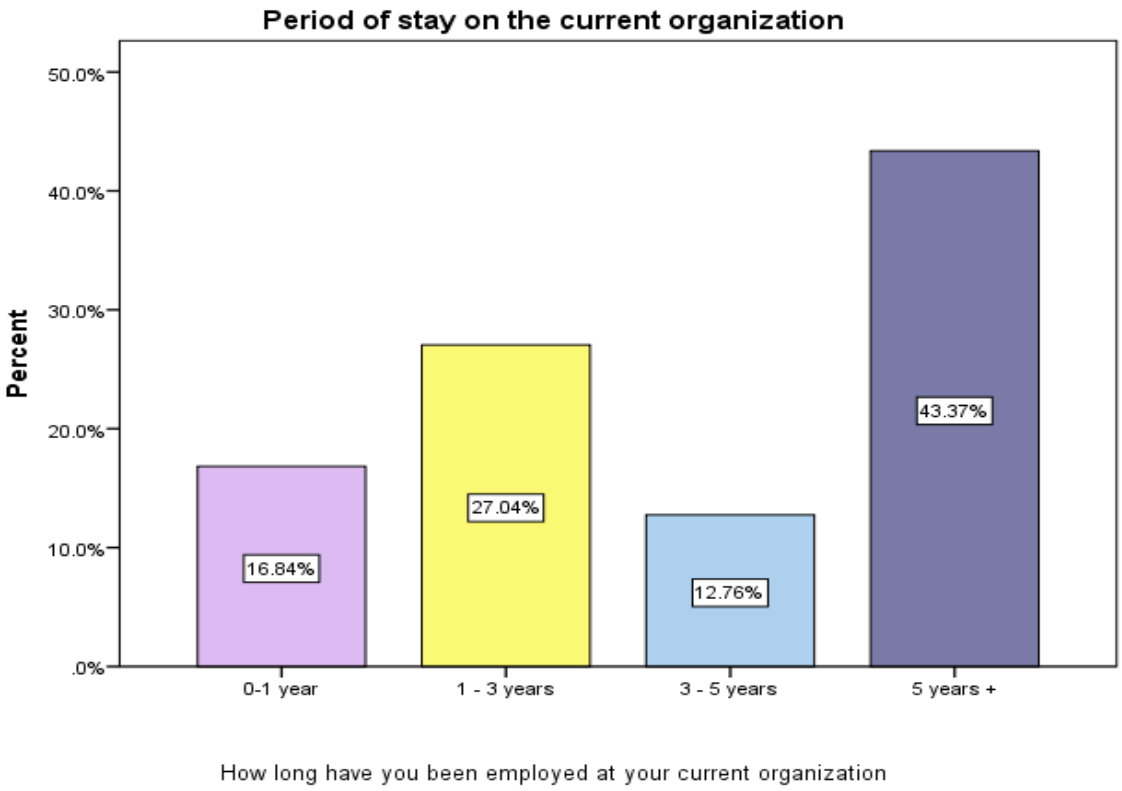


Figure 4.3: Period of stay (tenure)

Most of the respondents, 43.37%, have been working for their current organization for a period of more than years. 27.04% of respondents have been with their current organization between one and three years, 16.84% for less than one year, and a total of 12.76% have been working at their current organization for three to five years.

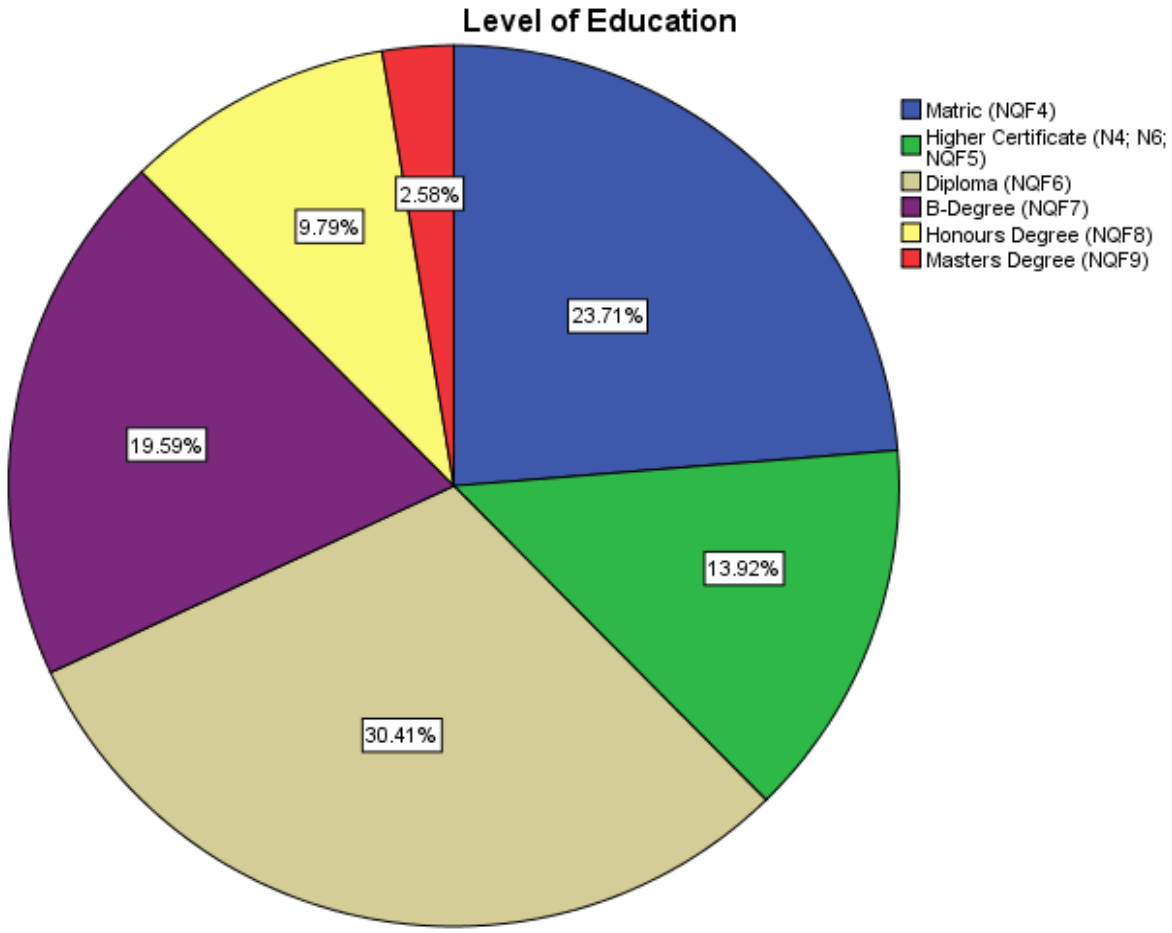


Figure 4.4: Level of education

30.41% of the respondents had a College Diploma (NQF6). Matric (NQF4) followed with 23.71% of the total respondents. Then followed Bachelors degree (NQF7) respondents with 19.59%, Higher Certificate (N4; N6; NQF5) respondents with 13.71%, Honours Degree (NQF8) respondents with 9.79%, and lastly Master's Degree (NQF9) respondents making up 2.58% of the total population.

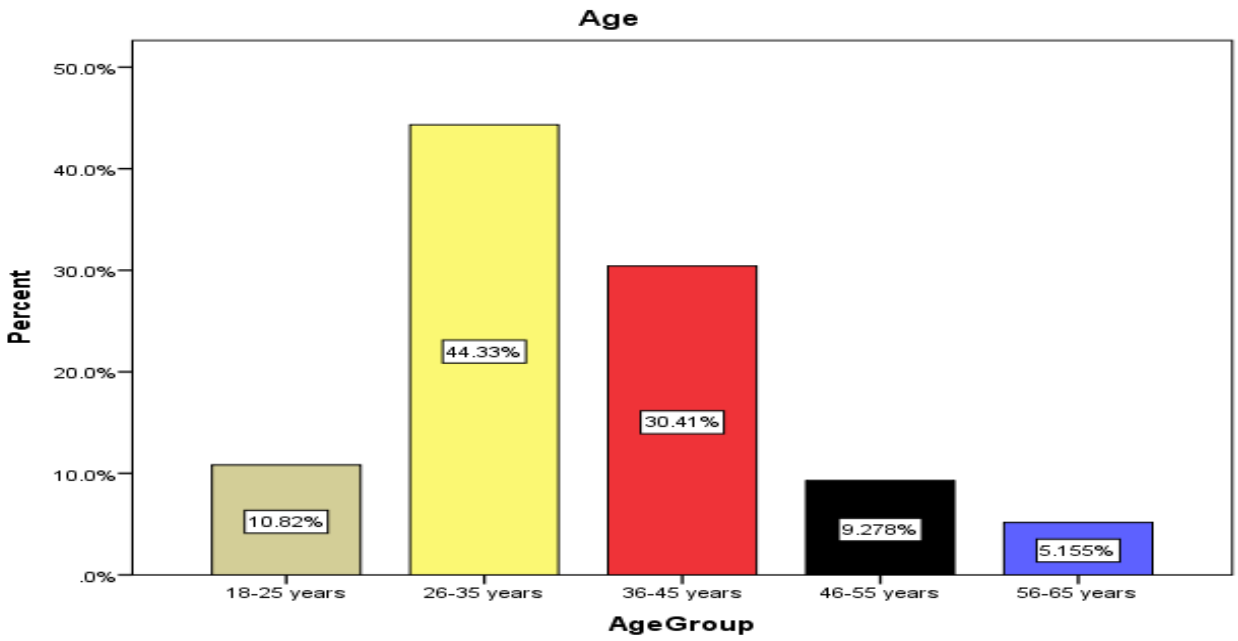


Figure 4.5: Age

The highest portion of the respondents was from the age group 26 to 35 years, which constituted 44.33% of the population. The age group 36 to 45 years followed with 30.41%, 18 to 25 years with 10.82%, 46 to 55 years with 9.28%, and 56 to 65 years with 5.16%.

4.3 Exploratory factor analysis (EFA) results

Table 4.1: IWB (EFA results)

Construct question No.	Literature factors	My factors	Literature loadings	My loadings	Questions
Q1.1	F2	f3	0.52	0.3617	How often do you ..... - .... pay attention to issues that are not part of your daily work?
Q1.2	F2	f2	0.59	0.594	How often do you ..... - .... wonder how things can be improved?
Q1.3	F1	f2	0.75	0.709	How often do you ..... - .... search out new working methods, techniques or instruments?
Q1.4	F1	f2	0.85	0.7009	How often do you ..... - .... generate original solutions for problems?
Q1.5	F1	f2	0.79	0.7059	How often do you ..... - .... find new approaches to execute tasks?
Q1.6	F3	f1	0.92	0.7487	How often do you ..... - .... make important organizational members enthusiastic about innovative ideas?
Q1.7	F3	f1	0.76	0.7253	How often do you ..... - .... attempt to convince people to support an innovative idea?
Q1.8	F4	f1	0.56	0.7013	How often do you ..... - .... systematically introduce innovative ideas into work practice?
Q1.9	F4	f1	0.95	0.8176	How often do you ..... - .... contribute to the implementation of new ideas?
Q1.10	F4	f1	0.69	0.7542	How often do you ..... - .... put effort into the development of new things?

Table 4.2: LMX (EFA results)

Construct question No.	Literature factors	My factors	Literature loadings	My loadings	Questions
Q2.1	F1	f1	0.91	0.7175	I like my manager/supervisor very much as a person.
Q2.2	F1	f1	0.72	0.7518	My manager/supervisor is a lot of fun to be with.
Q2.3	F1	f1	0.8	0.7108	Mymanager/supervisor is the kind of person I would like to have as a friend.
Q2.4	F2	f2	0.91	0.8313	I respect my manager/supervisor's knowledge and competence on the job.
Q2.5	F2	f2	0.79	0.7895	I admire my manager/supervisor's professional skills.
Q2.6	F3	f4	0.91	0.4046	My manager/supervisor defends my work action to a superior, even without complete knowledge of the issue in question.
Q2.7	F3	f1	0.7	0.5838	My manager/supervisor would defend me to others in the organization if I made an honest mistake.
Q2.8	F3	f2	0.74	0.4924	My manager/supervisor will come to my defence if I were "attacked" by others.
Q2.9	F4	f3	?	0.7666	My manager/supervisor can depend on me when we are overloaded with work.
Q2.10	F4	f3	0.81	0.7644	I am willing to apply extra effort, beyond those normally required, to meet my manager/supervisor's work goals.
Q2.11	F4	f3	?	0.6105	I do not mind working hardest for my manager/supervisor.
Q2.12	F4	f3	not loaded	0.4147	I do work for my manager/supervisor that goes beyond what is specified in my job description.

Table 4.3: Work engagement (EFA results)

Construct question No.	Literature factors	My factors	Literature loadings	My loadings	Questions
Q3.1	F1	f1	0.88	0.8817	At my work I feel that Iam bursting with energy.
Q3.2	F1	f1	0.93	0.8645	At my job, I feel strong and vigorous.
Q3.3	F2	f1	0.92	0.8349	I am enthusiastic about my job.
Q3.4	F2	f1	0.94	0.8255	My job inspires me.
Q3.5	F1	f1	0.82	0.7382	When I get up in the morning, I feel like going to work.
Q3.6	F3	f1	0.9	0.4794	I feel happy when I am working intensely.
Q3.7	F2	f1	0.83	0.5002	I am proud of the work that I do.
Q3.8	F3	f2	0.76	0.6728	At work I am immersed in my own world.
Q3.9	F3	f2	0.9	0.6665	I get carried away when I am working.

Table 4.4: TIL (EFA results)

Construct question No.	Literature factors	My factors	Literature loadings	My loadings	Questions
Q4.1	F1	f1		0.8366	I feel quite confident that my leader will always treat me fairly.
Q4.2	F1	f1		0.8476	My manager/supervisor would never try to gain an advantage by deceiving workers.
Q4.3	F1	f1		0.8799	I have complete faith in the integrity of my manager/supervisor.
Q4.4	F1	f1		0.8373	I feel a strong loyalty towards my leader/s.
Q4.5	F1	f1		0.7111	I would support my leader/s in almost any emergency.
Q4.6	F1	f2		0.1938	I have a divided sense of loyalty towards my leader/s.

4.4 Testing of Hypotheses

4.4.1 H1: Results

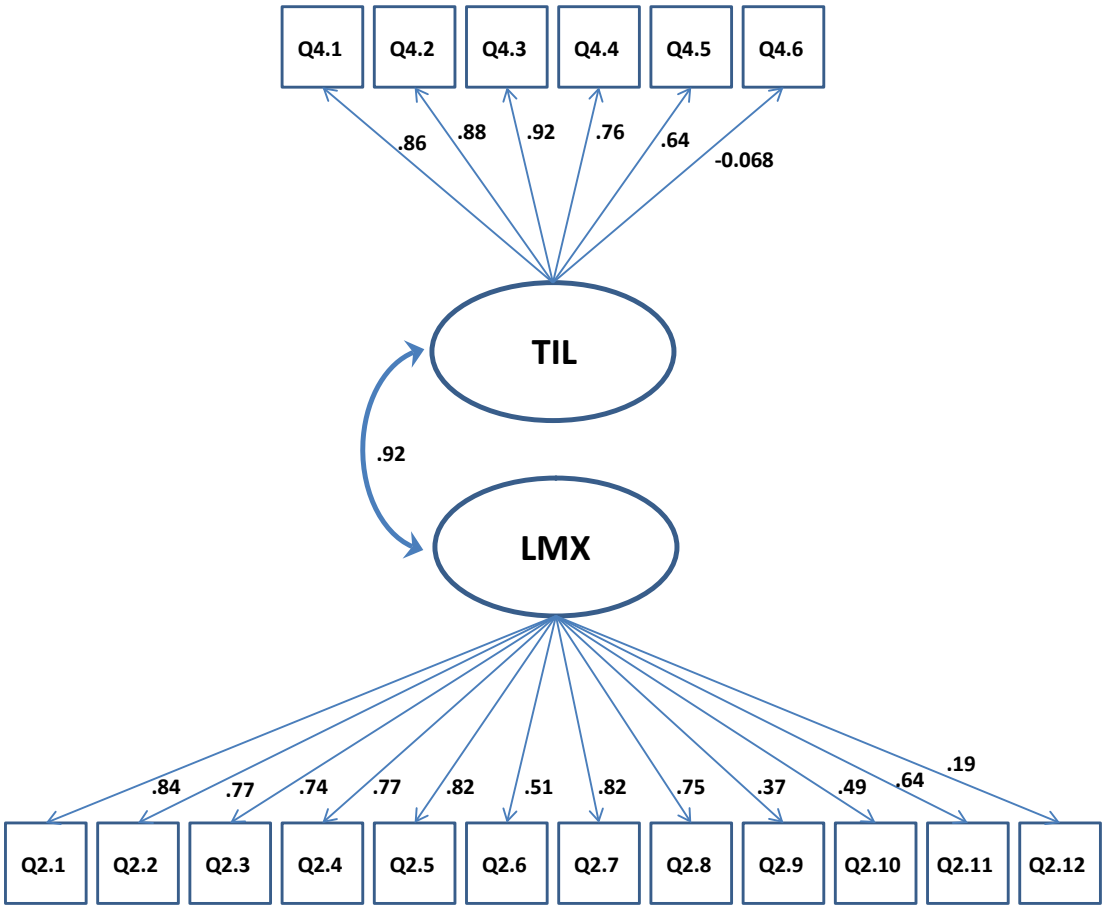


Figure 4.6: The relationship between trust-in-leader (TIL) and leader-member exchange (LMX)

In the literature, Podsakoff et al. (1990) developed their trust-in-leader scale as a uni-dimensional instrument consisting of six items (questions).

The research used their approach to investigate trust-in-leader (TIL). The results of exploratory factor analysis (EFA) performed on the data (table 4.4), compared with the factor loadings each of the six individual items of the instrument tested in the confirmatory factor analysis (CFA) (figure 4.6), indicated very similar factor loading values.

Both the EFA and CFA findings clearly grouped five factor items together into a single construct and isolated the same factor (Q4.6) into another single construct. It appeared that this one factor was distinctly different from the others and even displayed a negative factor loading value in both analyses, indicating how strong the item differed from the others. Despite that, the other five factor loadings were strong.

The CFA analysis produced a direct correlation between TIL and LMX with a very high value of *0.92*. (figure 4.6), indicated with a p-value of 0.000 and z-value of 13.74 in Table 4.5 where the relationship between LMX and work engagement was tested, and with comparing p-value of 0.000 and z-value of 13.76 in Table 4.7 where LMX and IWB was tested.

This research therefore indicates a high level of statistical significance with an extremely strong correlation between trust-in-leader (TIL) and leader-member exchange (LMX).

4.4.2 H2.1: Results

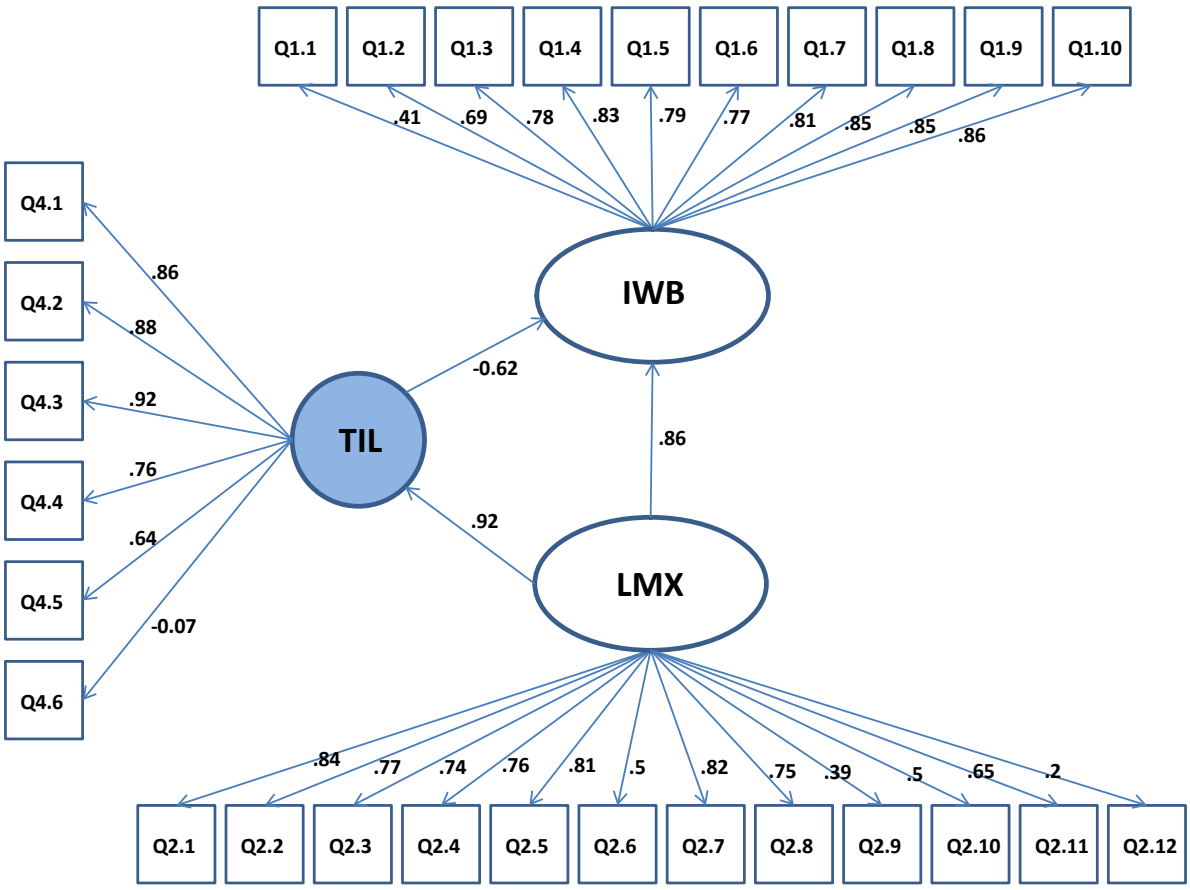


Figure 4.7: The interrelationship between trust-in-leader (TIL), leader-member exchange (LMX) and innovative work behaviour (IWB)

In order to effectively analyse mediation, it is necessary to determine the *direct, indirect* and *total effect* that the moderating variable (TIL) had on the relationship between the other two variables, leader-member exchange (LMX) and innovative work behaviour (IWB) in the model.

The direct effect:

The direct relationship between leader-member exchange (LMX) and innovative work behaviour (IWB) was analysed. The SEM analysis calculated relationship strength on the two variables at *0.86* (figure: 4.7). This indicated a very strong relationship, with significance still to be determined.

The indirect effect:

The indirect effect via mediation consisted of the combination of the correlation coefficients of *0.92* and *-0.62* between TIL and LMX, and TIL and innovative work behaviour (IWB) respectively. The indirect effect of leader-member exchange (LMX) on IWB via TIL was calculated as follows:

Indirect effect = 0.92 x -0.62
= -0.5704

The total effect:

In order to calculate the total effect of LMX on IWB, the direct and indirect effects were summed.

Total effect = direct effect + indirect effect
= 0.86 - 0.5704
= 0.2896

The result of these calculations corresponds to the correlation coefficient of 0.28 as displayed in the CFA analysis done for hypothesis H3 (figure 4.10).

The mediation effect:

To test the extent to which trust-in-leader (TIL) mediated the relationship between leader-member exchange (LMX) and innovative work behaviour (IWB), as hypothesized, it was necessary to determine the proportion of mediation relative to the total effect of LMX on IWB. This was calculated as follows:

Mediation effect = indirect effect / total effect
= -0.5704 / 0.2896
= -1.9696

The result indicated that there was a negative impact on the relationship between leader-member exchange (LMX) and innovative work behaviour (IWB), through the workings of trust-in-leader (TIL). It was further necessary to test the significance of mediation to determine if hypothesis H2.1 holds true.

Referring to Table 4.7, the CFA analysis that was undertaken for testing hypothesis H1 resulted in the total effect for LMX on IWB of *0.28*. This is the effect that would be found if there was no mediator in the model. It is significant, with a z-value of *3.22* and a p-value of 0.001 < 0.05. The direct effect for LMX on IWB is *0.86*, which is substantially larger than the total effect of *0.28281 (0.28)*.

The indirect effect of LMX that passes through TIL is -0.5704 (*0.92 * -0.62*) and is statistically significant with a p-value of 0.032 < 0.05 (and z-value of -2.14).

It is often easier to interpret these values by computing ratios and proportions, as shown below.

Proportion
of total effect mediated = indirect effect / total effect
= -0.5704/0.2896
= -1.96961

Ratio of indirect to direct effect = -0.5704/0.86
= -0.66325

Ratio of total to direct effect = 0.28/0.86
= 0.32558

The proportion of the total effect that is mediated is a reduction of about 1.97, which is a respectable amount. The ratio of the indirect effect to the direct effect is about -0.66, corresponding to the size of the direct effect between TIL and IWB. Finally, the total effect is about 0.33 times the direct effect.

It is therefore concluded that the mediation role of TIL on the relationship between LMX and IWB is statistically significant.

4.4.3 H2.2: Results

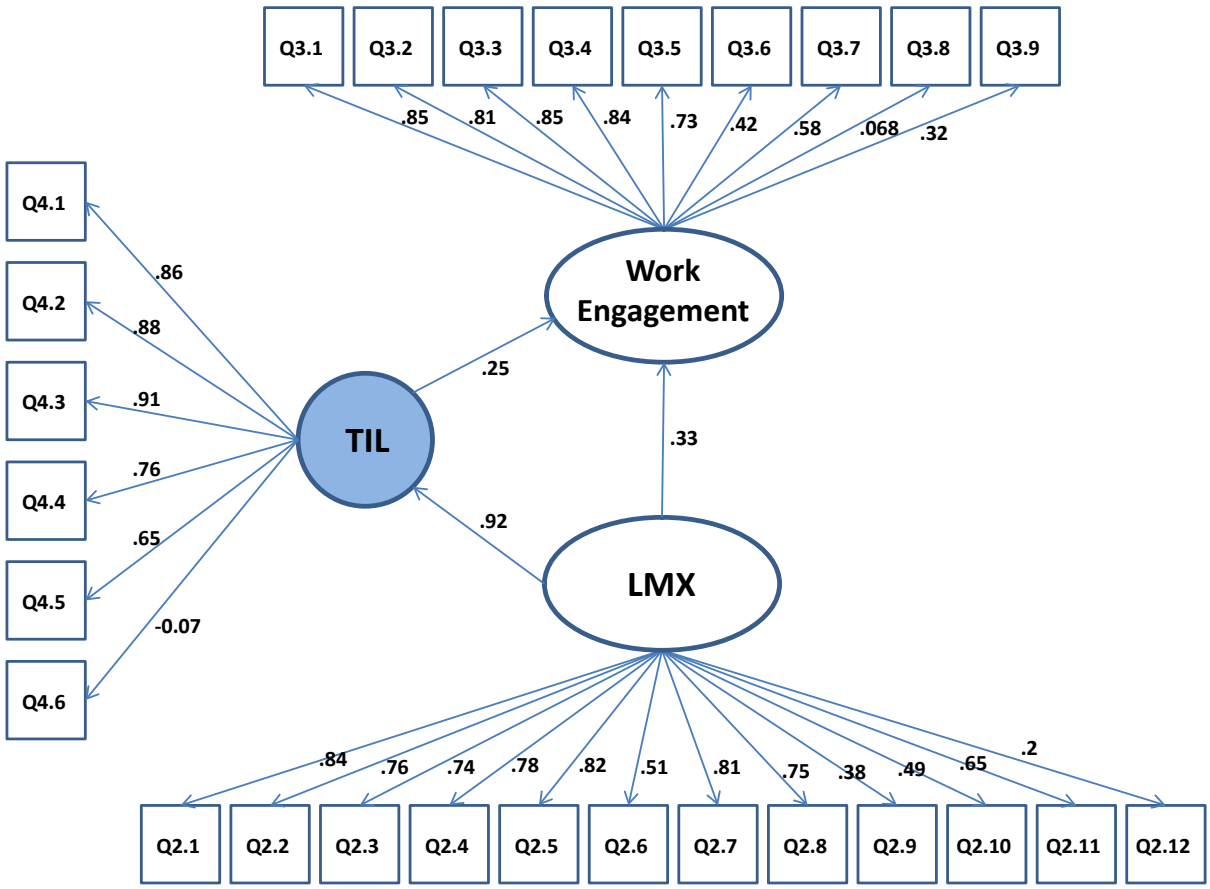


Figure 4.8: The interrelationship between trust-in-leader (TIL), leader-member exchange (LMX) and work engagement

In order to effectively analyse mediation, it is necessary to determine the *direct, indirect* and *total effect* that the mediating variable (TIL) had on the relationship between the other two variables, leader-member exchange (LMX) and work engagement in the model.

The direct effect:

The direct relationship between leader-member exchange (LMX) and work engagement was analysed. The SEM analysis calculated relationship strength on the two variables at *0.33* (figure 4.8). This indicated a relatively weak relationship, with significance still to be determined.

The indirect effect:

The indirect effect via mediation consisted of the combination of the correlation coefficients of *0.92* and *0.25* between TIL and LMX, and TIL and work engagement respectively. The indirect effect of leader-member exchange (LMX) on work engagement via trust-in-leader (TIL) was calculated as follows:

Indirect effect = 0.92 x 0.25
= 0.23

The total effect:

In order to calculate the total effect of LMX on work engagement, the direct and indirect effects were summed.

Total effect = direct effect + indirect effect
= 0.33 + 0.23
= 0.56

The result of these calculations equalled the correlation coefficient of 0.56, as displayed in the CFA analysis done for hypothesis H4 (figure 4.11).

The mediation effect:

To test the extent to which trust-in-leader (TIL) mediated the relationship between leader-member exchange (LMX) and work engagement, as hypothesized, it was necessary to determine the proportion of mediation relative to the total effect of LMX on work engagement. This was calculated as follows:

Mediation effect = indirect effect / total effect
= 0.23/0.56
= 0.41

The result was that 41% of the relationship between leader-member exchange (LMX) and work engagement was mediated by trust-in-leader (TIL). It was further necessary to test the significance of mediation to determine whether hypothesis H2.2 holds true.

Referring to Table 4.5, the CFA analysis that was undertaken for testing hypothesis H4 resulted in the total effect for LMX on work engagement as being *0.56*. This is the effect that would be found if there was no mediator in the model. It is significant with a z-value of *7.45* and a p-value of 0.000 < 0.05. The direct effect for LMX on work engagement is *0.33*, which is smaller than the total effect. The indirect effect of LMX that passes through TIL is *0.23 (0.92 * 0.25*) and is not statistically significant because of its p-value of *0.300*, which is higher than 0.05.

Proportion
of total effect mediated = indirect effect / total effect
= 0.23/0.56
= 0.41

Ratio of indirect to direct effect = 0.23/0.33
= 0.70

Ratio of total to direct effect = 0.56/0.33
= 1.70

It is therefore concluded that the mediation role of trust-in-leader (TIL) on the relationship between work engagement and innovative work behaviour (IWB) is not statistically significant.

4.4.4 H2.3: Results

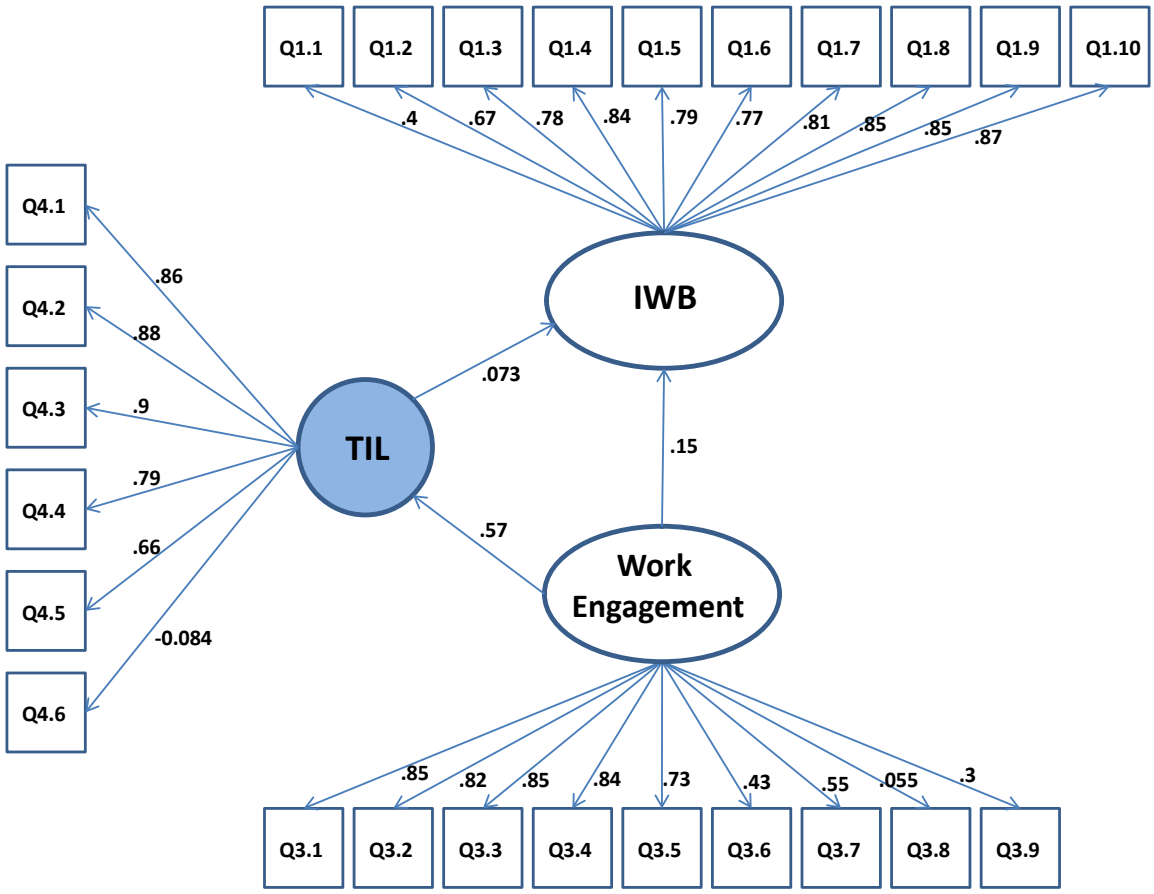


Figure 4.9: The interrelationship between trust-in-leader (TIL), work engagement and innovative work behaviour (IWB)

In order to effectively analyse mediation, it is necessary to determine the *direct, indirect* and *total effect* that the mediating variable (TIL) has on the relationship between the other two variables in the model, innovative work behaviour (IWB) and work engagement.

The direct effect:

The direct relationship between innovative work behaviour (IWB) and work engagement was analysed. The SEM analysis calculated relationship strength on the two variables at *0.15* (figure4.9). This indicated a weak relationship, with significance still to be determined.

The indirect effect:

The indirect effect via mediation consisted of the combination of the correlation coefficients of *0.57* and *0.073* between TIL and work engagement, and TIL and innovative work behaviour (IWB) respectively. The indirect effect of work engagement on innovative work behaviour (IWB) via trust-in-leader (TIL) was calculated as follows:

Indirect effect = 0.57 x 0.073
= 0.04161

The total effect:

In order to calculate the total effect of work engagement on IWB, the direct and indirect effects were summed.

Total effect = direct effect + indirect effect
= 0.15 + 0.04161
= 0.19161

The result of these calculations equalled to the correlation coefficient of 0.19 as displayed in the CFA analysis done for hypothesis H5 (figure 4.12).

The mediation effect:

To test the extent to which trust-in-leader (TIL) mediated the relationship between innovative work behaviour (IWB) and work engagement, as hypothesized, it was

necessary to determine the proportion of mediation relative to the total effect of work engagement on IWB. This was calculated as follows:

Mediation effect = indirect effect / total effect
= 0.04162/0.19161
= 0.21721

The result was that more or less 22% of the relationship between innovative work behaviour (IWB) and work engagement was mediated by trust-in-leader (TIL). It was further necessary to test significance of mediation to determine if hypothesis H2.3 holds true.

Referring to Table 4.6, the CFA analysis that was undertaken for testing hypothesis H5 resulted in the total effect for work engagement on IWB being *0.1863391 (0.19)*. This is the effect that would be found if there was no mediator in the model. It is significant with a z-value of *2.31* and a p-value of 0.021< 0.05.

The direct effect for work engagement on IWB is *0.15*, which is just smaller than the total effect. The indirect effect of work engagement that passes through TIL is 0.04161 *(0.57 * 0.073*) and is not statistically significant because of its p-value of *0.439* that is higher than 0.05.

Proportion
of total effect mediated = indirect effect / total effect
= 0.04161/0.19161
= 0.21715

Ratio of indirect to direct effect = 0.04161/0.15
= 0.2774

Ratio of total to direct effect = 0.19161/0.15

= 1.2774

It is therefore concluded that the mediation role of trust-in-leader (TIL) on the relationship between work engagement and innovative work behaviour (IWB) is not statistically significant.

4.4.5 H3: Results

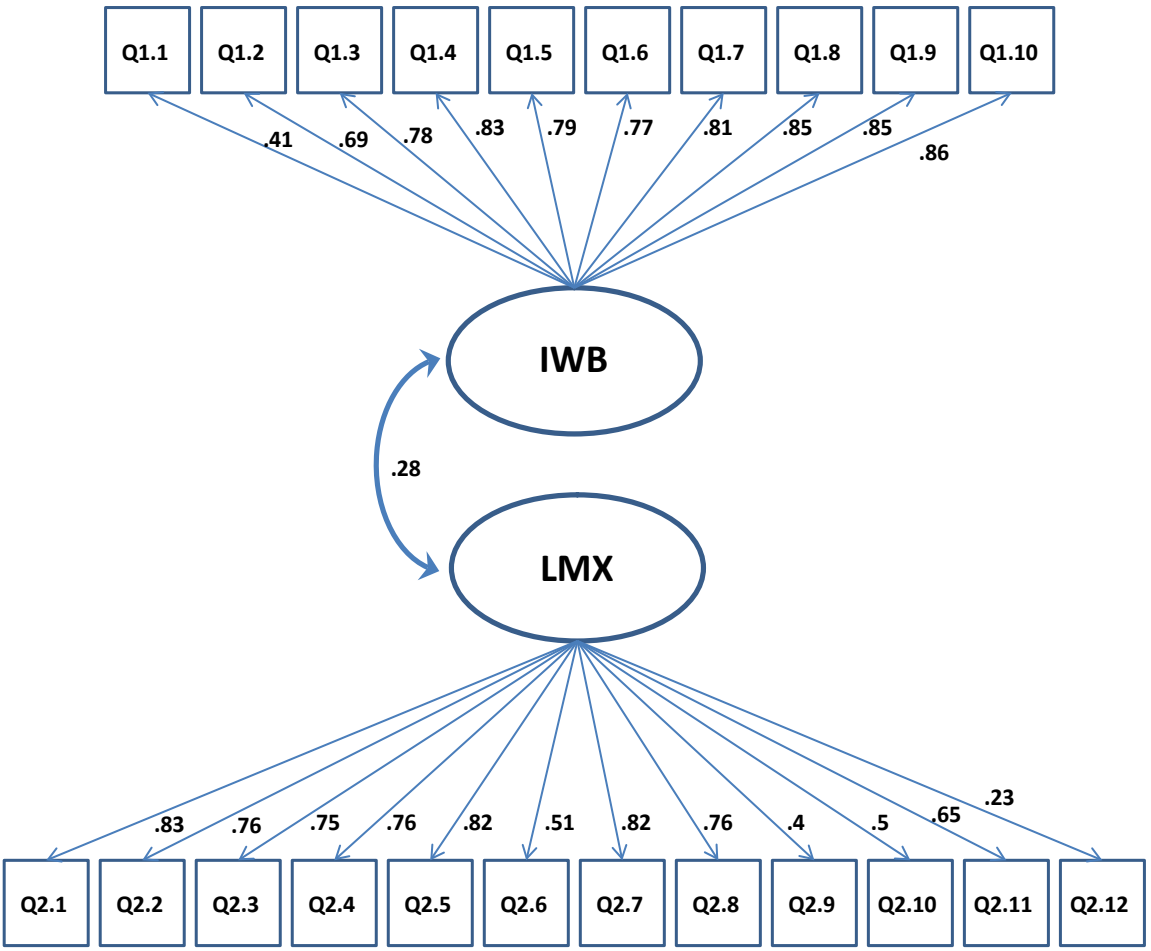


Figure 4.10: The relationship between innovative work behaviour (IWB) and leader-member exchange (LMX)

Figure 4.10 indicates a weak correlation coefficient of *0.28* between innovative work behaviour (IWB) and leader-member exchange (LMX).

Of the 12 items making up the LMX instrument, seven were loaded with factor values of more than *0.75* (58.33% of the total items) which is substantially high. Eight of the ten items on the IWB instrument had CFA factor loading values in excess of *0.75*. This is also substantially high. Even though the CFA resulted in high values for the majority of the individual items in each construct, the analysis still produced a low correlation value between IWB and LMX. These observations needed to be tested further to determine structural significance. It appeared that there was correlation of 0.28 observed between the constructs, but it was not possible to determine whether it was statistically significant without doing a formal test.

Table 4.7 reports a formal test of significance with total effect of *0.2828158* between LMX and IWB, p-value of *0.001* and z-value of *3.22*. The p-value is smaller than *0.05*, indicating that the relationship between the two constructs is statistically significant, even though the total correlation effect was small.

4.4.6 H4: Results

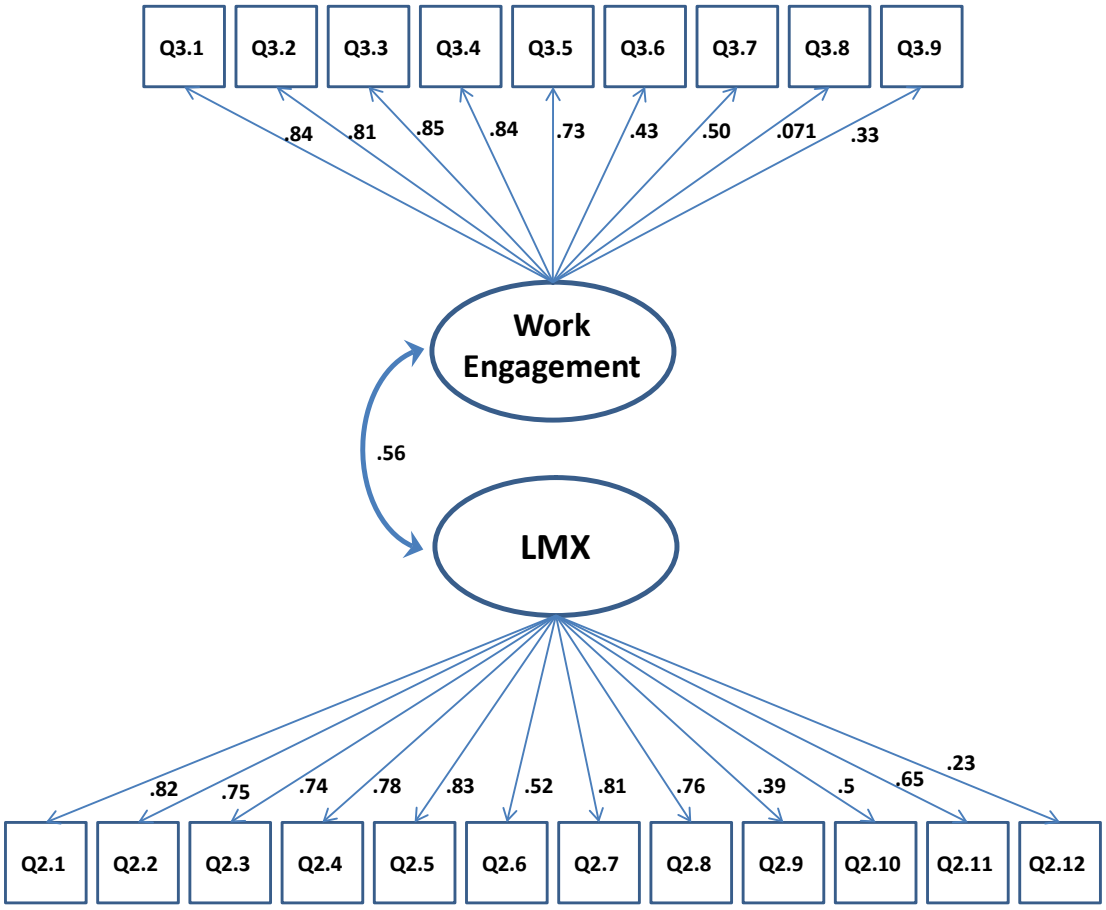


Figure 4.11: The relationship between work engagement and leader-member exchange (LMX)

The research approach used to analyse the data for testing hypothesis H4 is identical to that used in the testing of hypothesis H3. The purpose was to determine the relationship between the two relevant constructs and test for significance. The confirmatory factor analysis (CFA) results produced a correlation coefficient of *0.56* between leader-member exchange (LMX) and work engagement (figure 4.11). It also appeared that six of the nine instrument items for work engagement loaded with values higher than *0.75*, which constitutes 66.6% of the questions contributing to highly significant levels. Similarly, the results of the CFA factor loadings of the LMX construct in the analysis of hypothesis H3 (58% of the instrument items) loaded with values of *0.75* or higher.

Table 4.5 displays a standard coefficient for total effect between LMX and work engagement at *0.5583061 (0.56)*. This value corresponds to a p-value of *0.000* and z-value of *7.45*, indicating a high level of statistical significance with a strong correlation between work engagement and LMX.

4.4.7 H5: Results

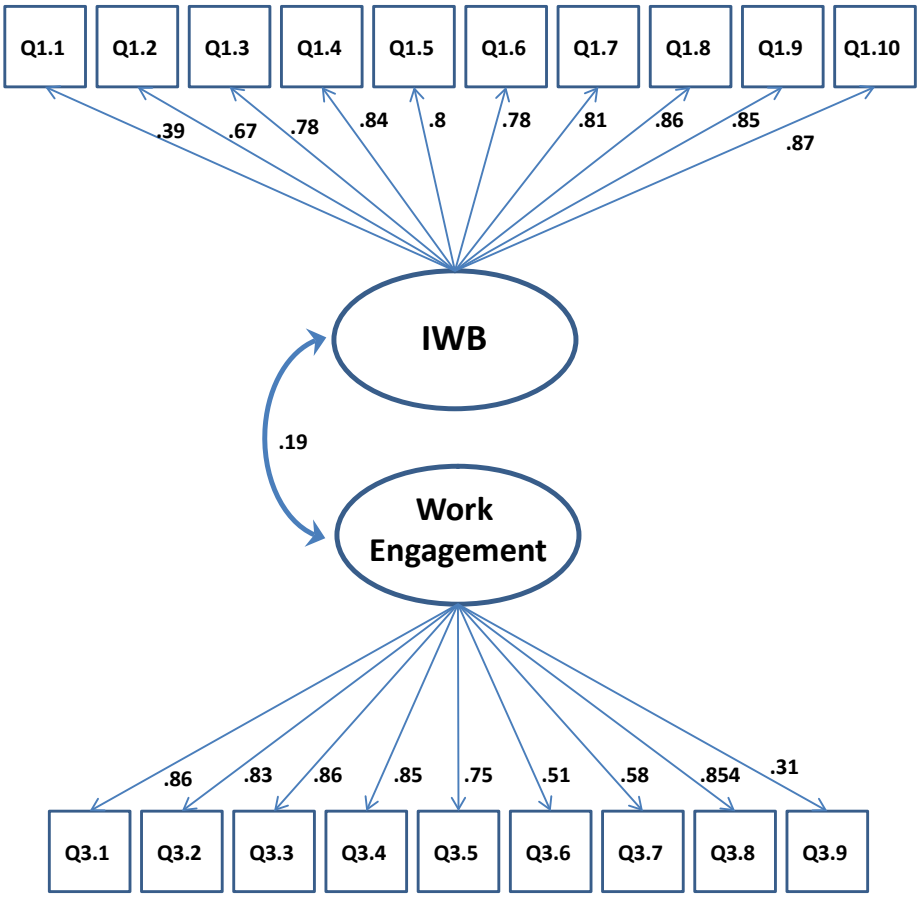


Figure 4.12: The relationship between innovative work behaviour (IWB) and work engagement

As was the case with hypotheses H3 and H4, the analytical approach to testing H5 was similar. A structural equations model was implemented to test the data using CFA. Again, the factor loadings produced very similar results for the factors that loaded values higher than *0.75*, in both IWB and work engagement, when compared to their loadings in H3 (figure 4.10) and H4 (figure 4.11).

Figure 4.12 shows a weak correlation between work engagement and innovative work behaviour (IWB) with a value of *0.19.* Again, it was necessary to test this correlation in order to determine whether, and to what extent, the relationship might be statistically significant.

Table 4.6 reports a standard coefficient to describe the relationship between work engagement and innovative work behaviour (IWB) as having a value of *0.1863391 (0.19)*. This again indicated a significant relationship between the constructs, with a p-value of *0.021* and z-value of *2.31*. There exists a statistically significant albeit weak correlation between the innovative work behaviour (IWB) and work engagement constructs.

4.4.8 H6: Results

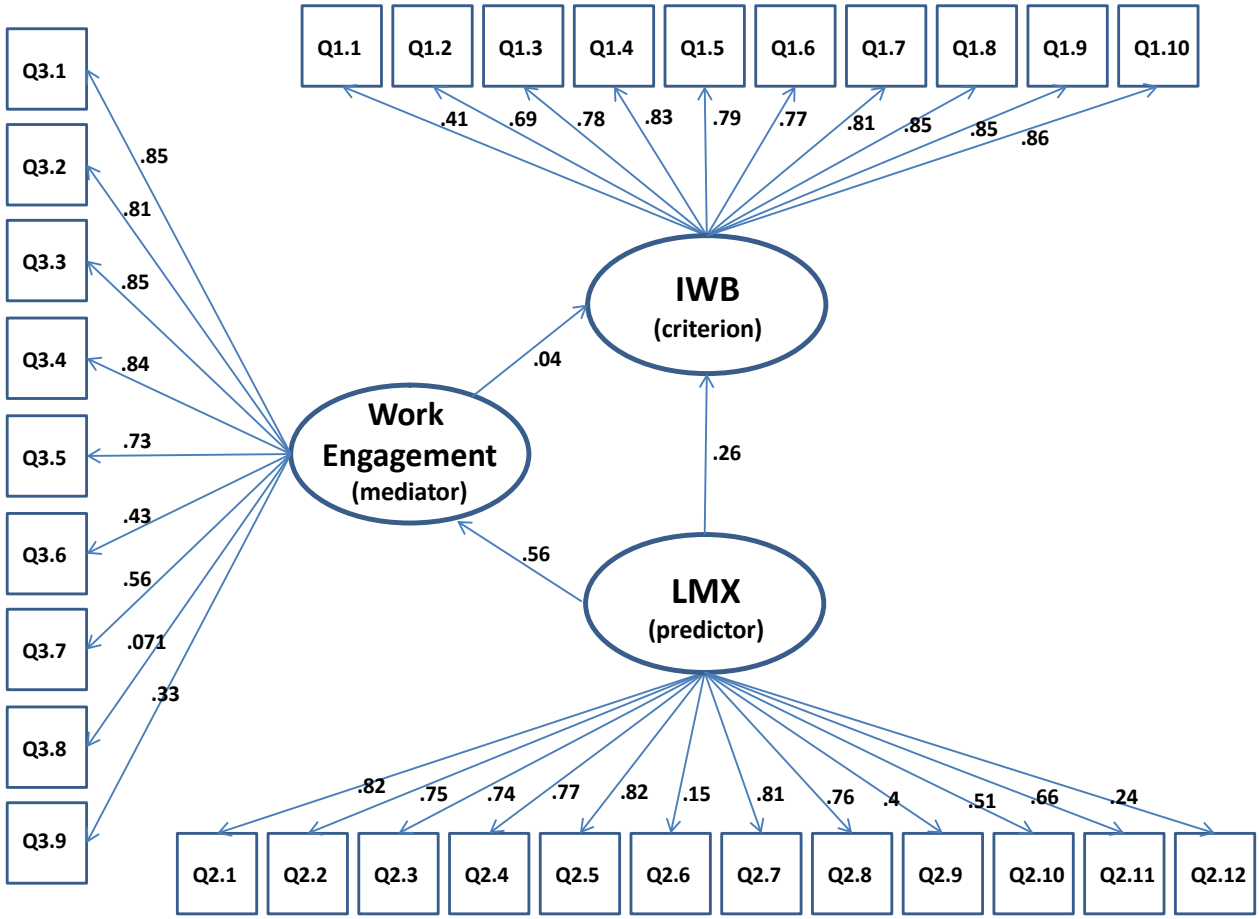


Figure 4.13: The mediating effect of leader-member exchange (LMX) on innovative work behaviour (IWB) through work engagement

Referring to Table 4.8: The total effect for LMX on IWB, *0.28*, is the effect that would be found if there was no mediator in the model. It is significant, with a z-value of *3.22* and a p-value of *0.001*< 0.05. The direct effect for LMX is *0.26* which, while still

significant with a z-value of *2.55* and p-value of 0.011 < 0.05, is 0.02 units smaller than the total effect.

The indirect effect of LMX that passes through work engagement is *0.02250 (0.56 * 0.04)*, and is not statistically significant with a z-value of 0.43 and p-value of 0.666 > 0.05.

Computing ratios and proportions:

Proportion
of total effect mediated = indirect effect / total effect
= 0.0225/0.28
= 0.079

Ratio of indirect to direct effect = 0.0225/0.26
= 0.08653

Ratio of total to direct effect = 0.28/0.26
= 1.077

The proportion of the total effect that is mediated is about 0.08, which is a negligible amount. The ratio of the indirect effect to the direct effect is about 0.09. The total effect is about 1.08 times the direct effect.

4.5 Conclusion

The tools used in this research study were based on existing instruments widely discussed and accepted in literature. The results of the exploratory factor analysis undertaken revealed interesting similarities to the published findings. These findings were further tested in confirmatory factor analysis, which closely supported all the EFA results.

The structural equation modelling analysis of the research data produced a likelihood ratio test, comparing the presented models with a test of goodness of fit. It appeared that the research data provided support for a good fit for all the models.

The results of the structural equation modelling performed on the data have been discussed in detail in paragraph 4.4. The results of the mediation analyses conducted on H2.1, H2.2, H2.3 and on H6 is tabulated in Table 4.9.

Table 4.9 Tabulated results, SEM analysis for mediation

	H2.1	H2.2	H2.3	H6
Direct effect	**0.86**	**0.33**	**0.15**	**0.26**
Indirect effect	**-0.5704**	**0.23**	**0.042**	**0.023**
Total effect	**0.2896**	**0.56**	**0.192**	**0.28**
Mediation	**-1.9696**	**0.41**	**0.217**	**0.079**
Ration of indirect to direct effect	**-0.66325**	**0.70**	**0.277**	**0.087**
Ratio of total to direct effect	**0.32558**	**1.70**	**1.277**	**1.077**
Mediated constructs	**The effect of LMX on IWB through TIL**	**The effect of LMX on work engagement through TIL**	**The effect of work engagement on IWB through TIL**	**The effect of LMX on IWB through work engagement**

The study concluded that the research instruments were applied effectively and that the test results indicated enough support to assume validity of the data.

Chapter 5: Discussion and findings

5.1 Introduction

The purpose of this chapter is to shed light on the research data, how the researched variables reacted towards each other in the study and what the analytic results meant. It also provides a platform to identify practical relevance in the corporate work environment, which involves corporate entrepreneurial dimensions, and discuss potential applications.

The objective of the study was to investigate the following relationships, as described in the research model (fig: 2.2).

H1: The relationship between leader-member exchange (LMX) and trust-in-leader (TIL).

H2.1: The mediating role of trust-in-leader (TIL) on the relationship between leader-member exchange (LMX) and innovative work behaviour (IWB).

H2.2: The mediating role of trust-in-leader (TIL) on the relationship between leader-member exchange (LMX) and work engagement.

H2.3: The mediating role of trust-in-leader (TIL) on the relationship between work engagement and innovative work behaviour (IWB).

H3: The relationship between leader-member exchange (LMX) and innovative work behaviour (IWB).

H4: The relationship between leader-member exchange (LMX) and work engagement.

H5: The relationship between work engagement and innovative work behaviour (IWB).

H6: The mediating role of work engagement on the relationship between leader-member exchange (LMX) and innovative work behaviour (IWB).

The four main constructs were measured and assessed by a combination of research instruments as follows:

1) **Trust-in-leader (TIL):**
   The 6-item TIL scale (Podsakoff et al., 1990)
2) **Leader-member exchange (LMX):**
   The 12-item LMX-MDM scale (Liden & Maslyn, 1998)
3) **Work engagement:**
   The 9-item Utrecht work engagement scale (UWES), (Seppala et al., 2008)
4) **Innovative work behaviour (IWB):**
   The 10-item IWB research instrument (De Jong & Den Hartog, 2010)

Answers to the individual questions in the research instrument for this study were scored using a 7-point Likert scale, ranging from "strongly disagree" to "strongly agree".

These replies were captured on the Wits University database using an online questionnaire circulated through Qualtrics.

A total of 245 replies were received, of which 48 were incomplete. The incomplete data was included in the EFA analysis but excluded from the final sample population of n=197 that was used in the structural equation modelling (SEM) and confirmatory factor analysis (CFA).

STATA (version 13) software was used to undertake the structural equation modelling and CFA. The demographic analysis was conducted in IBM SPSS software.

5.2 Demographic profile of respondents

The demographic component of the questionnaire comprised five questions on age, level of education, tenure, gender and race.

The study targeted seven corporate companies in Johannesburg, South Africa. Two of the companies provided 67 and 60 complete sets of responses respectively and a third company provided a set of 31 complete responses. 39 additional responses came from the remaining four companies that were studied.

Of the respondents 2.58% had Master's degrees, 9.79% respondents had honours degrees and 19.59% had Bachelor's degrees, giving a total of 31.96% of all respondents as university educatedgraduates.30.41% of the respondents were college diploma graduates, therefore most of the respondents (62.37%) had tertiary education qualifications, and it is confirmed that the study was undertaken in a "knowledge worker" environment.

It was further interesting to note that the largest group of respondents (44.33%) were young employees between 26 and 35 years of age.

A large percentage of respondents (43.37%) has been working at their organizations for more than five years.

The gender distribution was relatively closely distributed between male (52.79%) and female (47.21%), and the large majority (72.45%) of the respondents' race classification was "white". This could give some indication of what the current Johannesburg knowledge worker distribution, from a race perspective, might look like in the corporate environment where this study was conducted.

In hindsight it would have been appropriate to include two more demographic questions, namely managerial level in the organization and job description.

Answers to these two questions would have enhanced the data and specifically presented the opportunity to look deeper into the leader-member exchange (LMX) construct, making it possible for more qualified inferences on relationships involving LMX and other constructs, and how that might have impacted on overall intrapreneurial activities of managers and their subordinate employees.

5.3 Factor analysis

Literature describing the different constructs investigated in this study provided EFA factor loadings with their respective grouped constructs, and, in most cases, the individual item values as well. This information was available for TIL, LMX, work engagement and IWB, the four main items making up the research instrument of this study.

It was decided that it would be of interest to match the factor loadings of the EFA results from this study with that found in literature to get an indication of how results from the South African environment compared to those published internationally.

For comparison purposes, factors from literature are indicated in *upper case*, and factors from the EFA conducted in this study are indicated in *lower case*.

5.3.1 Exploratory factor analysis on IWB

The table presents the EFA results on IWB that include the four factors from literature that made up the research instrument for this study:

- **(F1) Idea exploration** (3 questions)
- **(F2) Idea generation** (2 questions)
- **(F3) Idea championing** (2 questions)
- **(F4) Idea implementation** (3 questions)

The research data produced similar results to the published research results. Some factor loading values were identical. The analysis performed by the researcher produced three factors, in contrast to the four found in literature. Table 5.1displays a synthesis of the researcher's factor loadings, compared to those that were found in literature.

Table 5.1 IWB factor loadings

My factors	Factors from literature	Research instrument questions	Discussion
f1	F3; F4	Q1.6; Q1.7; Q1.8; Q1.9; Q1.10	f1 incorporated the two factors from literature (F3 & F4) completely.
f2	F1; F2	Q1.2; Q1.3; Q1.4; Q1.5	f2 incorporated the F1 factor entirely, and half of F2, specifically question Q1.2.
f3	F2	Q1.1	f3 did not load strongly as a factor, and incorporated only one of the two questions (Q1.1) that makes up the F2 factor from the literature.

5.3.2 Exploratory factor analysis on LMX

The results of the EFA factor loadings appear in T**able 4.2** and the following constructs describe leader-member exchange (LMX), as per the literature:

- **(F1) Affect** (3 questions)
- **(F2) Professional respect** (2 questions)
- **(F3) Loyalty** (3 questions)
- **(F4) Contribution** (4 questions)

The researcher's first, second and third research factors, f1, f2 & f3, loaded exactly the same as the research instrument factors F1, F2 & F4, with similar values, except for F4 where there were some values missing from the literature. These findings are displayed in table 5.2.

Table 5.2 LMX factor loadings

My factors	Factors from literature	Research instrument questions	Discussion
f1	F1	Q2.1; Q2.2; Q2.3	f1 incorporated F1 perfectly with very similar factor values.
f1	F3	Q2.7	f1 also included part of the F3 factor that came from the literature.
f2	F2; F3	Q2.4; Q2.5; Q2.8	f2 incorporated F2 perfectly with virtually the same factor loading values for each research question. It did however include part of F3 (the Loyalty construct) with only a moderate factor loading value.
f3	F4	Q2.9; Q2.10; Q2.11; Q2.12	f3 incorporated F4 completely. There were however two factor loading values that were unavailable from the literature.
f4	F3	Q2.6	f4 loaded with a relatively low factor value to incorporate part of F3 (the Loyalty construct).

Factor F3 from the literature instrument (Loyalty) consisted of three items that had inconsistent factor loadings in my research results, not matching the construct from literature. It appears that there exists a general problem with loyalty between supervisors/managers and their subordinates in the research population. This might be the result of the vast cultural differences in the South African work environment, but that argument appears not to be of any real importance if it is taken into consideration that the large majority of the respondents were white

people. This contradiction from the demographic results makes the issue of "loyalty" open for further research and discussion.

5.3.3 Exploratory factor analysis on work engagement

The research instrument used for testing work engagement, as per the literature, consisted of three factors:

- **(F1) Vigour** (3questions)
- **(F2) Dedication** (3 questions)
- **(F3) Absorption** (3 questions)

Table 5.3 Work engagement factor loadings

My factors	Factors from literature	Research instrument questions	Discussion
f1	F1; F2; F3	Q3.1; Q3.2; Q3.3; Q3.4; Q3.5; Q3,6; Q3.7	f1 incorporated the three questions of F1 perfectly, with similar factor values loaded. f1 also incorporated F2 perfectly with similar scores. Finally, f1 loaded one of the questions (Q3.6) of F3, but with a relatively low factor value.
f2	F3	Q3.8; Q3.9	f2 incorporated two of factor F3's questions, with quite high factor loading values.

5.3.4 Exploratory factor analysis on TIL

EFA loadings of the instrument used to test for trust-in-leader, as per the literature, indicated that the construct is one-dimensional (represented by F1). The EFA results for my research data also loaded all onto one construct, with high individual factor values per item, except for f2 (Q4.6) that loaded on its own, with a very low value. The question "I have a divided sense of loyalty towards my leader/s" also appeared to be a contradictory question when compared to the "positive" nature of the other five questions in the instrument.

Table 5.4 TIL factor loadings

My factors	Factors from literature	Research instrument questions	Discussion
f1	F1	Q4.1; Q4.2; Q4.3; Q4.4; Q4.5	f1 produced very high factor loadings for five of the six research questions in the instrument.
f2	F1	Q4.6	f2 produced a single factor loading, with a very low value loading, indicating a distinct difference in the two constructs identified between f1 and f2.

It appears that the uni-dimensional instrument proposed by Podsakoff et al. (1990) in the literature is in fact multi-dimensional.

It also appears that most respondents who agreed strongly with question Q4.4: "I feel strong loyalty towards my leader/s", also strongly disagreed with the contradictory question Q4.6.

5.4 Discussion of the Hypotheses

The work environment, in all locations and on all levels, is complex in nature asa result of the diversity in human personalities, activities, perspectives and communication. These complexities culminate in work relationships between employers and employees, as well as between employees among themselves.

Managers and subordinates are constantly faced with intriguing challenges of inter-personal relationships at work and how these relationships affect work activities and performance.

Individual entrepreneurial actions within incumbent organizations formed the basis of the approach to this research and the intention is to establish the extent to which leader-member exchange (LMX), trust-in-leader (TIL), work engagement and innovative work behaviour (IWB) contribute toward intrapreneurship within organizations.

An interest in how these relationships can be manipulated or improved inspired the thought process that formulated the research problem for this study.

When approaching the research problem from a *non-academic* angle, it made good sense that employees who trust their managers would overall have better, stronger work relationships than what would be the case where trust is missing, or poorly developed. It further made sense that these employees who have strong, healthy relationships with their managers will be more involved in their work and be prepared to "go the extra mile" for their employer. It could also be expected that these individuals will be more prone towards innovative behaviour in the workplace.

An *academic* approach to this logic involved an intensive literature review that identified trust-in-leader (TIL) as the construct most suitable to test the trust relationships between managers and their subordinates, leader-member exchange (LMX) as the construct to assess the quality levels of the relationships between managers and their subordinates, the work engagement construct to test the levels of employee involvement at work, and innovative work behaviour (IWB) as the construct testing the extent of innovative behaviour of individuals in the work environment. These constructs contribute to corporate entrepreneurial manifestation within companies and the results of the research efforts are believed to shed some light on intrapreneurship in South African firms.

Based on this framework, the hypotheses developed to guide the research process are now discussed in detail.

5.4.1 Discussion: H1

Hypothesis 1:
High levels of leader-member exchange relationships have a direct, positive influence on trust-in-leader perceptions.

General

Hypothesis H1 states that high levels of leader-member exchange (LMX) will directly influence trust-in-leader (TIL) positively. This means that the trust perception of subordinates towards their managers will be higher in work environments where there exist high-quality relationships between those subordinates and their manager/s.

What happened in the analysis?

Hypothesis H1 intended to test the correlation between leader-member exchange (LMX) and trust-in-leader (TIL). The CFA analysis conducted on the data produced a

very strong, direct correlation between the two constructs, trust-in-leader (TIL) and leader-member exchange (LMX).

Are the results what was expected?

The results of the CFA analysis are exactly what was anticipated. It makes sense that subordinates who have strong relationships with their direct manager (LMX), will also have a strong trust relationship with that manager (TIL).

Discussion

The research used in this study indicated an exceptionally high correlation rate between the leader-member exchange (LMX) and trust-in-leader (TIL) constructs. This is exciting because it indicated the great importance that people attach to trust.

From a corporate entrepreneurial perspective, it seems that trust-in-leader (TIL) is crucially important in creating a strong relationship between employees and their managers. It appeared that the researcher's research findings strongly supported that how employees feel about and trust their managers had a direct effect on their innovative behaviour at work. The mediating effects of this trust on other constructs in this research will be discussed further in this report.

Conclusion

There exists a high level of statistical significance, as well as a very strong correlation between trust-in-leader (TIL) and leader-member exchange (LMX). **Hypothesis H1 is supported**.

5.4.2 Discussion: H2.1

Hypothesis 2.1:

Trust-in-leader mediates the relationship between leader-member exchange and innovative work behaviour.

General

Hypothesis H2.1 describes the mediating role of trust-in-leader (TIL) on the relationship between leader-member exchange (LMX) and innovative work behaviour (IWB). It hypothesizes that the trust that employees have in their managers will cause a positive response from employees to act more innovatively in their daily work environments, based on the quality of the relationship they have with their manager or supervisor.

What happened in the analysis?

In the process of analysing mediation, it was necessary to determine the direct effect of LMX (the independent variable) on IWB (the dependent variable), which indicated a very high correlation.

The indirect and total effects indicated there was a negative impact on the relationship between leader-member exchange (LMX) and innovative work behaviour (IWB) through the workings of trust-in-leader (TIL).

The proportion of the total effect that was mediated however contributed to a respectable amount.

Are the results what was expected?

It was not expected that there would be such a strong negative relationship between trust-in-leader (TIL) and innovative work behaviour (IWB). The strong relationships between TIL and LMX, and LMX and IWB were however expected.

Discussion

The research findings indicate that there is a strong direct correlation between LMX and IWB. The analysis also indicates that there exists a very strong correlation between TIL and LMX, but that there is a negative correlation between TIL and IWB. It appears that trust-in-leader (TIL) had a negative effect on innovation in the workplace (IWB), meaning that employees who trust their managers very much will

not be innovative at work. This might be an indication that employees move into a comfort zone and expect their managers to think for them.

When the results of the mediation were fitted to mediation models discussed in chapter 3, it indicated that this relationship described in consistent mediation with the following attributes: (1) LMX contained two sources of variance through which it influenced IWB. (2) The product of the correlation coefficients between LMX and TIL, and TIL and IWB differed in sign from the correlation coefficient between LMX and IWB. This happened because one of the channels was negative and the other positive, causing IWB to be influenced via the indirect pathway of the mediator (TIL), while the other channel would influence IWB in the opposite direction. (3) The mediating relationship is statistically significant.

Conclusion

Based on the statistical significance of the mediation between the variables, **hypothesis H2.1 is supported**. It does however appear that further investigation into this mediating relationship will be necessary to gain a better understanding of how the inconsistency in the mediation is caused, and how exactly it influences innovative work behaviour.

5.4.3 Discussion: H2.2

Hypothesis 2.2:

Trust-in-leader mediates the relationship between leader-member exchange and work engagement.

General

Hypothesis H2.2 describes the mediating role of trust-in-leader (TIL) on the relationship between leader-member exchange (LMX) and work engagement. The hypothesis describes that the trust employees have in their managers will cause a positive response in employees to become more involved in their daily work

activities, based on the quality level of the relationship they have with their manager or supervisor.

What happened in the analysis?

In the process of analysing mediation in this relationship, it was necessary to determine the direct effect of LMX (the independent variable) on work engagement (the dependent variable for the purpose of this analysis), as well as the indirect and total effects of LMX on work engagement through TIL as the mediating variable.

Are the results what was expected?

The strong relationship between LMX and TIL, as depicted in their strong correlation, was expected. It was also expected that the CFA analysis would produce a stronger relationship between TIL and work engagement than what the research findings produced.

Discussion

As was the case with hypothesis H2.1, the research findings indicated a strong relationship between LMX and work engagement. The relationship between LMX and work engagement, on the other hand, was quite low. The correlation between TIL and work engagement was quite low and the analysis also indicated that this relationship was not statistically significant. When considering the model of "no mediation" in Figure 3.4, it appears that there will be no mediation in instances where the relationship of the mediator variable on the dependent variable proved to have no statistical significance.

Conclusion

Based on the lack of statistical significance in this model, it appeared that there was no mediation as a result of trust-in-leader (TIL) activities on the relationship between LMX and work engagement. **Hypothesis H2.2 is therefore not supported**.

5.4.4 Discussion: H2.3

Hypothesis 2.3:

Trust-in-leader mediates the relationship between work engagement and innovative work behaviour.

General

Hypothesis H2.3 describes the mediating role of trust-in-leader (TIL) on the relationship between work engagement and innovative work behaviour (IWB). It hypothesizes that the trust that employees have in their leader will cause a positive response from employees to act more innovatively in their daily work environments, based on the level on which they are engaged in their work.

What happened in the analysis?

In the process of analysing mediation, it was necessary to determine the direct effect of work engagement (the independent variable for this mediation analysis) on IWB (the dependent variable), which proved to be a weak correlation. Work engagement displayed an average correlation with trust-in-leader (TIL), but TIL and innovative work behaviour (IWB) displayed virtually no correlation at all. Both the indirect and total effects were also calculated to be very low between the constructs.

Are the results what was expected?

It was expected that there would be a considerably stronger correlation between work engagement and innovative work behaviour (IWB) than what the CFA analysis revealed.

Discussion

Even though the direct correlations between TIL and IWB, and work engagement and IWB were very low, the CFA analysis indicated that the relationship between TIL and IWB was statistically non-significant.

Again, as we considered the model of "no mediation" in Figure 3.4, it appears that there will be no mediation in instances where the relationship of the mediator variable on the dependent variable proves to have no statistical significance.

Conclusion

Based on the lack of statistical significance in this model, it appears that there was no mediation as a result of trust-in-leader (TIL) activities on the relationship between work engagement and innovative work behaviour (IWB). **Hypothesis H2.3 is therefore not supported**.

5.4.5 Discussion: H3

Hypothesis 3:

High levels of leader-member exchange have a positive impact on levels of innovative work behaviour.

General

Hypotheses H3 states that high levels of leader-member exchange (LMX) will have a positive impact on innovative work behaviour (IWB), meaning that if the quality of the relationships between managers and their subordinates is high, it will lead to higher levels of individual innovative activities at work.

What happened in the analysis?

The study focused on determining to what extent the general expectation of the hypothesis was true. A confirmatory factor analysis indicated that the correlation between the two variables was not strong. It was however tested to be statistically significant.

Is the result what was expected?

The results were not what was expected. It was thought that there would be a considerably higher correlation between the proneness of individual work-related

innovating activities (IWB) and leader-member exchange (LMX) in instances where it appeared that individuals had a strong and healthy relationship with their manager/s.

Discussion

It appears that having a strong relationship with your manager is not a very strong motivator for individuals to act innovatively within the work environment. It further appears that there had to be *other motivating factors* that inspire individuals to act innovatively at work, and these factors will have to be investigated further within organizations where management intends to effectively implement any corporate entrepreneurial initiative.

Conclusion

The conclusion is that, although there was no strong correlation between LMX and IWB, the relationship was still statistically significant and that **hypothesis H3 is therefore supported**.

5.4.6 Discussion: H4

Hypothesis 4:

High levels of leader-member exchange have a positive influence on the level of work engagement.

General

Hypothesis H4 states that high levels of leader-member exchange (LMX) will have a positive influence on work engagement, meaning that it is expected that high-quality relationships between managers and their subordinates will result in those subordinates becoming more engaged in their daily work activities.

What happened in the analysis?

The purpose of the testing of hypothesis H4 was to test the significance between leader-member exchange (LMX) and work engagement. The analysis revealed a marginally strong correlation between the two constructs.

Are the results what was expected?

It was expected that employees working in environments characterized by high-quality leader-member exchange (LMX) relationships between them and their manager/s would naturally be more involved in their daily work activities. It was however expected that the correlation between LMX and work engagement would have been higher than what the CFA analysis revealed.

Discussion

There exists a marginally high correlation between leader-member exchange (LMX) and work engagement. The analysis indicated that the quality of the relationships between employees and their managers was a strong indicator to the extent that those employees were involved in their work activities. A larger sample population would probably have helped to produce a stronger correlation between the two constructs.

Conclusion

The CFA analysis indicated a high level of statistical significance with a strong correlation between work engagement and leader-member exchange (LMX). **Hypothesis H4 is supported**.

5.4.7 Discussion: H5

Hypothesis 5:

High levels of work engagement will have a positive influence on innovative work behaviour.

General

Hypothesis H5 states that it can be expected that high levels of work engagement will have a positive influence on innovative work behaviour (IWB) levels, meaning that it can be expected that an employee who displays high levels of involvement in their day-to-day work activities will be more prone towards displaying innovative work behaviour.

What happened in the analysis?

The purpose of testing hypothesis H5 was to determine the correlation between work engagement and innovative work behaviour (IWB).

A CFA analysis concluded on the relevant data in this study revealed a weak correlation between work engagement and innovative work behaviour (IWB). Even though the correlation was weak, there still appeared to be a statistical significance in the assessment.

Are the results what was expected?

In the process of constructing hypothesis H5 it was postulated that a person who is very involved in work activities will automatically be or become more innovative at work. The results of this study did not fully support that. It appeared that work engagement did play a role in the level of innovative work behaviour (IWB) observed in an employee, but to a lesser extent than what was expected.

Discussion

Based on the layout of the research model (figure: 2.2), hypothesis H3 describes how work engagement levels will influence innovative work behaviour (IWB). It appeared that even though individuals can be very actively involved in their work, this in itself is not a guarantee that they will also be or become innovative in their work (IWB). Just being at work every day and walking the “extra mile” for the company is not necessarily an indication that the employee will display innovativeness at work. It appeared that employees can be very involved at work

with what needs to be done daily, but that it in itself does not necessarily mean that these employees will automatically display innovative work behaviour.

The statistical analysis indicated a statistical significance between the two constructs does however indicate that there exists a significant link between them, most likely in reverse, where individuals displaying innovative work behaviour (IWB) will also be strong "work engagers".

Conclusion

There exists a weak correlation between work engagement and innovative work behaviour (IWB). The relationship is however statistically significant, and **hypothesis H5 is therefore supported**.

5.4.8 Discussion: H6

Hypothesis 6:

The effect of leader-member exchange on innovative work behaviour is mediated by work engagement.

General

The study hypothesized that there exists a mediating relationship where work engagement mediates the relationship between the independent LMX variable, and the dependent variable IWB. This means that we expect leader-member exchange (LMX) to influence innovative work behaviour (IWB) through a mediator variable (work engagement).

Are the results what was expected?

It was expected that the impact of work engagement on the relationship between LMX and IWB would have been much greater.

Discussion

LMX is significantly related to work engagement, work engagement again is significantly related to IWB and the relationship between LMX and IWB diminishes when work engagement is introduced into the model. The model framework therefore indicated mediation.

The process of analyzing mediation in this postulation required the determination of the direct effect of LMX (the independent, predictor variable) on IWB (the dependent criterion variable), as well as the indirect and total effects of LMX on IWB through work engagement as the mediating variable. When considering the ratios calculated in paragraph 4.4.8, it is seen that the proportion of the total effect that is mediated is minute. It is clear that the mediation effect of work engagement is very small and for practical reasons negligible.

The CFA analysis results also indicated that there is no statistical significance in the mediating relationship.

Conclusion

Besides the point that statistical significance could not be proven for the postulated arrangement of constructs whereby work engagement mediates the relationship between LMX on IWB, it also appeared that whatever mediating actions existed were so small that they were negligible. Based on these findings, **hypothesis H6 is not supported**.

5.5 Conclusion

Chapter five served as a discussion forum to further the research findings as they appeared in chapter four. It intended to provide clarity on what these research findings produced and how that can describe and be linked to what the research project intended to study, based on the hypotheses from chapter two.

Chapter 6: Conclusion of the study

6.1 Introduction

The intrapreneurial intentions of entrepreneurial employees formed the main interest of the research. It incorporated the five EO dimensions of autonomy, innovativeness, risk-taking, competitive aggressiveness and proactiveness.

The main focus of this study was on innovativeness in the work environment that was represented in the innovative work behaviour (IWB) construct. It involved the challenging areas of human resource management (HRM) and occupational health psychology (OHP), concerned with interpersonal relationships at work. Employees need to get up every day, go to work and report to supervisors and managers. A multitude of factors influence activity decisions within the work environment.

This study aimed to analyse a small part of this complex and intricate reality that managers and subordinates are faced with daily. The research efforts further tried to untangle challenges in making the work environment, and overall work climate, more entrepreneurial in the drive to achieve higher levels of innovative work behaviour (IWB). These efforts are all interlinked with corporate entrepreneurial (CE) theory and specifically with intrapreneurship in the work environment.

6.2 Recommendations from the study

This study sparked a great deal of interest from high-level corporate managers within the targeted companies in the study population. It is apparent that there is a large “void” of qualified knowledge within corporate companies in Johannesburg concerning their internal innovativeness, who the role players are and how the innovative processes work. There appears to be a real need for consulting services

assisting corporate organizations with internal research programmes to determine their levels of innovative work behaviour (IWB) and to implement various coaching and mentoring techniques in order to increase the quality of their leader-member exchange (LMX) relationships and work engagement drives. It is also apparent that these companies will benefit from corporate entrepreneurial assessments that can determine their respective EO's and corporate entrepreneurial climates.

6.3 Implications and benefits of the study

A crucial observation of this study was the importance of work engagement in facilitating innovative work activities. People who are not "switched-on", not involved and not motivated at work are generally lethargic in their job approach. The study could not find statistical grounds, and therefore did not support the hypothesis (H6) that work engagement mediates innovative work behaviour (IWB), but still conducted a thorough literature review on various ways of intervention to improve work engagement. Careful consideration of these intervention strategies and effective implementation will see a drastic increase in overall company performances, both from a human capital and a financial perspective.

This research report supports the importance of corporate entrepreneurship (CE) on all levels within organizations and it is believed that it has opened the door to further interest and potential research in the field of organizational innovativeness and intrapreneurship.

6.4 Limitations and future research avenues

The study was conducted in work environments relying on people to respond to questions concerning their work. 20% of the responses that were received were

incomplete. This is an indication of what is to be expected in any future study or research approach that targets the corporate work environment.

Questions asked in the research instrument were quite personal and some individuals might easily feel uncomfortable or even wary of answering questions about their manager or supervisor. Any future research in this direction will need to be cognizant of these potential challenges. Notwithstanding these facts, there are numerous opportunities for further research in the field of innovation in the work environment that will provide the researcher with challenging respondents but rewarding results.

Due to the personal nature of this type of research, a qualitative approach might be a preferred method of capturing data through one-on-one interviews with individuals where the researcher can create an environment where respondents can feel relaxed and more prone towards divulging sensitive information. This approach might prove especially effective when targeting lower-level employees within organizations who can easily be subjected to misconceptions of research intentions.

References

Agarwal, U. A., Datta, S., Blake-Beard, S., & Bhargava, S. **(2012)**. Linking LMX, innovative work behaviour and turnover intentions: The mediating role of work engagement. *Career Development Intern.*

Amabile, T.M. (1988). A model of creativity and innovation in organizations. In B.M. Staw& L.L. Cummings (eds.). *Research in organizational behaviour*, Vol. 10, Greenwich, CT: JAI Press, pp. 123-167.

Amabile, T.M. (1996). *Creativity in context.* Boulder: Westview.

Amabile, T.M., Schatzel, E.A., Moneta, G.B., and Kramer, S.J. (2004). Leader behaviours and the work environment for creativity: Perceived leader support. *The Leadership Quarterly,* 15, pp.5-32.

Anderson, N., & West, M. (1996). The team climate inventory: Development of the TCI and its applications in teambuilding for innovativeness. *European Journal of Work & Organizational Psychology,* 5(1), pp. 53-66, Mar.

Antoncic, B., & Hisrich, R.D. (2003). Clarifying the intrapreneurship concept. *Journal of Small Business and Enterprise Development*, 10(1), pp. 7-24.

Antoncic, B., & Hisrich, R.D. (2004). Corporate entrepreneurship contingencies and organizational wealth creation. *Journal of Management Development,* 23(6), 518-550, p. 526.

Argyris, C. (1960). *Understanding Organizational Behaviour*. Oxford: Dorsey Press.

Argyris, C. (1962). *Interpersonal competence and organizational effectiveness*. Homewood, IL: Dorsey Press.

Argyris, C. (1962). *International competence and organized effectiveness*. Harvard Book List (Edited), 1964 #637 (Psyc. Info Database Records, 2016 APA).

Ashforth, B.E., & Humphrey, R.H. (1995). Emotion in the workplace: A reappraisal. *Human Relations*, Feb. 1995, 48(2), pp. 97-125.

Atwater, L., and Carmeli, A. (2009). Leader-member exchange, feelings of energy, and involvement in creative work. *The Leadership Quarterly,* 20,pp. 264-275.

Avolio, B.J. (1998). *Full Leadership Development: Building the Vital Forces in Organizations.* London: Sage.

Axtell, C.M., Holman, D.J., Unsworth, K.L., Wall, T.D., Waterson, P.E., & Harrington, E. (2000). Shop floor innovation: Facilitating the suggestion and implementation of ideas. *Journal of Occupational and Organizational Psychology*, 73, pp. 265-285.

Axtell, C., Holman, D., & Wall, T. (2006). Promoting innovation: A change study. *Journal of Occupational and Organizational Psychology,* 79, pp. 509-516.

Baer, M. **(2010)**. The strength-of-weak-ties perspective on creativity: A comprehensive examination and extension. *Journal of Applied Psychology*, 95(3), p. 592.

Baer, M. **(2012)**. Putting creativity to work: The implementation of creative ideas in organizations. *Academy of Management Journal*, 55(5), pp. 1102-1119.

Baer, M., Eisenstat, R., & Spector, B. (1990). *The critical path to corporate renewal.* Boston, MA: Harvard Business School Press.

Bagozzi, R.P. (1980). *Causal models in marketing*. New York: Wiley, J., & Warshaw, P. R. (1990). Trying to consume. *Journal of Consumer Research,* 17(2), pp. 127-140.

Bakker, A.B., & Demerouti, E. (2007). The job demands-resources model: State of the art. *Journal of Managerial Psychology*,22, pp. 309-328.

Bakker, A.B., and Demerouti, E. (2008). Towards a model of work engagement. *Career Development International*,13, pp. 209-223.

Bakker, A.B., Van Emmerik, H., & Euwema, M.C. (2006). Crossover of burnout and engagement in work teams. *Work & Occupations,*33, pp. 464-489.

Bandura, A. (2001). Social cognitive theory: An agentic perspective. *Annual Review of Psychology*, 52(1), pp. 1-26.

Bantel, K.A., & Jackson, S.E. (1989). Top management and innovation in banking: Does the composition of the top team make a difference? *Strategic Management Journal,* Summer Special Issue, 10.

Baron, R.M., & Kenny, D.A. (1986). The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology*, 51(6), pp. 1173-1182.

Basadur, M. (2004). Leading others to think innovatively together: Creative leadership. *Leadership Quarterly*, 15*,* pp. 103-121.

Bass, B.M. (1981). *Stogdill's handbook of leadership* (rev. ed.). New York: Free Press.

Bass, B.M. (1985). *Leadership and performance beyond expectations.* New York: Free Press.

Bass, B.M. (1990). *Bass & Stogdill's handbook of leadership: Theory, research, and managerial applications* (3rd ed.). New York: Free Press.

Berkinshaw, J.M. (2003). The Paradox of Corporate Entrepreneurship. *Strategy and Business*, 30,1-12, p. 8, Spring.

Bhatnagar, J. (2007). Talent management strategy of employee engagement in Indian ITES employees: Key to retention. *Employee Relations*, 29(6), pp. 640-663.

Blake, R.R., & Mouton, J.S. (1982). Management by grid principles or situationalism: Which? *Group and Organization Studies*,7, pp. 207-210.

Blau, P.M. (1964). *Exchange and power in social life*. New York: Wiley.

Block, Z., & MacMillan, I.C. (1993). *Corporate Venturing*. Boston, MA: Harvard Business School Press.

Boehm, J.K., & Lyubomirsky, S. (2009). The promise of sustainable happiness. In S.J. Lopez (ed.), *Handbook of Positive Psychology,* 2nd edition, Oxford University Press, pp. 667-677.

Bower, J.L. (1970). *Managing the resource allocation process*. Boston, MA: Harvard Business School Press.

Brower, H., Schoorman, F.D., & Tan, H. (2000). A model of leadership: The integration of trust and leader-member exchange. *Leadership Quarterly,* 11,pp. 227-250.

Brown, R.L. (1997). Assessing specific mediational effects in complex theoretical models. *Structural Equation Modelling*, 4, pp. 142-156.

Brown, T.A., & Moore, M.J. (2014, 19 May). Confirmatory factor analysis. Retrieved 23 April 2018, from https://www.researchgate.net/publication/251573889

Bryant, F.B., & Veroff, J. (2006). *Savouring: A new model of positive experience*. Mahwah, NJ: Erlbaum.

Burgelman, R.A. (1983). Corporate entrepreneurship and strategic management. *Management Science*, 29(12), pp. 1349-1364.

Burke, W.W., & Litwin, G.H. (1992). A Causal Model of Organizational Performance and Change. Journal of Management, 18(3), p. 532.

Burns, J.M. (1978). *Leadership.* New York: Harper & Row.

Chao, G.T., Walz, P.M., & Gardner, P.D. (1992). Formal and informal mentorships: A comparison on mentoring functions and contrast with non-mentored counterparts. *Personnel Psychology*, 45, pp. 619-636.

Chenhall, R.H., & Langfield-Smith, K. (2003). Performance measurements and reward systems, trust and strategic change. *Journal of Management Accounting Research*, December 2003, 15(1), pp. 117-143.

Chin, W.W. (1998). Issues and opinion on structural equation modelling. *Management Information Systems Quarterly*, 22(1).

Clark, M., & Payne, R. (1997). The nature and structure of workers' trust in management. *Journal of Organizational Behaviour,* 18,pp. 205-224.

Clegg, C., Unsworth, K., Epitropaki, O., & Parker, G. (2002). Implicating trust in the innovative process. *Journal of Occupational and Organizational Psychology,* 75, pp. 409-422.

Cohen, A.R. (2002). Mainstreaming Corporate Entrepreneurship: Leadership at every level of organization. *Babson Entrepreneurial Review*, 2002:5-15, p. 10.

Cohen, A.R. (2004). Building a Company of Leaders. *Leader to Leader*,34, p. 16, Fall.

Colquitt, J., Conlon, E., Wesson, M., Porter, C., & Ng, K. (2001). Justice at the millennium: A meta-analytic review of 25 years of organizational justice research. *Journal of Applied Psychology*, 86, pp. 425-445.

Conger, J.A., & Kanungo, R.N. (1987). Toward a behavioural theory of charismatic leadership in organizational settings. *Academy of Management Review*, Vol. 12, pp. 637-647.

Cook, J., & Wall, T. (1980). New work attitude measures of trust, organizational commitment and personal need non-fulfilment. *Journal of Occupational*

Psychology, 53, pp. 39-52.

Cooper, D.R., & Schindler, P.S. **(2014)**. *Business research methods*. McGraw-Hill Companies.

Corzine, J.B., Buntzman, G.F., & Busch, E.T. (1994). Mentoring, downsizing, gender and career outcomes. *Journal of Social Behaviourand Personality*, 9, pp. 517-528.

Covin, J.O., & Miles, M.P. (1999). Corporate Entrepreneurship and the pursuit of competitive advantage. *Entrepreneurship Theory and Practice*, 23(3), pp. 47-63.

Cunningham, J.B., & MacGregor, J. (2000). Trust and the design of work: Complementary constructs in satisfaction and performance. *Human Relations*, 53,pp. 1575-1591.

Cyert, R.M., & March, J.G. (1963). *A behavioural theory of the firm*. Englewood Cliffs, NJ: Prentice-Hall.

Dansereau, J.F.,Graen, G., & Haga, W.J. (1975). A vertical dyad linkage approach to leadership within formal organizations. *Organizational Behaviour& Human Performance,* 13(1), pp. 46-78.

De Jong, J., & Den Hartog, D. **(2010)**. *Measuring innovative work behaviour. Creativity and Innovation Management*, 19, No. 1. (2010), Blackwell Publishing Ltd.

Deluga, R.J. (1995). The relation between trust in the supervisor and subordinate organizational citizenship behaviour. *Military Psychology,* 7, pp. 1-16.

Denti, L., & Hemlin, S. **(2012a)**. Leadership and innovation in organizations. A systematic literature review of mediators and moderators. *International Journal of Innovation Management,* 16(3).

Dess, G.G., & Lumpkin, G.T. (2005). The Role of Entrepreneurial Orientation in Stimulating Effective Corporate Entrepreneurship. Academy of Management Executives, 19(1), p. 151, Feb.

De Spiegelaere, S., Van Gyes, G., De Witte, H., & Van Hoogtegem, G. **(2014)**. On the relationship of job insecurity, job autonomy, innovative work behaviour, and the mediating effect of work engagement. *Creativity and Innovation Management,* August 2014.

Dirks, K.T., & Ferrin, D.L. (2002). Trust in leadership: Meta-analytic findings and implications for research and practice. *Journal of Applied Psychology*, Vol. 87(4), p. 61.

Emmons, R.A. (2003). Acts of gratitude in organizations. In K.S. Dutton, J.E. Dutton and R.E. Quinn (eds.),*Positive organizational scholarship*, San Francisco: Berrett-Koehler, pp. 81-93.

European Commission **(2010)**. *Europe 2020. A European Strategy for Smart, Sustainable and Inclusive Growth*. Brussels: European Commission.

EUWIN **(2012)** Dortmund/Brussels Position Paper: *Workplace Innovation as Social Innovation*.
URL:http://ec.europa.eu/enterprise/policies/innovation/files/dortmund-brussels-position-paper-workplace- innovation_en.pdf [accessed on 15 July 2014].

Evans, L. (2001). Delving deeper into morale, job satisfaction and motivation among education professionals. *Education Management Administration Leadership,* 29(3), pp. 291-306.

Farr, J., & Ford, C. (1990). Individual innovation. In M. West and J. Farr (eds.), *Managing Innovation*. London: Sage.

Fernandez, S. & Moldogaziev, T. **(2012)**. Using Employee Empowerment to encourage innovative behaviour in the public sector. *Journal of Public Administration Research*, 23(1), pp. 155-187.

Ferrin, D.L., & Dirks, K.T. (2002). Trust in leadership: Meta-analytic findings and implications for research and practice. *Journal of Applied Psychology*, 87(4), pp. 611-628.

Ferris, G.R. (1985). Role of leadership in the employee withdrawal process: A constructive replication. *Journal of Applied Psychology*, 70(4), p. 778.

Field, A. (2009). *Discovering statistics using SPSS*. (Third Edition), London: Sage Publications.

Fiske, S.T., Kenny, D.A., & Taylor, S.E. (1982). Structural models for the mediation of salience effects on attribution. *Journal of Experimental Social Psychology*, 18, pp. 105-127.

Fleishman, E.A., & Harris, E.F. (1962). Patterns of leadership behaviour related to employee grievances and turnover. *Personnel Psychology*, 15, pp. 43-56.

Fox, J. (1980). Effects analysis in structural equation models. *Sociological Methods and Research*, 9, pp. 3-28.

Frank, H., Kessler, A., & Fink, F. **(2010)**. Entrepreneurial Orientation and Business Performance - A Replication Study. *Schmalenbach Business Review*, 62, p. 180.

Frattaroli, J. (2006). Experimental disclosure and its moderators: A meta-analysis. *Psychological Bulletin*. 132, pp. 823-865.

Frese, M., Teng, E., & Wijnen, C.J.D. (1999). Helping to improve suggestion systems: Predictors of making suggestions in companies. *Journal of Organizational Behaviour,* 20, pp. 1139-1155.

Frost, P.J., & Egri, C.P. (1991). The political process of innovation. In L.L. Cummings & B.M. Staw (eds.), *Research in organizational behaviour,* Vol. 13, Greenwich, CT: JAI, pp. 229-295.

Gable, S.L., Reis, H.T., Impett, E.A., & Asher, E.R. (2004). What do you do when things go right? The intrapersonal and interpersonal benefits of sharing positive events. *Journal of Personal and Social Psychology*, 87, pp. 228-245.

Gaw, A., & Liu, S. (2004). Beyond Two Guys in a Garage. *ESADE MBA Business Review*, 2, p. 69.

Gerstner, C.R., & Day, D.V. (1997). Meta analytic review of LMX theory: Correlates and construct issues. *Journal of Applied Psychology*, 82(6), pp. 827-844.

Getz, I., & Robinson, A.G. (2003). Innovate or die: Is that a Fact? *Creativity and Innovation Management*, 12, pp. 130-136.

Goetzel, R.Z., Guindon, A.M., Turshen, I.J., & Ozminkowski, R.J. (2001). Health and productivity management: Establishing key performance measures, benchmarks, and best practices. *Journal of Occupational and Environmental Medicine*, 43, pp. 10-17.

Goh, S.C. (1991). Sex differences in perceptions of interpersonal work style, career emphasis, supervisory mentoring behaviour, and job satisfaction. *Sex Roles*, 24, pp. 701-710.

Goodwin, V.L., Wofford, J.C., & Whittington, J.L. (2001). A theoretical and empirical extension of transformational leadership construct. *Journal of Organizational Behaviour,* 22, pp. 759-776.

Gorsuch, R.L. (1983). *Factor analysis* (2nd ed.). Hillsdale, N.J. Erlbaum.

Graen, G. (1976). Role making processes within complex organizations. In M.D. Dunnnette (ed.), *Handbook of Industrial and Organizational Psychology*, Chicago: Rand McNally, pp. 1201-1245.

Graen, G., & Cashman, J. (1975). A role-making model of leadership in formal organizations: A developmental approach. J.G. Hunt & L.L. Larson (eds.), *Leadership frontiers*, Kent, OH: Kent State University Press, pp. 143-166.

Graen, G., Novak, M.A., & Sommerkamp, P. (1982). The effects of leader-member exchange and job design on productivity and satisfaction: Testing a dual attachment model. *Organizational Behaviour and Human Performance*, 30(1), pp. 109-131.

Graen, G., & Scandura, T.A. (1987). Toward a psychology of dynamic organizing. L.L. Cummings & B.M. Staw (eds.), *Research in Organizational Behaviour* Vol. 9, Greenwich, CT: JAI, pp. 175-208.

Graen, G.B., & Uhl-Bien, M. (1995). Relationship-based approach to leadership: Development of LMX theory of leadership over 25 years: Applying a multi-level multi-domain perspective. *Leadership Quarterly*, 6, pp. 219-247.

Greguras, G.J., & Ford, J.M. (2006). An examination of the multidimensionality of supervisor and subordinate perceptions of leader-member exchange. *Journal of Occupational and Organizational Psychology*, 79(3), pp. 433-465.

Guth, W.D., & Ginsberg, A. (1990). Guest editor's introduction: Corporate entrepreneurship. *Strategic Management Journal*, 11(4), pp. 5-15.

Hackman, J.R., & Lawler, E.E. (1971). Employee reactions to job characteristics. *Journal of Applied psychology*, 55(3), p. 259.

Hackman, J. R., & Oldham, G.R. (1976). Motivation through the design of work: Test of a theory. *Organizational Behaviour and Human Performance*, 16(2), pp. 250-279.

Hallberg, U.E., & Schaufeli, W.B. (2006). ‘‘Same same’’ but different? Can work engagement be discriminated from job involvement and organizational commitment? *European Psychologist*, 11, pp. 119-127.

Hakanen, J., Perhoniemi, R., & Toppinen-Tanner, S. (2008). Positive gain spirals at work: From job resources to work engagement, personal initiative, and work-unit innovativeness. *Journal of Vocational Behaviour*, 73(6), pp. 78-91.

Hamel, G. (2002). *Leading the revolution*. Revised edition, Boston, Massachusetts: Harvard Business School Press.

Handy, C. (1989). *The age of unreason*. Business Books, London.

Hetzel, R.D. (in press). A primer on factor analysis with comments on patterns of practice and reporting. In B. Thompson (ed.), *Advances in social science methodology* (Vol. 4). Greenwich, CT: JAI Press.

Higgins, M.C., & Kram, K.E. (2001). Reconceptualizing mentoring at work: A developmental network perspective. *Academy of Management Review*, Vol. 26, pp. 264-288.

Hisrich, R., & Peters, M.P. (1986). Establishing a new business venture unit within a firm. *Journal of Business Venturing*, 1(3), pp. 307-322.

Hoffman, B. J., Blair, C. A., Meriac, J. P., & Woehr, D. J. (2007). Expanding the criterion domain: A quantitative review of OCB literature. *Journal of Applied Psychology,* 2007, 92(2), pp. 444-566.

Holbert, R.L., & Stephenson, M.T. (2003). The importance of indirect effects in media effects research: Testing for mediation in structural equation modelling. *Journal of Broadcasting and Electronic Media,* 47(4), 2003, pp. 556-572.

Homans, C.G. (1958). Social behaviour as exchange. *American Journal of Sociology*, 63, pp. 597-606.

House, R.J. (1971). A path goal theory of leader effectiveness. *Administrative Science Quarterly,* 16, pp. 321-338.

House, R.J., & Baetz, M.L. (1979). Leadership: Some empirical generalizations and new research directions. In B.M. Staw (Ed.), *Research in Organizational Behaviour* Vol. 1, Greenwich, CT: JAI Press, pp. 341-423.

Howell, J.M., & Higgins, C.A. (1990). Champions of technological innovation. *Administrative Science Quarterly*, 35, pp. 317-341.

Howell, J.M., Shea, C.M., & Higgins, C.A. (2005). Champions of product innovations: Defining, developing, and validating a measure of champion behaviour. *Journal of Business Venturing*, 20, pp. 641-61.

Hudson, B. (2004). Trust: Towards conceptual clarification. *Australian Journal of Political Science,* Vol. 39(1), pp. 75-87.

Ireland, P.F., Covin, J.G., & Kuratko, D.F. (2009). Conceptualizing Corporate Entrepreneurship Strategy. *Entrepreneurship Theory and Practice*, 33(1),19-46, p. 21, Jan.

Jafri, M.H. (2012). Influence of psychological contract breach on organizational citizenship behaviour and trust. *Psychological Studies*, 57(1), pp. 29-36.

Janis, I.L. (1982). *Groupthink: Psychological studies of policy decisions and fiascos.* Second Edition. Boston, MA: Houghton Miffin.

Janssen, O. (2000). Job demands, perceptions of effort-reward fairness, and innovative work behaviour. *Journal of Occupational and Organizational Psychology*, 73, pp. 287-302.

Janssen, O. (2003). Innovative behaviour and job involvement at the price of conflict and less satisfactory relationships with co-workers. *Journal of Occupational and Organizational Psychology*, 76(3), pp. 347-364.

Janssen, O., & Van Yperen, N.W. (2004). Employees' goal orientations, the quality of leader-member exchange, and the outcomes of job performance and job satisfaction. *Academy of Management Journal,* 47, pp. 368-384.

Janssen, O., Van de Vliert, E., & West, M. (2004). The bright and dark side of individual and group innovation: A special issue introduction. *Journal of Organizational Behaviour*, 25, pp. 129-145.

Jones, G.R., & George, J.M. (2003). *Contemporary Management*, 3rd edition. New York, NY: McGraw-Hill

Judd, C.M., & Kenny, D.A. (1981). Process analysis: Estimating mediation in evaluation research. *Evaluation Research*, 5, pp. 602-619.

Jtan, G., Shi, X., & Dalisay, F. **(2014)**. Leader-member conversational quality: Scale development and validation through three studies. *Management Communication Quarterly,* 28(3), pp. 375-403*.*

Kahn, W.A. (1990). Psychological conditions of personal engagement and disengagement at work. *Academy of Management Journal,* 33(4), pp. 692-724.

Kahn, W.A. (1992). To be fully there: psychological presence at work. *Human Relations*, 45(4), pp. 321-349.

Kangis, P., Gordon, D., & Williams, G. (2000). Organizational climate and corporate performance: An empirical investigation. *Management Decision*, 38(8),pp. 531-540, p. 532, Oct.

Kanter, R.M. (1983). *The change masters: Innovation and entrepreneurship in the American corporation*. Simon & Schuster, New York.

Kanter, R.M. (1988). When a thousand flowers bloom: Structural, collective and social conditions for innovation in organization. *Research in Organizational Behaviour*, 10, pp. 169-211.

Kaplan, R.S., & Norton, D.P. (2001). *The strategy focused organization: How balanced scorecard companies thrive in the new business environment*. Boston, Massachusetts: Harvard Business School Press.

Kelly, J.E. (1992). Does job re-design theory explain job re-design outcomes? *Human Relations*, 45, pp. 753-774.

Kenny, D.A. **(2015, November)**. *Measuring model fit* Retrieved 18 April 2018, from davidakenny.net/cm/fit.htm

Khrishnan, V.R. (2005). Leader-member exchange, transformational leadership, and value system. *Electronic Journal of Business Ethics and Organization Studies*, 10(1), pp. 14-21.

King, L.A. (2001). The health benefits of writing. *Personal and Social Psychology Bulletin*, 27, pp. 798-807.

Kleysen, R.F., & Street, C.T. (2001). Toward a multidimensional measure of individual innovative behaviour. *Journal of Intellectual Capacity*, 2(3), pp. 284-296.

Kothari, C.R. (2004). *Research methodology: Methods & techniques*. New Age International.

Kram, K.E. (1983). Phases of the mentor relationship. *Academy of Management Journal*, 26, pp. 608-625.

Kram, K.E. (1985). *Mentoring at work: Developmental relationships in organizational life.* Glenview, IL: Scott Foresman.

Krause, D. (2004). Influence-based leadership as a determinant of the inclination to innovate and of innovation-related behaviours: An empirical investigation. *The Leadership Quarterly*, 15, pp. 79-102.

Krishnan, V.R. (2005). Transformational leadership and outcomes: Role of relationship duration. *Leader and Organizational Development Journal*, 26(6), pp. 442-457.

Kuratko, D.F., & Hodgetts, R.M. (2004). Entrepreneurship: *Theory, Process, Practice*, 6th edition. Mason, Ohio: South-Western.

Kuratko, D.F., Ireland, R.D., Covin, J.G., & Hornsby, J.S. (2005). A model of middle-level managers' entrepreneurial behaviour. *Entrepreneurship Theory and Practice*, 29(6): 699-716, p. 703.

Kuratko, D.F., Montagano, R.V., & Hornsby, J.S. (1990). Developing an intrapreneurial assessment instrument for effective corporate entrepreneurial environment. Strategic Management Journal, Summer Special Issue, 11, pp. 49-58.

Kuratko, D.F., Morris, M.H., & Covin, J.G. **(2011)**. *Corporate Innovation & Entrepreneurship: Entrepreneurial development with organizations* (Third edition). Canada: Cengage Learning.

Kuratko, D.F., & Welsch, H.P. (2001). *Strategic Entrepreneurial Growth*. Fort Worth, MO: Harcourt College Publishers, p. 211.

Lagace, R. (1987). An investigation into the impact of interpersonal trust on the quality of the relationship and outcome variables in the sales manager/salesperson dyad. Unpublished doctoral dissertation, University of Cincinnati.

Levitt, T. (1963). Creativity is not enough. *Harvard Business Review,* 41(3), 72-83.

Likert, R. (1967). *The human organization: Its management and value.* New York: McGraw-Hill.

Liden, R.C., & J.M. Maslyn (1998). Multidimensionality of leader–member exchange: An empirical assessment through scale development. *Journal of Management*, 24, pp. 43-72.

Lind, E.A., & Tyler, T.R. (1988). The social psychology of procedural justice. In Konovsky, M. A. Citizenship behaviour and social Exchange, (1994). *Academy of Management Journal*, 37(3), pp. 656-669.

Little, T.D., Card, N.A., Bovaird, J.A., Preacher, K.J., & Crandall, C.S. (2007). *Modelling contextual effects in longitudinal studies,* 1st edition. New York: Routledge.

Litwin, G.H., & Stinger, R.A. (1968). *Motivation and Organizational Climate*. Boston, MA: Harvard Business Press.

Lockwood, N.R. (2007). Leveraging employee engagement for competitive advantage: HR's strategic role. SHRM® Res. Q., 2-11.

Luthans, F., Avey, J.B., Avolio, B.J., Norman, S.M., & Combs, G.M. (2006). Psychological capital development: Towards a micro-intervention. *Journal of Organizational Behaviour,* 27, pp. 387-393.

Luthans, F., Avey, J.B., Avolio, B.J., & Peterson, S.J. **(2010)**. The development and resulting performance impact of positive psychological capital. *Human Resource Development Quarterly,* 21, pp. 41-67.

Luthans, F., Youssef, C.M., & Avolio, B.J. (2007). *Psychological capital: Developing the human competitive edge*. Oxford: Oxford University Press.

Lyubomirsky, S., King, L., & Diener, E. (2005). The benefits of frequent positive affect: Does happiness lead to success? *Psychological Bulletin*,131, pp. 803-55.

Lyubomirsky, S. (2007). *The how of happiness: A practical guide to getting the life you want.* London: Sphere.

Macey, W.H., Schneider, B., Barbera, K.M., and Young, S.A. (2009). *Employee engagement: Tools for analysis, practice and competitive advantage*. New York: Wiley-Blackwell.

Macey, W.H., & Schneider, B. (2008). The meaning of employee engagement. *Industrial and Organizational Psychology*, 1(1), pp. 3-30.

MacLeod, A.K., Coates, E., & Hetherton, J. (2008). Increasing well-being through teaching goal-setting *and* planning skills: Results of a brief intervention. *Journal of Happiness Studies,* 9, pp. 185-196.

MacCallum, R.C., & Austin, J.T. (2000). Applications of structural equation modelling in psychological research. *Annual Review of Psychology*, 51, pp. 201-226.

Marshall, M. (1996). *Sampling for qualitative research*. Family Practice, Oxford University Press, 13(6).

Mayer, R.C., Davis, J.H., & Schoorman, F.D. (1995). An integrative model of organizational trust. *Academy of Management Review,* 20(3), pp. 709-734.

McAllister, D.J. (1995). Affect and cognition-based trust as foundations for interpersonal cooperation in organizations. *Academy of Management Journal,* Vol. 38, pp.24-59.

McBeth, E.W., & Rimac, T. (2004). The age of entrepreneurship turbulence: Creating sustained advantage for individuals and organizations in the new century. Esade MBA Business Review, 2, 2004, pp. 17-23.

McCullough, M.E. (2001). Forgiveness: Who does it and how do they do it? *Current Directions in Psychological Science*, 10, pp. 194-197.

McGregor, D. (1967). *The professional manager.* New York: McGraw-Hill.

McManus, S.E., & Russell, J.E.A. (1997). New directions for mentoring research: An examination of related constructs. *Journal of Vocational Behaviour*, 51, pp.145-161.

Miller, D., & Friesen, P.H. (1984). *Organizations: A quantum view.* Englewood Cliffs, NJ: Prentice-Hall.

Miron, E., Erez, M., & Naveh, E. (2004). Do personal characteristics and cultural values that promote innovation, quality and efficiency complete or compete each other? *Journal of Organizational Behaviour*, 25(2), pp. 175-199.

Møller, K. **(2010)**. European innovation policy: A broad-based strategy. *Transfer: European Review of Labour and Research*, 16, pp. 155–69.

Morris, M.H., & Kuratko, D.F. (2002). *Corporate Entrepreneurship*. Orlando, Florida: Harcourt College Publishers.

Morrow, P., Suzuki, Y., Crum, M., Ruben, R., & Pautsch, G. (2005). The role of leader-member exchange in high turnover work environments. *Journal of Managerial Psychology*, 20(8), pp. 681-695.

Mullen, E.J. (1994). Framing the mentoring relationship as an information exchange. *Human Resource Management Review*, 4, pp. 257-281.

Nicholson-Herbert, S., Mkhize, S., & Schroder, A. (2004). Turning managers into leaders: A South African perspective on corporate entrepreneurship. *Esade MBA Business Review*, 2004, pp. 41-45.

Oldham, G.R., & Cummings, A. (1996). Employee creativity: Personal and contextual factors at work. *Academy of Management Journal*, 39, pp. 607-634.

Organ, D.W. (1988a). *Organizational citizenship behaviour: The good soldier syndrome.* Lexington, MA: Lexington Books.

Organ, D.W. (1988b). A restatement of the satisfaction-performance hypothesis. *Journal of Management,* 14,pp. 547-557.

Ozyilmaz, A. **(2010)**. Vertical trust in organizations: A review of empirical studies over the last decade. *Journal of Social Science Institute*, 7(13), pp. 1-28.

Pedhazur, E.J., & Schmelkin, L.P. (1991). *Measurement, design, and analysis: An integrated approach.* Hillsdale, NJ: Erlbaum.

Pellegrini, E.K., & Scandura, T.A. (2006). Leader-member exchange (LMX), paternalism and delegation in the Turkish business culture: An empirical investigation. *Journal of International Business Studies*, 37(2), pp. 244-279.

Pelz, D.C. (1985). Innovation complexity and the sequence of innovating stages. *Science Communication*, 6, pp. 261-291.

Peterson, C., & Steen, T.A. (2002). Optimistic explanatory style. In C.T. Snyder &S.J. Lopez (eds.), *Handbook of Positive Psychology*, New York: Oxford University Press, pp. 244-256.

Phillips-Jones, L. (1982). *Mentors and protegés: How to establish, strengthen, and get the most from mentor–protegé relationships*. New York: Arbor House.

Pinchot, G. (1985). *Intrapreneuring*: *Why you don't have to leave the corporation to become an entrepreneur*. New York: Harper and Row.

Pinchot, G. (1987). Innovation Through Intrapreneuring. Research Management, 30(2):14-19, Mar-Apr.

Podsakoff, P.M., MacKenzie, S.B., Moorman, R.H., & Fetter, R. (1990). Transformational leader behaviours and their effects on followers' trust in leader satisfaction, and OCBs. *The Leadership Quarterly*, 1(2), pp. 107-142.

Podsakoff, P.M., MacKenzie, S.B., Paine, J.B., & Bachrach, D.G. (2000). Organizational citizenship behaviours: A critical review of the theoretical and empirical literature and suggestions for future research. *Journal of Management*, 26,pp. 513-563.

Poon, J.M., Rahid, M.R. & Othman, A.S. (2006). Trust-in-supervisor: Antecedents and effect on affective organizational commitment. *Asian Academy of Management Journal*, 11(2), pp. 57-72.

Quinn, J.B. (1985). Managing innovation: Controlled chaos. *Harvard Business Review*, May-June, 63(3), p. 73-85.

Raabe, B., & Beehr, T. (2003). Formal mentoring versus supervisor and co-worker relationships: Differences in perceptions and impact. *Journal of Organizational Behaviour.*

Ragins, B.R., & Cotton, J.L. (1999). Mentor functions and outcomes: A comparison of men and women in formal and informal mentoring relationships*. Journal of Applied Psychology*, 84, pp. 529-550.

Ragins, B., & Scandura, T.A. (1999). Burden or blessing? Expected costs and benefits of being a mentor. *Journal of Organizational Behaviour*, 20, pp. 493-509.

Ramamoorthy, N., Flood, P.C., Slattery, T., & Sardessai, R. (2005). Determinants of innovative work behaviour: Development and test of an integrated model. *Creativity and Innovation Management.* June 2005.

Raugh, A., Wiklund, J., Lumpkin, G.T. & Frese, M. (2009). Entrepreneurial Orientation and Business Performance: An Assessment of Past Research and Suggestions for the Future. *Entrepreneurship Theory and Practice*, 33(3), 761-787.

Rennie, K.M. (24 January 1997). Exploratory and confirmatory rotation strategies in exploratory factor analysis, paper presented at the annual meeting of the Southern Educational Research Association, Austin Texas.

Rogg, K.L., Schmidt, D.B., Shull, C.& Schmitt, N. (2001). Human Resource Practices, Organisational Climate, and Customer Satisfaction. *Journal of Management*, Vol. 27(4), pp. 431-449, p. 433, Jul/Aug.

Rogers, E.M. (1982). *Diffusion of innovation*. New York: Free Press.

Rosenberg, M. (1986). *The logic of survey analysis*. New York: Basic Books.

Rousseau, D.M., Sitkin, S.B., Burt, R.S., & Camerer, C. (1998). Not so different after all: A cross-discipline view of trust. *Academy of Management Review,* 23*,* pp. 393-40.

Ruschoff, B. (2008). Uncovering individual potential: An integrative approach to LMX and transformational leadership. Unpublished bachelor's thesis, University of Twente, Faculty of Behavioural Science, Holland.

Rutherford, M.W., & Holt, D.T. (2007). Corporate entrepreneurship: An empirical look at the innovativeness dimension and its antecedents. *Journal of Organizational Change Management*, 20(3), 429-444, p. 430.

Saks, A.M. (2006). Antecedents and consequences of employee engagement. *Journal of Managerial Psychology*, 21, pp. 600-619.

Salanova, M., Agut, S., & Peiro, J. M. (2005). Linking organizational resources and work engagement to employee performance and customer loyalty: The mediation of service climate. *Journal of Applied Psychology*, 90, pp. 1217-1227.

Salanova, M., & Llorens, S. (2008). *Desarrollo de recursoshumanos a traves del aprendizaje para el cambio (Human resources development through learning for change)*. Madrid: Parthenon.

Salanova, M., Schaufeli, W. B., Xanthopoulou, D., & Bakker, A.B. **(2010b)**. The gain spiral of resources and work engagement. In A.B. Bakker & M.P. Leiter (eds.). *Work Engagement: A Handbook of Essential Theory and Research*, New York: Psychology Press, pp. 118-131.

Savalei, V. & Bentler, P.M. **(2010, January)**. *Structural equation modelling* Retrieved 7th April 2018 from https://doi.org/10.1002/9780470479216.corpsy0953

Scandura, T.A., & Graen, G.B. (1984). Moderating effects of initial leader-member exchange status on the effects of leadership intervention. *Journal of Applied Psychology,* 69(3), pp. 428-436.

Scandura, T.A., & Ragins, B.R. (1993). The effects of sex and gender role orientation on mentorship in male-dominated occupations. *Journal of Vocational Behaviour*, 43, pp. 251-265.

Scandura, T.A., & Schriesheim, C.A. (1994). Leader-member exchange and supervisor career mentoring as complementary constructs in leadership research. *Academy of Management Journal*, 37(6), pp. 1588-1602.

Schaufeli, W.B., Martínez, I.M., Pinto, A.M., Salanova, M., & Bakker, A.B. (2002a). Burnout and engagement in university students: A cross-national study. *Journal of Cross-Cultural Psychology*, 33, pp. 464-481.

Schaufeli, W.B., Salanova, M., González-Romá, V., & Bakker, A.B. (2002b). The measurement of engagement and burnout: A two sample confirmatory factor analytic approach*. Journal of Happiness Studies*, 3*,* pp. 71-92.

Schaufeli, W.B., Bakker, A.B., and Salanova, M. (2006). The measurement of work engagement with a short questionnaire. *Educational and Psychological Measurement*, 66, pp. 701-716.

Schaufeli, W.B., & Bakker, A.B. (2004). Job demands, job resources, and their relationship with burnout and engagement: A multi-sample study. *Journal of Organizational Behaviour*, 25, pp. 293-315.

Schaufeli, W.B., & Salanova, M. **(2010)**. *How to improve work engagement. Handbook of employee engagement.* London: Edward Elgar.

Schollhammer, H. (1982). Internal corporate entrepreneurship. (Quote in the paper titled: "*Corporate entrepreneurship: A strategic and structural perspective*." Presented at the 47th World Conference of the International Council of Small Business in June 2002 at Puerto Rico).

Schriesheim, C.A., Castro, S.L., & Cogliser, C.C. (1999). Leader-member exchange (LMX) research: A comprehensive review of theory, measurement, and data-analytic practices. *Leadership Quarterly*, 10(1), pp. 63-113.

Schumpeter, J.A. (1934). *The theory of economic development*. Harvard University Press, Cambridge, MA.

Scott, S.G., & Bruce, R.A. (1994). Determinants of innovative behaviour: A path model of individual innovation in the workplace. *Academy of Management Journal*, 37(3), pp. 580-607.

Seligman, M.P.E., & Csikszentmihalyi, M. (2000). Positive psychology: An introduction. *American Psychologist*, 55, pp. 5-14.

Seligman, M.P.E., Steen, T.A., Park, N., & Peterson, C. (2005). Positive psychology progress: Empirical validation of interventions. *American Psychologist*, 60, pp. 410-421.

Seppala, P., Mauno, S., Feldt, T., Hakanen, J., Kinnunen, U., Tolvanen, A., & Schaufeli, W. (2008). The construct validity of the Utrecht work engagement scale: Multi-sample and longitudinal evidence. *Springer Science & Business Media B.V*. 6 May 2008.

Seshadri, D.V.R. & Tripathy, A. (2006). Innovation through intrapreneurship: The road less travelled. *Vikalpa*, 31(1), January-March 2006.

Shalley, C.E., & Gilsen, L.L. (2004). What leaders need to know: A review of social and contextual factors that can foster or hinder creativity. *The Leadership Quarterly*, 15, pp. 33-53.

Shalley, C.E., Zhou, J., and Oldham, G.R. (2004). The effects of personal and contextual characteristics on creativity: Where should we go from here? *Journal of Management*, 30, pp. 933-958.

Shane, S.A. (2003). *A general theory of entrepreneurship: The individualopportunity nexus*. Aldershot: Edward Elgar.

Sharma, P.& Chrisman, J.J. (1999). Toward a Reconciliation of the Definitional Issues in the Field of Corporate Entrepreneurship. *Entrepreneurship Theory and Practice*, Vol. 23(3): 11-26, p. 18,Spring.

Sheldon, K.M., Kasser, T., Smith, K., & Share, T. (2002). Personal goals and Psychological growth: Testing an intervention to exchange goal-attainment and personality integration. *Journal of Personality*, 70, pp. 5-31.

Smith, C.A., Organ, D.W., & Near, J.P. (1983). Organizational citizenship behaviour: Its nature and antecedents. *Journal of Applied Psychology*, 68, pp.653-663.

Sparrowe, R.T. and Liden, R.C. (1997). Process and structure in leader-member exchange. *Academy of Management Review*, 22(2), pp. 522-552.

Spinelli, S. & Adams, R. **(2012)**. New Venture Creation. *Entrepreneurship for the 21st Century*, 9th edition, New York, NY: McGraw-Hill.

Spreitzer, G.M., Lam, C.F., and Fritz, C. **(2010)**. A meta-analysis of work engagement: relationship with burnout, demands, resources, and consequences. In Bakker, A.B. and Leiter, M.P. (eds.), *Work Engagement: A Handbook of Essential Theory and Research*, New York: Psychology Press, pp. 132-146.

Spreitzer, G.M. (1995). Psychological empowerment in the workplace: Dimensions, measurement, and validation. *Academy of Management Journal*, 38, pp. 1442-1465.

Srivastva, A., Ramach, K., Ebrueandran, E., & Suresh, A. **(2014)**. Predictors of employee engagement in R&D Organizations. *Asia Pacific Journal of Research*, 1, Issue XVIV.

Steiger, J.H. (1990). Structural model evaluation & modification: An interval estimation approach. *Multivariate Behavioural Research*, 25(2), pp. 173-180.

Stevens, J. (1996). *Applied multivariate statistics for the behavioural sciences* (3rd ed.). Mahwah, NJ: Erlbaum.

Stevenson, H.H., & Gumpert, D.E. (1985). The heart of entrepreneurship. *Harvard Business Review*, March-April 1985, pp. 85-94.

Stevenson, H.H., & Jarillo, J.C. (1990). A paradigm of entrepreneurship: Entrepreneurial management. *Strategic Management Journal*, Summer Special Issue, 11, pp. 17-27.

Stogdill, R.M. (1974). *Handbook of leadership.* New York: Free Press.

Stopford, J.M., & Baden-Fuller, C.W.F. (1990). Corporate rejuvenation. *Journal of Management Studies*, 27(4), pp. 399-415.

Stopford, J.M., & Baden-Fuller, C.W.F. (1994). Creating Corporate Entrepreneurship. *Strategic Management Journal,* 15(7):521-536, p. 522, Sept 1994.

Sutcliffe, K.M., & Vogus, T.J. (2003). Organizing for resilience. *Positive Organizational Scholarship: Foundation of a New Discipline*, 94, p. 110.

Tastan, S.B., & Davoudi, S.M.M. **(2015)**. An Examination of the relationship between LMX and IWB with the moderating role of trust in leader: A study in Turkish Context. *Procedia – Social and Behavioural Sciences,* 181(2015), pp. 23-32.

Tedeschi, R.G., & Calhoun, L.G. (2004). Posttraumatic growth: Conceptual foundations and empirical evidence. *Psychological Inquiry*, 15, pp. 1-18.

Tepper, B.J. (1995). Upward maintenance tactics in supervisory mentoring and non-mentoring relationships. *Academy of Management Journal*, 38, pp. 1191-1205.

Thibaut, J.W., & Kelley, H.H. (1959). *The social psychology of groups*. New York: Wiley.

Thompson, A., Stickland, A., & Gamble, J. (2007). *Administracionestrategicateorica y casos*. Mexico, McGraw Hill.

Thornberry, N. (2001). Corporate Entrepreneurship: Antidote or Oxymoron. *European Management Journal*, 19(5), pp. 526-533.

Tierney, P., Farmer, S.M., & Graen, G.B. (1999). An examination of leadership and employee creativity: The relevance of traits and relationships. *Personnel Psychology*, 52, pp. 591-620.

Tompson, A.A., Stickland, A.J., & Gamble, J.E. (2007). *Crafting and Executing Strategy: The quest for competitive advantage*. New York, NY: McGraw Hill, p. 48.

Trochim, W., & Donnelly, J.P. (2006). The research methods knowledge base. Change Learning.

Uhl-Bien, M. (2006). Relational leadership theory: Exploring the social processes of leadership and organizing. *The Leadership Quarterly*, 17(6), pp. 654-667.

Van de Ven, A.H. (1986). Central problems in the management of innovation. *Management Science,* 32, pp. 590-607.

Venter, R., Urban, B., Beder, L., Oosthuizen, C., Reddy, C., & Venter, E. **(2015)**. *Entrepreneurship: Theory in Practice*. Oxford University Press, South Africa.

Viswesvaran, C., Sanchez, J.I., & Fischer, J. (1999). The role of social support in the process of work stress: A meta-analysis. *Journal of Vocational Behaviour,* 54,pp. 314-334.

Vroom, V. (1964). *Work and motivation.* New York: Wiley.

Walton, R.E. (1987). *Innovating to compete: Lessons for diffusing and managing change in the workplace*. Jossey-Bass, San Francisco, CA.

Wang, H., Law, K.S., Hacket, R.D., Wang, D., & Chen, Z.X. (2005). Leader-member exchange as a mediator of the relationship between transformational leadership and followers' performance and organizational citizenship behaviour. *Academy of Management Journal,* 2005, 48(3), pp. 420-432.

Wefald, A.J., & Downey, R.G. (2009a). Job engagement in organizations: Fad, fashion, or folderol? *Journal of Organizational Behaviour*, 30(1), pp. 141-145.

Wefald, A.J., and Downey, R.G. (2009b). Construct dimensionality of engagement and its relation with satisfaction. *The Journal of Psychology*, 143(1), pp. 91-111.

West, M.A. (2002). Sparkling fountains or stagnant ponds: An integrative model of creativity and innovation implementation in work groups. *Applied Psychology: An International Review*, 51, pp. 355-387.

West, M., & Farr, J. (1989). Innovation at work: Psychological perspectives. *Social Behaviour*, 4, pp. 15-30.

West, M.A., & Farr, J.L. (eds.). 1990a. *Innovation and creativity at work: Psychological and organization- al strategies*. Chichester, U.K.: Wiley.

West, M.A., & Farr, J.L. 1990b. Innovation at work. In M.A. West &J.L. Farr (eds.), *Innovation and creativity at work: Psychological and organizational strategies,* Chichester, U.K: Wiley, pp. 3-13.

Whitener, E., Brodt, S., Korsgaard, M.A., & Werner, J. (1998). Managers as initiators of trust: An exchange relationship for understanding managerial trustworthy behaviour. *Academy of Management Journa*l, 23,pp.513–530.

Whitely, W.T., & Coetsier, P. (1993). The relationship of career mentoring to early career outcomes. *Organization Studies*, Vol. 14, pp. 419-441.

Williams, L.J., & Anderson, S.E. (1991). Job satisfaction and organizational commitment as predictors of organizational citizenship and in-role behaviours. *Journal of Management,* 17,pp. 601-617.

Wolfe, R.A. (1995). Human resource management innovations: Determinants of their adoption and implementation. *Human Resources Management*, 34, pp. 313-327.

Wong, C.S., Hui, C., & Law, K.S. (1998). A longitudinal study of the job perception-job satisfaction relationship: A test in the three alternative specifications. *Journal of Occupational and Organizational Psychology*, 71, pp. 127-146.

Woodman, R.W., Sawyer, J.E., & Griffin, R.W. (1993). Toward a theory of organizational creativity. *Academy of Management Review*, 18, pp. 293-321.

Xanthopoulou, D., Bakker, A.B., Demerouti, E., & Schaufeli, W.B. (2007). The role of personal resources in the job demands–resources model. *International Journal of Stress Management*, 14, pp. 121-141.

Yukl, G.A. (1989a). *Leadership in organizations* (2nd ed.). Englewood Cliffs, NJ: Prentice-Hall.

Yukl, G.A. (1989b). Managerial leadership: A review of theory and research. *Yearly Review of Management, IS,* pp. 251-289.

Yukl, G., & Van Fleet, D.D. (1992). Theory and research on leadership in organizations. In M.D. Dunnette & L.M. Hough (eds.), *Handbook of industrial and organizational psychology*, 3(2), pp. 147-197.Palo Alto, CA: Consulting Psychologists Press.

Yuan, F., & Woodman, R. W. **(2010)**. Innovative behaviour in the workplace: The role of performance and image outcome expectations. *Academy of Management Journal*, 53, pp. 323-342.

Zhou, J., & Woodman, R.W. (2003). Manager's recognition of employees' creative ideas: A social-cognitive model. In L.V. Shavinina (ed.), *The international handbook on innovation,* Oxford: Elsevier Science, pp. 631-640.

Annexures

Annexure 1: Research instruments used in the study

Innovative work behaviour (IWB) research instrument used for this study

How often do you ….

Q1.1) …. pay attention to issues that are not part of your daily work?

Q1.2) …. wonder how things can be improved?

Q1.3) search out new working methods, techniques or instruments?

Q1.4) …. generate original solutions for problems?

Q1.5) …. find new approaches to execute tasks?

Q1.6) make important organizational members enthusiastic for innovative ideas?

Q1.7) …. attempt to convince people to support an innovative idea?

Q1.8) …. systematically introduce innovative ideas into work practice?

Q1.9) …. contribute to the implementation of new ideas?

Q1.10)…. put effort in the development of new things?(De Jong & Den Hartog, 2010:29).

Leader-member exchange (LMX-MDM) research instrument used for this study

Q2.1) I like my manager/supervisor very much as a person.

Q2.2) My manager/supervisor is a lot of fun to work with.

Q2.3) My manager/supervisor is the kind of person I would like to have as a friend.

Q2.4) I respect my manager/supervisor's knowledge of and competence on the job.

Q2.5) I admire my manager/supervisor's professional skills.

Q2.6) My manager/supervisor defends my work actions to a superior,even without complete knowledge for the issue in question.

Q2.7) My manager/supervisor would defend me to others in the organization if I made an honest mistake.

Q2.8) My manager/supervisor will come to my defence if I were "attacked" by others.

Q2.9) My manager/supervisor can depend on me when we are overloaded with work.

Q2.10)I am willing to apply extra effort, beyond those normally required, to meet my manager/supervisor's work goals.

Q2.11)I do not mind working hardest for my manager/supervisor.

Q2.12)I do work for my manager/supervisor that goes beyond what is specified in my job description

(Liden &Maslyn, 1998).

Work engagement research instrument used for thisstudy

Q3.1) At my work I feel that I am bursting with energy.

Q3.2) At my job, I feel strong and vigorous.

Q3.5) When I get up in the morning, I feel like going to work.

Q3.3) I am enthusiastic about my job.

Q3.4) My job inspires me.

Q3.7) I am proud of the work that I do.

Q3.6) I feel happy when I am working intensely.

Q3.8) I am immersed in my own world.

Q3.9) I get carried away when I'm working

(Seppala, Mauno, Feldt, Hakanen, Kinnunen, Tolvanen, &Schaufeli, 2008, p. 475-479).

Trust-in-leader (TIL) research instrument used for this study

Q4.1) I feel quite confident that my leader will always treat me fairly.

Q4.2) My manager would never try to gain an advantage by deceiving workers.

Q4.3) I have complete faith in the integrity of my manager/supervisor.

Q4.4) I feel a strong loyalty to my leader.

Q4.5) I would support my leader in almost any emergency.

Q4.6) I have a divided sense of loyalty towards my leader.

(Podsakoff, MacKenzie, Moorman & Fetter, 1990)

Demographics questionnaire

Q5.1) What is your gender? Male or female.

Q5.2) What is your race? Indian; Coloured; White; Black or Asian.

Q5.3) How long have you been working at your current firm?

0-1 year; 1-3 years; 3-5 years; 5 years and more

Q5.4) What is your highest education level?

Matric (NQF4); Higher Certificate (N4, N6, NQF5); Diploma (NQF6); B-Degree (NQF7); Honours Degree (NQF8); Masters Degree (NQF9); PhD (NQF10).

Q5.5) What is your age?

18-25 years; 26-35 years, 36-45 years; 46 to 55 years; 56-65 years; >65 years.

Annexure 2: Exploratory factor analysis (EFA) results

1. Innovative work behaviour (IWB) EFA

Factor Q1.1 - Q1.10, factors (4)

Factor analysis/correlation

Method: Principal factor

Rotation: Orthogonal verimax (Kaiser off)

Number of observations = 210

Retained factors = 4

Number of parameters = 34

Factor	Variance	Difference	Proportion	Cumulative
Factor1	3.63756	0.96855	0.5710	0.5710
Factor2	2.66901	2.28124	0.4190	0.9900
Factor3	0.38776	0.27703	0.0609	1.0509
Factor4	0.11073	.	0.0174	1.0682

LR test: independent vs. saturated: chi2(45) = 1622.43
Prob>chi2 = 0.0000

Rotated factor loadings (pattern matrix) and unique variances

Variable	Factor1	Factor2	Factor3	Factor4	Uniqueness
Q1.1	0.2128	0.2740	**0.3617**	-0.0214	0.7483
Q1.2	0.3317	**0.5940**	0.3802	0.0389	0.3910
Q1.3	0.4175	**0.7090**	0.1760	-0.0439	0.2901
Q1.4	0.5233	**0.7009**	0.0685	0.0008	0.2302
Q1.5	0.4672	**0.7059**	0.0376	0.1074	0.2705
Q1.6	**0.7487**	0.3201	0.0035	0.1658	0.3094
Q1.7	**0.7253**	0.3671	0.1102	0.2002	0.2870
Q1.8	**0.7013**	0.4672	0.1401	0.0576	0.2669
Q1.9	**0.8176**	0.3256	0.1539	-0.0871	0.1942
Q1.10	**0.7542**	0.4327	0.1406	-0.1297	0.2073

Factor rotation matrix

	Factor1	Factor2	Factor3	Factor4
Factor1	0.7525	0.6322	0.1809	0.0369
Factor2	-0.6493	0.6850	0.3218	-0.0750
Factor3	0.1028	-0.3450	0.8543	-0.3749
Factor4	-0.0411	-0.1097	0.3658	0.9233

2. Leader-member exchange (LMX) EFA

Factor Q2.1 - Q2.12, factors(4)

Factor analysis/correlation

Number of observations = 197

Method: principal factors

Retained factors = 4

Rotation: orthogonal varimax (Kaiser off)

Number of parameters = 42

Factor	Variance	Difference	Proportion	Cumulative
Factor1	2.65165	0.23943	0.3720	0.3720
Factor2	2.41221	0.46094	0.3384	0.7104
Factor3	1.95128	1.29648	0.2737	0.9842
Factor4	0.65480	.	0.0919	1.0760

LR test: independent vs. saturated: chi2(66) = 1479.09
Prob>chi2 = 0.0000

Rotated factor loadings (pattern matrix) and unique variances

Variable	Factor1	Factor2	Factor3	Factor4	Uniqueness
Q2.1	**0.7175**	0.4411	0.1742	0.0330	0.2592
Q2.2	**0.7518**	0.2963	0.2210	-0.0097	0.2980
Q2.3	**0.7108**	0.3002	0.1082	0.2678	0.3212
Q2.4	0.2776	**0.8313**	0.1775	0.0715	0.1952
Q2.5	0.3868	**0.7895**	0.1645	0.0964	0.1906
Q2.6	0.3507	0.3081	0.0005	**0.4046**	0.6184
Q2.7	**0.5838**	0.4334	0.2587	0.2848	0.3233
Q2.8	0.4635	**0.4924**	0.1350	0.4558	0.3167
Q2.9	0.1160	0.0762	**0.7666**	0.1062	0.3818
Q2.10	0.1743	0.2260	**0.7644**	0.0164	0.3340
Q2.11	0.3395	0.3783	**0.6105**	-0.0242	0.3683
Q2.12	0.0445	-0.0018	**0.4147**	0.3206	0.7232

Factor rotation matrix

	Factor1	Factor2	Factor3	Factor4
Factor1	0.6439	0.6061	0.4091	0.2250
Factor2	-0.3020	-0.2602	0.9123	-0.0935
Factor3	0.5719	-0.7441	0.0125	0.3452
Factor4	-0.4088	0.1061	-0.0121	0.9064

3. Work engagement EFA

Factor Q3.1 - Q3.9, factors(3) // restricting to 3 as from lit review

Factor analysis/correlation

Number of observations = 227

Method: principal factors

Retained factors = 3

Rotation: orthogonal verimax (Kaiser off)

Number of parameters = 24

Factor	Variance	Difference	Proportion	Cumulative
Factor1	3.97413	2.97760	0.7954	0.7954
Factor2	0.99653	0.51234	0.1994	0.9948
Factor3	0.48419	.	0.0969	1.0917

LR test: independent vs. saturated: chi2(36) = 1195.41
Prob>chi2 = 0.0000

Rotated factor loadings (pattern matrix) and unique variances

Variable	Factor1	Factor2	Factor3	Uniqueness
Q3.1	**0.8817**	0.1415	-0.0173	0.2023
Q3.2	**0.8645**	0.0171	0.0211	0.2519
Q3.3	**0.8349**	0.0256	0.2798	0.2240
Q3.4	**0.8255**	0.0721	0.2106	0.2689
Q3.5	**0.7382**	0.1522	0.2399	0.3744
Q3.6	**0.4794**	0.1900	0.3057	0.6406
Q3.7	**0.5002**	0.1195	0.4114	0.5662
Q3.8	-0.0237	**0.6728**	-0.0792	0.5405
Q3.9	0.2128	**0.6665**	0.1849	0.4764

Factor rotation matrix

	Factor1	Factor2	Factor3
Factor1	0.9490	0.1897	0.2519
Factor2	-0.2101	0.9761	0.0563
Factor3	-0.2352	-0.1064	0.9661

4. Trust-in-leader (TIL) EFA

Factor Q4.1 - Q4.6

Factor analysis/correlation

Number of observations = 203

Method: principal factors

Retained factors = 3

Rotation: (unrotated)

Number of parameters = 15

Factor	Eigenvalue	Difference	Proportion	Cumulative
Factor1	3.40580	3.05347	0.9741	0.9741
Factor2	0.35233	0.30490	0.1008	1.0749
Factor3	0.04743	0.11612	0.0136	1.0884
Factor4	-0.06868	0.03315	-0.0196	1.0688
Factor5	-0.10184	0.03682	-0.0291	1.0397
Factor6	-0.13866	.	-0.0397	1.0000

LR test: independent vs. saturated: chi2(15) = 778.64
Prob>chi2 = 0.0000

Factor loadings (pattern matrix) and unique variances

Variable	Factor1	Factor2	Factor3	Uniqueness
Q4.1	**0.8366**	-0.1803	-0.0508	0.2649
Q4.2	**0.8476**	-0.2313	0.0735	0.2226
Q4.3	**0.8799**	-0.1893	- 0.0037	0.1899
Q4.4	**0.8373**	0.2904	-0.0289	0.2137
Q4.5	**0.7111**	0.3819	0.0322	0.3474
Q4.6	-0.0791	0.0167	**0.1938**	0.9559

Table 4.5: Mediation of TIL in the relationship between LMX and Work Engagement

Direct effects

	OIM				
	Coef.	Std. Err.	z	P>|z|	Std. Coef.
Structural					
TIL <-					
LMX	1.061919	.0772934	**13.74**	**0.000**	**.9232466**
Work eng<-					
TIL	.2345671	.2263473	**1.04**	**0.300**	**.245474**
LMX	.3645402	.2609809	**1.40**	**0.162**	**.3316731**

Indirect effects

	OIM				
	Coef.	Std. Err.	z	P>|z|	Std. Coef.
Structural					
Work eng<-					
LMX	.2490912	.2403197	**1.04**	**0.300**	**.2266331**

Total effects

	OIM				
	Coef.	Std. Err.	z	P>|z|	Std. Coef.
Structural					
TIL <-					
LMX	1.061919	.0772934	13.74	0.000	.9232466
Wrkeng<-					
TIL	.2345671	.2263473	1.04	0.300	.245474
LMX	.6136314	.0824043	**7.45**	**0.000**	**.5583061**

Table 4.6: Mediation of TIL in the relationship between Work Engagement and IWB

Direct effects

	OIM				
	Coef.	Std. Err.	z	P>|z|	Std. Coef.
Structural					
IWB <-					
TIL	.0324956	.0418568	**0.78**	**0.438**	**.0727276**
Wrkeng	.0682301	.0455197	**1.50**	**0.134**	**.1450029**
TIL <-					
Wrkeng	.5985551	.0770973	**7.76**	**0.000**	**.5683688**

Indirect effects

	OIM				
	Coef.	Std. Err.	z	P>|z|	Std. Coef.
Structural					
IWB <-					
Work eng	.0194504	.0251139	**0.77**	**0.439**	**.0413361**

Total effects

	OIM				
	Coef.	Std. Err.	z	P>|z|	Std. Coef.
Structural					
IWB <-					
TIL	.0324956	.0418568	0.78	0.438	.0727276
Work eng	.0876806	.0380372	**2.31**	**0.021**	**.1863391**
TIL <-					
Work eng	.5985551	.0770973	**7.76**	**0.000**	**.5683688**

Table 4.7: Mediation of TIL in the relationship between LMX and IWB

Direct effects

	OIM				
	Coef.	Std. Err.	z	P>|z|	Std. Coef.
Structural					
IWB <-					
TIL	-.285581	.1315861	-2.17	0.030	-.6216564
LMX	.4511155	.1603215	**2.81**	**0.005**	**.8566514**
TIL <-					
LMX	1.058137	.076874	13.76	0.000	.9230751

Indirect effects

	OIM				
	Coef.	Std. Err.	z	P>|z|	Std. Coef.
Structural					
IWB <-					
LMX	-.3021837	.1410957	**-2.14**	**0.032**	**-.5738355**

Total effects

	OIM				
	Coef.	Std. Err.	z	P>|z|	Std. Coef.
Structural					
IWB <-					
TIL	-.285581	.1315861	-2.17	0.030	-.6216564
LMX	.1489318	.0462074	**3.22**	**0.001**	**.2828158**
TIL <-					
LMX	1.058137	.076874	13.76	0.000	.9230751

Table 4.8: Mediation of Work Engagement in the relationship between LMX and IWB

Direct effects

	OIM				
	Coef.	Std. Err.	z	P>|z|	Std. Coef.
Structural					
IWB <-					
WorkEng	.0191829	.0444997	0.43	0.666	.0399967
LMX	.1402017	.0550633	**2.55**	**0.011**	**.2608928**
WorkEng<-					
LMX	.6305301	.0850532	7.41	0.000	.5627367

Indirect effects

	OIM				
	Coef.	Std. Err.	z	P>|z|	Std. Coef.
Structural					
IWB <-					
LMX	.0120954	.0280636	**0.43**	**0.666**	**.0225076**

Total effects

	OIM				
	Coef.	Std. Err.	z	P>|z|	Std. Coef.
Structural					
IWB <-					
WorkEng	.0191829	.0444997	0.43	0.666	.0399967
LMX	.1522971	.0473607	**3.22**	**0.001.2834004**	
WorkEng<-					
LMX	.6305301	.0850532	7.41	0.000	.5627367