

Intrinsically or extrinsically driven: Generational differences in workplace motivation and engagement

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ABSTRACT

Title: Intrinsically or extrinsically driven: Generational differences in workplace motivation and engagement

Key terms: Engagement, motivation, multigenerational, psychological needs, self-determination theory, generation y, generation x, baby boomers, Rand Water

The general aim of the study was to explore the relationship between work engagement, multigenerational workforces and employee motivation within a selected Rand Water plant. The value of the investigation, into the role that work engagement plays in motivating multigenerational workforces, may afford managers with the tools to manipulate certain variables within their control, to increase workplace engagement.

Three questionnaires were administered, namely the Work Engagement Scale (WES), the Work-Related Basic Need Satisfaction Scale (WBNSS) and the Work Extrinsic and Intrinsic Motivation Scale (WEIMS). A response rate of 33, 6% was obtained from a sample of 488 employees.

The data showed that the generational cohorts appeared to experience similar degrees of engagement, and that all three generational groups were motivated similarly by intrinsic and extrinsic motivation. The data also showed that all three groups indicated similar degrees of satisfaction with the three psychological needs related to autonomous, intrinsically motivated behaviour. There were two notable differences, namely the difference between the Generation Y and the Baby Boomer cohorts in terms of the cognitive and emotional dimensions of engagement as well as the difference in the indicated degree of satisfaction of the psychological need for autonomy between Generation Y and Generation X cohorts.

The limitations of the study were identified and recommendations for the organisation and for future research were made.

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LIST OF ABBREVIATIONS

WES	-	Work Engagement Scale
WBNSS	-	Work-related Basic Need Satisfaction Scale
WEIMS	-	Work Extrinsic and Intrinsic Motivation Scale
SDT	-	Self-determination Theory
OIT	-	Organismic Integration Theory
CFA	-	Confirmatory Factor Analysis
SRCC	-	Spearman's Correlation Coefficient
ANOVA	-	Analyses of Variances

INTRINSICALLY OR EXTRINSICALLY DRIVEN: GENERATIONAL DIFFERENCES IN WORKPLACE MOTIVATION AND ENGAGEMENT

CHAPTER 1: INTRODUCTION AND PROBLEM STATEMENT

The study focused on motivational drivers for a multigenerational workforce and how these in turn related to work engagement, as key factors for building a sustainable and flourishing organisation.

In this chapter, the introduction and background to the chosen topic, and the problem statement for this study are provided. It further provides details of the research objectives and significance of the study. The chapter continues by presenting the scope of the study, the proposed research methodology and possible limitations of the study. It concludes with an overview of the ensuing chapters.

1.1 INTRODUCTION AND BACKGROUND

Having risen through the ranks, from assistant junior laboratory technician to technical manager within a relatively short period of time, I found myself with a team of 13 staff members who ranged from 22 to 63 years of age. Understanding how to motivate each individual, such that the team functioned optimally, was challenging. It became clear that aside from individual differences, team members who were closer in age formed smaller collectives and were motivated by similar drivers. It was at this juncture in my career that I developed an interest in understanding what motivated these generational 'collectives' of staff. Were they equally driven by both intrinsic motivators (such as a sense of autonomy or competency in their work) and extrinsic motivators (such as money or recognition), or was one dominant for a particular generation. Having this knowledge, would I have found myself in a position to better understand and thus motivate my team and produce higher levels of work engagement?

An answer to this question is important, because a series of studies conducted by the Gallup Organisation identified a link between engagement and business success. According to Gallup's Global Workplace Report (O'Boyle & Harter, 2013:8), a common requirement for businesses globally is the need to boost labour productivity, thus necessitating the need for businesses to learn how best to utilise the potential, talents, skills, and energy of their employees. Business, in other words needs to create and sustain highly engaged workforces.

The importance of increased levels of work engagement has further been highlighted in a statement by Ulrich (1997:125) that the contribution that employees make to business is becoming a critical issue as businesses need to achieve more with less inputs. This signals a need for companies to work to engage not only the body of the employee, but also their souls and minds.

Multigenerational Workforces

One Step Growth (2013:1) illustrates the importance of bringing together the various generations of employees in a workplace, in an attempt to maximise engagement and productivity. Contained within this is a need to be cognitive of and to consider the perspectives, needs, and motivational drivers that each cohort may possess. A generational group can be viewed as a group of people who share a particular time and space in history i.e. they were born within a defined time span of 15 to 20 years (McCrindle, 2009:1).

The work demographic of the modern world means that, for the first time, there exists the possibility that four generations of people are employed and working side by side in today's work environment (Haynes, 2011:99). The different generations may be categorized into distinct groupings: Veterans, Baby Boomers, Generation Xers, and Millennials, all of which have their own distinct characteristics, motivators and values (Ebscohost, 2013:1). These workers are the cogs that allow the wheels of industry to turn and function both effectively and efficiently.

All generations demonstrate similarities and differences and the era in which each was raised, educated, and entered into the job market has left its mark on and contributed to the uniqueness of each generation. The diversity of values within each generation, in terms of their views and approaches to aspects such as communication, interaction with colleagues and even levels of respect, has an effect on organisational and individual performance (Bell, 2008:37). This provides challenges for managers faced with multigenerational teams on how to foster workplace motivation and how to translate that into improved levels of work engagement and the fulfilment of each staff member's individual needs.

Multigenerational workforces afford companies huge opportunities in that they provide a combination of experience and youthful enthusiasm. Bawany (2013:1) states that business can create a sustainable competitive advantage through the capitalization of the strengths and values brought by each of the different generations.

The uniqueness of the generations means each is likely driven by different motivators and understanding what drives each, whether it be an equal combination of intrinsic and extrinsic

factors, or with one dominating the other, can equip the manager and organisation with the tools to allow them to remain competitive. The result is increased levels of work engagement and motivation, staff that are more likely to remain with an organisation and who will function to their full potential.

Work Engagement

According to Schaufeli (2014:18) work engagement may refer to the relationship each employee has with their work, given certain antecedents. As with motivation, engagement is driven by both external and internal drivers (Clark, 2012:9), which closely mirrors many of the extrinsic and intrinsic motivators defined in motivational theories. While job resources as external drivers include feedback on performance, a degree of control over one's job and social support offered by work colleagues, internal drivers or personal resources include items such as self-belief in one's capability in completing a task, a positive outlook towards challenges and a high degree of emotional stability (Schaufeli, 2014:26).

Kahn's model of engagement emphasises the attachment of the worker's 'self' to his or her work role, and includes the role of the 'self' in terms of physical, cognitive and emotional expression during the performance of an employee's job. In Kahn's view, engagement can be seen as "the harnessing of organisation members' selves to their work roles; in engagement, people employ and express themselves physically, cognitively, and emotionally during role performances" (Kahn, 1990:694). Kahn thus views engagement as a psychological state in which the individual is present when he or she is at work and is involved in performing their job function. The psychological conditions outlined by Kahn that play a pivotal role in shaping the employee's decision to be engaged, include meaningfulness, psychological safety and psychological availability. These concepts are discussed in more detail in Chapter 2.

In order to foster and create high levels of work engagement, management is faced with numerous challenges, amongst which are the new demographic of the modern multigenerational workforce and a need to understand how to motivate each generational group to ensure optimal levels of engagement (Durkin, 2011:2).

Motivation

From the perspective of management, understanding how to manage members of their teams so as to achieve optimal output for the organisation, means having insight in how to motivate their workforce.

The Self-Determination Theory provides a distinction between controlled and autonomous motivation, or in other words, doing something because you want to versus feeling pressured to do so (Gagne & Deci, 2005:334). The motivations discussed by the self-determination theory, and numerous others, define motivation as either internally (intrinsically) or externally (extrinsically) driven. According to Ryan and Deci (2002:10) extrinsic motivation occurs when individuals partake in activities not because they have a particular interest in them, but because those activities function as a means to an end. Gagne and Deci indicate that the actions undertaken by individuals driven by intrinsic motivation, are fuelled by the want to do the activity and the satisfaction derived from the successful completion of the task, thus intrinsic motivation can be said to be autonomous motivation (Gagne & Deci, 2005:334).

In an attempt to understand the implications of a multigenerational workforce, and answer the questions on how to motivate such workforces, the theories discussed above were explored further in a literature review.

1.2 PROBLEM STATEMENT

Rand Water is a parastatal and a national key point that is responsible for supplying quality water to millions of households in South Africa. Rand Water has been a forerunner in embracing the principals of the post-apartheid government and is invested in supporting the development of the younger generations and those previously disadvantaged in South Africa. This, however, has not meant higher levels of turnover amongst older employees, who have remained loyal to Rand Water for a number of years, creating a work environment that sees employees representing a number of generations. It is this dynamic within Rand Water that guided me towards selecting them as the organisation in which my study was carried out.

As South Africa, and Rand Water in particular, continued to focus on the empowerment of staff across generations, they found themselves in a situation where an abundance of resources is a thing of the past, and they are forced to work with less to create higher levels of output. This global trend aims toward increasing work output levels among employees, while facing challenges such as increased multigenerational workforces and the need to effectively motivate each generation, have created an urgent need for an understanding of how to engage employees to the point that they bring 100% of themselves to their work. The Rand Water plant, Zuikerbosch Pump Station, situated in Vereeniging in the south of Gauteng, was the selected site at which the research took place.

1.3 RESEARCH OBJECTIVES

The research objectives are divided into primary and secondary objectives.

1.3.1 Primary objective

The primary objective of the research was to explore the relationship between work engagement, multigenerational workforces and employee motivation within a selected Rand Water plant.

1.3.2 Secondary objectives

The secondary objectives of this research were:

- To determine the factor structures and internal consistencies of the WES, WBNSS, and WEIMS instruments used in the questionnaire within the selected sample;
- To determine whether there were differences among the generations in terms of intrinsic and extrinsic motivation in the workplace;
- To identify if the different generational groups experienced the same level of physical, cognitive and emotional work engagement;
- To determine whether the different generational groups experienced the same degree of satisfaction of the basic psychological needs: autonomy, competence, and relatedness;
- To determine whether there was a relationship between the basic psychological needs for autonomous motivation and a specific component of engagement for the sample;
- To determine whether there was a relationship between the drivers of intrinsic motivation and the motivation subscales of the SDT continuum;
- To establish if a correlation existed between levels of work engagement and intrinsic and extrinsic motivation within a multigenerational workforce.

1.4 SCOPE

The proposed study was positioned within the discipline of organisational behaviour and focused on exploring the differences in workplace motivation of different employee generational groups. It looked at exploring whether each generation was driven more by intrinsic or extrinsic motivation, but excluded identifying specific motivators within the broader categories.

The target population was restricted to the selected parastatal organisation, situated in the south of Gauteng in the suburb of Vereeniging. The organisation is involved in the treatment, purification and supply of water to private households and businesses in the surrounding area.

1.5 RESEARCH METHODOLOGY / DESIGN

Although the researcher would have preferred a qualitative approach to the study, given it provides an opportunity to facilitate a more in depth understanding of the participants' perceptions and beliefs guiding them in their choices (Leedy & Omrod, 2013:97), the disadvantages outweighed the potential benefits. A qualitative approach may be perceived as less credible, more time consuming and result in complex and challenging data analysis (Leedy & Omrod, 2013:101), whereas a quantitative approach affords greater control over the research parameters (Hantrais, 2009:58) and allows the researcher to test or verify theories, through numerical observations and measurements (Creswell, 2014:18).

Additionally, as described by Creswell (2013:7), the research question lends itself to the post positivism worldview. Creswell (2013:7) indicates that post positivists have a belief in a "philosophy in which causes determine effects or outcomes". For this particular research study, the researcher wanted to verify the theory that employees experience motivation and subsequently work engagement differently, given their different generational groupings. The support of the proposed theory was to be determined through empirical observations and measurements.

The empirical data was collected through the use of a questionnaire, thus eliminating the possibility of the researcher's own feelings, beliefs or interpretations playing a role. The use of the questionnaire allowed for the data to be collected in a standardised manner, as each participant was partaking in the same pre-set questionnaire. The standardised use of the questionnaire helped enhance the reliability of the measurement. Welman *et al.* (2005:9) state that with quantitative research, the aspect of reliability focused on, is the data's ability to be consistent and provide stable measurements that can be replicated.

According to Creswell (2013:160) in quantitative research, validity is a measure of whether meaningful and useful conclusions can be obtained from the results of the implemented measuring instrument.

This research, pertaining to the specific objectives, consisted of two phases, namely a literature review and an empirical study.

1.5.1 Phase 1: Literature review

A literature review was carried out to assist the researcher in gaining an understanding of the context of the subject in terms of relevant and current studies, as well as the available knowledge within the subject discipline. The review further aided in justifying the reason for the research and in creating a framework around which the study could be moulded, as well

as to clarify the researcher's thought process. Finally, the review acted to open up a dialogue, in which the relevance of the selected research topic could be examined for its potential contribution to the discipline of organisational behaviour, the organisation in which the study took place and for the individual who might make use of the study to further their understanding of work engagement and motivation of multigenerational workforces.

The sources that were consulted include:

- www.emeraldinsight.com
- Efundu electronic library
- Access to accredited academic journals such as:
 - SA Journal of Industrial Psychology
 - Journal of Applied Social Psychology
 - Journal of Organisational Behaviour
 - Journal of Occupational and Organisational Psychology

The subjects that were addressed include:

- Multigenerational Workforce
- Workplace Motivation
- Work Engagement

1.5.2 Phase 2: Empirical study

1.5.2.1 Research Design

For the purposes of this research study, the term *Research Design* was chosen to describe the general strategy for solving the research problem (Creswell, 2003:247). The data for the research was collected by the Human Resource department of Rand Water, during morning safety meetings in designated Green Areas. Employees were requested to complete the pre-set questionnaire and to return it to the relevant personnel. The research attempted to provide a better understanding of whether different generations in a workplace were motivated equally by intrinsic and extrinsic motivational factors and if there was a correlation with work engagement levels. As such, the research was designed to be descriptive in nature, which, as defined by Leedy and Omrod (2013:190), is an examination of a "situation as it is". The study was cross-sectional in design, measuring response in a given point of time. This design was selected as it supports the distribution of the questionnaire to participants spread across a work site within a defined timeframe.

1.5.2.2 *Participants and sampling technique*

The target population comprised all employees who attended morning safety meetings. Zuikerbosch Pump Station currently employs approximately 488 employees and the target response rates were expected to be a minimum of 50 respondents per generational group.

The sampling technique selected was the random survey sampling method, which allows for generalizing of findings from the sample to the larger population (Creswell, 2013:13). The questionnaire was provided to all possible participants, however, there was limited control over who participated and completed the questionnaire.

1.5.2.3 *Measuring Instrument*

A biographical questionnaire together with three standardised, previously validated questionnaires were used to measure workplace motivation and engagement levels among the participants. The selected questionnaires were:

1. The Work Engagement Scale (WES) developed by May et al., as adapted by Diedericks and Rothmann (2013);
2. The Work-Related Basic Need Satisfaction Scale (WBNSS) developed by Van den Broeck et al., (2010);
3. The Work Extrinsic and Intrinsic Motivation Scale (WEIMS) developed by Tremblay et al., (2009).

These instruments are discussed in more detail in Chapter 3.

1.5.2.4 *Procedure and ethical considerations*

An official letter from the North-West University Potchefstroom Business School, which is included in the appendix section, was received and contains within, the assigned ethical number, EMS 15/03/31-1/11, for the research.

The Human Resources Director, located at Zuikerbosch Pump Station provided permission for the questionnaire to be administered, in printed form, to the participants. The results of the study are to be provided to Rand Water for their own internal review.

Completion of the questionnaire was voluntary and anonymous. An introduction explaining the purpose of the research was provided with the questionnaire. The questionnaires were completed by the respondents during a predetermined time session following an introduction to the research content and purpose of the questionnaire by the researcher.

Various ethical considerations included:

- A responsibility to fully inform participants about the nature of the study;
- To ensure the confidentiality of the responses;
- To clarify the intended use of the outcome and results;
- To define who will have access to the results of the questionnaire.

1.5.2.5 Statistical Analysis

The collected data was statistically analysed by means of statistical analysis software, thus allowing for the data to be presented in useful outputs, enabling conclusions to be drawn and recommendations to be made. For the purposes of the statistical analysis of the data, two different statistical programs were used, namely; SPSS and AMOS.

Descriptive statistics were used to describe the participants and to allow for the presentation of the demographic data. An example of the descriptive statistics used included the computation of the mean level of employment within each designated generational group.

Parametric statistics were utilised in the calculation of correlations between the variables of work engagement and generational grouping, as well as in attempting to demonstrate whether there was a positive relationship between needs identified in the Work-related Basic Need Satisfaction Scale and the level of work engagement for each employee generational group. Examples of the parametric statistics likely to be used include Spearman's coefficient and ANOVA.

1.6 VALUE ADDED

The value of the investigation into the role that work engagement plays in motivating multigenerational workforces, may afford managers with the tools to manipulate certain variables within their control, to increase workplace engagement. Enabling employees to partake in activities they feel passionate about and encouraging participation in those in which they have little interest, but that are equally important to the organisation and the employee, creates an opportunity for a motivated workforce to be transformed into an engaged workforce.

1.7 LIMITATIONS/ANTICIPATED PROBLEMS

This study was limited to the employees of Zuikerbosch Pump Station who attended morning safety meetings, and cannot be compared to employees in other organisations.

The study aimed only to consider whether the employees of Zuikerbosch Pump Station, subdivided into generational groupings, demonstrated varying levels of work engagement, related to being intrinsically or extrinsically motivated. There was no intention on the part of the research to prove causal relationships between variables.

1.8 CHAPTER DIVISION

The chapters of the mini-dissertation are presented as follows:

Chapter 1: Introduction and problem statement

Chapter 1 provided an introduction to the context and background of the proposed study. The chapter progressed from defining the problem statement, and laying out the research goals, to concluding with a description of the research methodology and possible limitations.

Chapter 2: Literature Review

Chapter 2 explores the definitions of work engagement and a multigenerational workforce, as well as reviewing relevant motivational theories, and how workplace motivation may be influenced differently by intrinsic and extrinsic factors. The literature is explored to provide understanding in the various theoretical aspects of the study.

Chapter 3: Description of the implementation phase

Chapter 3 addresses the objectives of the study. It further details the procedure the research followed in obtaining the necessary permissions for administering the questionnaire and the subsequent collection of the data.

Chapter 4: Discussion of results

Chapter 4 details the analysis of the collected data through statistical means and provides a subsequent discussion of the results.

Chapter 5: Conclusions and Recommendations

Chapter 5 draws conclusions based on the detailed results of the data analysis, and presents recommendations for future research, as well as a summary of the study's outcomes for Rand Water.

1.9 CHAPTER SUMMARY

This chapter presented the context and background for the research. It covered the problem statement, research objectives and scope of the study, research methodology, and limitations. Finally it presented a layout of the chapters contained in the document.

Chapter 2 deals with the relevant literature related to the study.

CHAPTER 2: LITERATURE REVIEW

2.1 INTRODUCTION

The purpose of the literature review that follows, is to define and examine key concepts and relevant research related to multigenerational workforces, and to understand what motivates each generation, and how this relates to levels of work engagement.

The review begins with an introduction to today's multigenerational workforce and subsequent categorization of the three predominate generations represented in the workplace, namely *Baby Boomers*, *Generation Xers* and *Millennials*.

This is followed by a definition of the concept of work engagement according to the four mainstream theories. Further to this, the engagement model proposed by Khan is discussed, along with the work engagement scale used to measure the components of engagement. A discussion of the antecedents of and ways to improve engagement is presented and leads to a review of the benefits engagement can bring to business and the role that business plays in developing engagement. This section ends with a review of studies that have explored the relationship between engagement and age.

A discussion of intrinsic and extrinsic motivation is undertaken and this is expanded into Deci and Ryan's *Self-determination theory*. For the purpose of background, a brief overview of motivational theories is presented, according to their classification into either content or process theories. A brief introduction to the selected instruments used for the measurement of motivation in the study is provided. A short look at the benefits motivation brings for business is followed by a review of the relationship between motivation and age.

Finally, the theoretical research model is presented.

2.2 MULTIGENERATIONAL WORKFORCES

Ballone (2007:9) pointed out that the modern business environment is posed with unique challenges. These challenges have manifested as a result of a workforce composed of up to four generations of employees, concurrently working side by side. A factor which has contributed to this modern multigenerational workforce phenomenon, has been the decision of older generations to remain employed, well past retirement age (Tan, 2012:1). It was highlighted that a lack of understanding around the dynamics and differences amongst the different generations would likely contribute to lower levels of productivity, higher percentages of employee turnover, as well as increasing the likelihood of conflict within working relationships (Ballone, 2007:9).

A “generation” has been defined as a specific cohort group that shares a predefined span of years of birth and has thus subsequently experienced common, significant events affecting their outlook in both their personal and professional lives. Although there is no specific consensus among researchers regarding the precise birth years for each of the different generations (Wong *et al.*, 2008:879), there is agreement that there are four broad generations of employees that can be classified.

Table 1: Breakdown of Generations (adapted from Marston, Working Mother Magazine, 2007)

Generation	Birth Years	Percent of Workforce	Work Perspectives
Veterans	<i>Born 1922-1945</i>	10 %	<i>“Company Loyalty” – believed they’d work for the same company their entire career</i>
Baby Boomers	<i>Born 1946–1964</i>	44 %	<i>“Live to work” – believe in putting in face time at the office. Women enter the workforce in large numbers</i>
Gen Xers	<i>Born 1965-1980</i>	34 %	<i>“Work to live” – believe that work should not define their lives. Dual-earner couples become the norm</i>
Millennials	<i>Born 1981-2000</i>	12%	<i>“Work my way” – devoted to their own careers, not to their companies. Desire meaningful work</i>

By reviewing data from Statistics SA’s Quarterly Labour Force survey (Q1 2014), and extracting data provided, the labour force employed percentage breakdown, according to the above age cohorts can be taken as follows:

Table 2: Percentage Breakdown for Age Cohorts according to Stats SA (Adapted from Stats SA, 2014)

Defined Generation	Age Grouping	Percentage Breakdown
Baby Boomers	55 – 64 years	9%
Generation Xers	35 – 55 years	56 %
Millennials	25 – 34 years	35%

From the above breakdowns provided by Stats SA (2014) and Marston (2007) (taken from Fraone, 2008:1), it is clear that the three groups most represented in the workplace are the *Baby Boomers*, *Generation Xers*, and the *Millennials*.

Baby Boomers

Some of the defining events that influenced the Baby Boomer generation included: the launch of television and “rock and roll” music; the race to the moon; and the women’s liberation movement (Glass, 2007:99).

A strong internalized work ethic and career-focused approach to life have meant a perception of the Baby Boomers as driven employees, who are status conscious (Ballone, 2007:10) and define their identity as an extension of their careers (Durkin, 2011:2).

A review of the existing literature (e.g. Loomis, 2000; Hart, 2006) suggests that this group of employees is seen as preferring stability and job-security, that they respect a corporate hierarchal structure and prefer a leadership style that is unified and consistent in the work environment (Ballone, 2007:11). Baby Boomers gravitate towards building consensus among their colleagues (Hart, 2006:26). Valuing the personal touch (Haynes, 2011:100) and preferring face-to-face contact (Hammill, 2005:5) mean that this generation is more likely to act as effective mentors.

It is through work and personal sacrifice (Glass, 2007:100) that Baby Boomers believe they will attain financial success. They are motivated by raises and promotions (Ballone, 2007:11). It is likely that Baby Boomers feel the younger generations do not work as hard as they do, with their flexi hours, preference for working from home and having virtual offices (Glass, 2007:100).

Generation Xers

Generation Xers grew up in an era of two-income families, increased divorce rates, the worldwide AIDS epidemic and MTV (Ballone, 2007:10).

In stark contrast with the Baby Boomers, Generation Xers value the work/life balance above all else (Glass, 2007:100). As a group, they are classified as showing a higher degree of scepticism, less loyalty and being strongly independent (Glass, 2007:100) as well as demonstrating a higher level of self-sufficiency than shown by previous generations (Hart, 2006:26). Although having a tendency to question and challenge their colleagues in the workplace, thus potentially leading to conflict, this quality also acts to encourage entrepreneurial behaviour (Hammill, 2005:5).

Generation Xers expect recognition and rewards to be realised within a short timeframe, they expect to be included in all aspects of the business and to be provided with regular opportunities for career growth (Ballone, 2007:10). Placing their own personal goals above

their work-related goals, this generational group goes where the challenges are, and where higher earning potentials and better benefits exist (Loomis, 2000:53).

Flexibility in work life is greatly valued by Generation Xers and they are likely to pass up a promotion if they believe it will infringe on their home life in anyway (Ballone, 2007:11). From their viewpoint, it does not matter how or where the work is done, the outcome is what should be valued, and not the process to get there (Glass, 2007:100).

Millennials

The internet, constantly being plugged in, acts of terrorism and the by-products of a 'child-focused society', the Millennials, also known as Generation Y, are the youngest of the employee groups (Ballone, 2007:10). As global citizens, Millennials have a value-system that has been shaped by the high-tech world they grew up in (Durkin, 2011:3).

The most confident of the generational groups, the Millennials grew up with child-focused parents, who were intent on building their children's self-esteem and showing continuous dedication in raising them (Glass, 2007:100). As a consequence, this generation is characterised by their expectation to be recognised on an equal footing with their peers, and to be involved in a work environment that is diverse and encourages participation in work-teams (Ballone, 2007:11). They have developed the ability to multi-task, a consequence of 24/7 connectivity (Hammill, 2005:5).

Skills development and the challenges afforded by new opportunities typify Millennials (Hart, 2006:27). Demonstrating some similarity with the Baby Boomer generation, Millennials are seen as optimistic and driven employees, who are demanding of their work environment (Huntley, 2006).

Ultimately for this generation, technology forms a natural part of their lives, and as such they prefer to communicate and live in real-time, through the use of cell phones, text messages, etc. (Ballone, 2007:11), rather than picking up the telephone or having a face-to-face conversation (Glass, 2007:101).

Implications for Business

According to Betty Kupperschmidt (2000), quoted in Fraone *et al.* (2008:8), managers who have a perspective that is inclusive of all generations, find themselves in a position to influence the uniqueness of each cohort to create a common vision of shared learning opportunities, productivity improvements and innovation development. Ultimately, the aforementioned develops co-worker relationships that are positive. Organisational cultures need to be

moulded so as to transfer organisational values successfully to workers across the generations (Fraone *et al.*, 2008:5).

Durkin (2011:3) points to key steps needed to ensure that organisations build high performance employees, while simultaneously integrating the multigenerational workforce:

- Employees need to be empowered and engaged, through the administration of learning and development plans, in order for them to achieve shared business objectives;
- A strategic vision for the motivation, coaching and development of the generational groups needs to be established and put in place.

2.3 WORK ENGAGEMENT

It should be noted, as stated by Schaufeli (2014:15), that the terms “employee engagement” and “work engagement” are frequently viewed as being interchangeable.

A number of definitions for engagement exist: Stockley (2007:2) states that an employee’s depth of belief and trust in their organisation’s mission statement, vision, and purpose is mirrored in their work ethic, actions and conduct with both employer and customers. Another definition posited by Gibson (2006) and cited by Khan (2007:694), is that engagement is an emotional connection that an employee feels for the organisation at which they work, and that this connection acts to influence the exertion of a greater degree of voluntary effort towards their work. However, more commonly engagement has simply been defined as the emotional and intellectual dedication that employees exhibit in their work roles (Baumruk, 2004:48; Richman, 2006:37). From the perspective of researchers, focused on the study of burnout and motivation, a definition of engagement has been provided that describes engagement in relation to the work environment, as a state of mind, which is positive and fulfilled and that may be characterised by three distinct dimensions, namely, vigour, dedication and absorption (Schaufeli, 2014:74).

Although there is no single definition for employee engagement (e.g. Khan, 1990; Maslach & Leiter 1997; Schaufeli *et al.*, 2002), a common sentiment amongst researchers and practitioners is that employees who give 100% of themselves to their work are engaged employees.

2.3.1 Work Engagement Theories

According to Shuck (2011:304), among all the available research and literature regarding employee engagement, four mainstream approaches have emerged as dominant and distinct.

i. *Kahn's (1990) Need-satisfying Approach*

Khan identified and stated that, within the realm of work, engagement could be considered a motivational variable that reaches across the motivation continuum, stretching from extrinsic to intrinsic motivations (Shuck, 2011:310).

ii. *Maslach's et al.'s (2001) Burnout-antithesis Approach*

Maslach *et al.* posited that engagement could be viewed as the positive antithesis to burnout. Schaufeli *et al.* progressed Maslach *et al.*'s framework by presenting a modified definition of engagement, as being a work-related state of mind that is positive and fulfilling, and is characterized by three dimensions: vigour, dedication and absorption. A limitation of the models of Maslach *et al.* (2001) and Schaufeli and Salanova *et al.* (2002), as stated by Rich *et al.* (2010), is that the models focus on emotional and physical absences of burnout, but are devoid of the cognitive processes established by Khan (Shuck, 2011:311).

iii. *Harter et al.'s (2002) Satisfaction-engagement Approach*

Harter *et al.* (2002), together with Gallup researchers, followed the positive psychology movement and defined engagement as an individual employee's involvement with their work, their satisfaction with their work, as well as an enthusiasm for what they are doing. This line of research echoes early engagement theories like Khan and Maslach *et al.* (Shuck, 2011:312).

iv. *Saks's (2006) Multidimensional Approach*

Saks proposed that, through the mechanism of a social exchange model, the development of employee engagement may take place. The model presented that engagement has two separate states: job engagement and organisational engagement. Saks's model remained within the framework statement based on a belief that employee engagement is developed from three distinct dimension of engagement, as originally laid out by Khan: cognitive, emotional and behavioural. Further to this, Saks' theory suggested engagement acted to mediate the relationship between antecedents (i.e. job characteristics, organisational support, and procedural justice) and outcomes (i.e. job satisfaction, organisational commitment, and intention to quit). Progressive work, grown out of Saks' multidimensional framework, resulted in a definition of engagement from Shuck and Wollard (2010) that presented employee engagement as a state consisting of cognitive, emotional and behavioural elements and that is directed towards the attainment of certain organisational outcomes (Shuck, 2011:315).

For the purposes of this research study, the need-satisfying approach posited by Khan has been followed for defining employee engagement, and as such it is discussed in more detail below.

2.3.1.1 Khan's Personal Engagement Theory

Through his methodical approach and dedication aimed at discerning the construct of engagement, Khan in 1990, popularized the concept through the development of his personal engagement theory, which, according to Schaufeli (2014:25), can be defined as a “needs-satisfying approach” to engagement.

The basic premise of Khan's theory is based on the concept that when individuals bring their “preferred self” into their work roles, they create a connection which promotes physical, cognitive and emotional engagement (Weidert, 2011:8). Khan's definition of the “preferred self” is based on the idea that people have multi-faceted personalities and each individual has preference for certain facets to be shown at certain times.

Khan's definition of engagement explains how individuals express themselves in entirety in their work role. Khan went further and defined engagement in specific terms as an act by employees to attach themselves to their work role, through occupying and expressing themselves physically, cognitively, emotionally and mentally during the performance of their work role (Khan, 1990:694). He argued that a psychological state built on three factors, namely a sense of meaning, psychological safety and psychological availability, combine to produce engagement. Khan further delineated the three factors and provided brief explanations and discussed influences which were likely to play a role in each: *Meaningfulness* relates to the sense of achieving a return for one's effort in a work role and is influenced by task characteristics and role characteristics; *Psychological Safety*, the second of the three psychological needs, can be seen as employee's feeling comfortable enough in the work role to be themselves without having to worry about negative consequences or reactions, and is influenced by the organisations social environment (i.e. group dynamics, management style, social norms and interpersonal relationships of the employees); *Availability*, the final need, refers to an individual's own personal resources - the necessary physical and mental resources to complete their work, and is influenced by factors such as physical energy.

Work engagement forms a distinct concept that can be held separate from other organisational behaviour concepts, such as job satisfaction, job involvement, motivation and organisational commitment (Meyer & Gagne, 2008:62). Organisational commitment and job satisfaction can be viewed as outcomes resulting from employee engagement (Dulagil, 2012:3).

Work Engagement Scale

Khan's theory of engagement has been examined and confirmed by studies, such as those conducted in 2004 by May, Gibson and Harter, and by Rich, Lepine and Crawford in 2010.

May *et al.* (2004:20), in their attempt to create a measure for engagement, confirmed the importance of the three aspects employed and expressed as a consequence of work engagement. The scale that they developed was known as the Work Engagement Scale (WES), and was used by Rothmann and Rothmann (2010:5) to measure employee engagement. Unfortunately, the survey was not able to clearly distinguish the three components of engagement sufficiently to provide an acceptable level of reliability and validity.

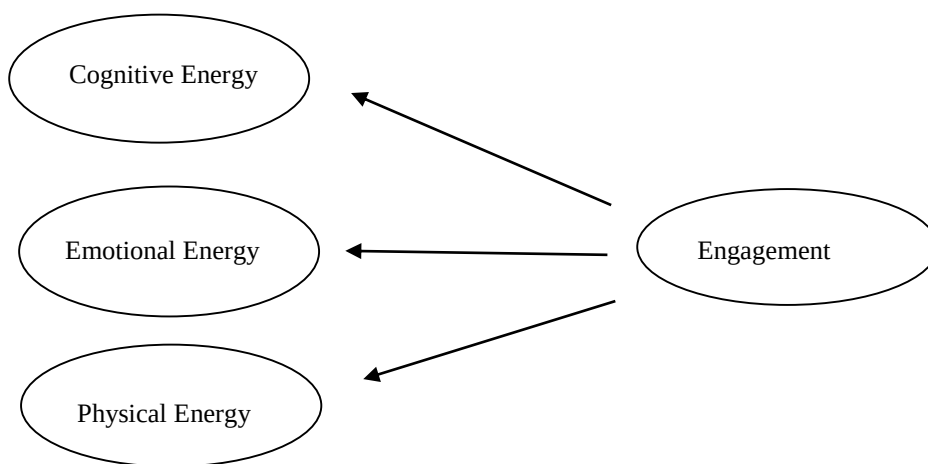


Figure 1: Expression of engagement as per Rich *et al.* (Authors own impression)

Diedericks and Rothmann (2013:28) took the scale as developed by May *et al.* (2004:36) and modified it to have nine items. There are three items for each of the three expressions of work engagement, namely cognitive, emotional and physical engagement. *Cognitive engagement* is attained when an employee experiences a sense of importance inside an organisation and has a desire to do well in their work. To be engaged in *emotional* terms means that employees have a particular relationship with their managers and fellow colleagues. The relationship needs to be based on mutual respect and recognition. *Physical engagement* refers to levels of passion and energy required to complete and reach work related goals. Rothmann (2010) found each component to have the following alpha coefficients: physical = 0.80; emotional = 0.82; and cognitive = 0.78 (Diedericks & Rothmann, 2013:228).

2.3.2 Antecedents of and ways to improve engagement

Following on from the theoretical perspective of engagement as laid out by Khan, it is understood that engagement is manifested through the maintenance of a psychological

presence created by employees' individual perceptions of their degree of meaning, safety and availability within the work context (Crawford *et al.*, 2014:58). For each of the perceptions there are influencing characteristics that function as precursors for successfully satisfying each dimension and subsequently functioning to create engagement.

Psychological meaningfulness antecedents: According to Crawford *et al.* (2014:59) a number of constructs have been found which fit, theoretically, Kahn's description of psychological meaningfulness. Among the identified constructs are role influencers such as job challenge, autonomy, variety, feedback, fit, opportunities for development and rewards and recognition (Crawford *et al.*, 2014:59 – 62). The aforementioned job design changes, which can function to increase employee engagement, are simple and cost effective means that can be used by management.

Psychological safety antecedents: The factors contributing to increased psychological safety and thus increased levels of engagement, have the effect of acting to contribute towards the creation of a non-threatening environment. Within this environment, employees have a sense of support and are prepared to engage in situations which hold the potential for failure without fearing negative consequences (Crawford *et al.*, 2014:63). The precursors include social support, transformational leadership, leader-member exchange, workplace climate, organisational justice and job security (Crawford *et al.*, 2014:63 – 67). It is suggested that organisations begin with increasing the incidents of transformational leadership behaviour among their leaders and other senior staff, which will translate into positive changes within their systems and increased employee engagement.

Psychological availability antecedents: Psychological availability relates to individuals' sensing that they are prepared to be personally engaged at a particular point in time (Khan, 1990:174). Role overload, work-role conflict, family-work conflict, resource inadequacies, time urgency, off-work recovery, dispositions, and personal resources are constructs that support Khan's theoretical perception of psychological availability. From a practical perspective, leveraging of engagement levels through monitoring individual differences, and adopting practices which allow for flexibility and detachment in fast-paced environments, provides tools that organisations can use to fulfil the psychological availability need of employees (Crawford, 2014:67-72).

2.3.3 Consequences of engagement

2.3.3.1 Benefits for business

Why should organisations be interested in understanding how to increase levels of work engagement?

The answer to the above question is provided by researchers who have studied and worked to develop the theory of engagement. Khan (1990:694) highlighted the positive way in which employees, while feeling engaged in their work role, give their all and work toward reaching their full potential. Christian *et al.* (2011) stated that higher levels of task and contextual performance can be expected from engaged employees. Additionally, it has been noted that employees have higher levels of well-being (Hallberg & Schaufeli, 2006:120) and tend to have increased levels of productivity with lower intentions to leave the organisation (Saks, 2006:602; Schaufeli & Bakker, 2004:293). Bakker *et al.* (2008:194), through their research, have indicated that engaged employees are often known to inspire their fellow employees and hence improve team coordination and functioning. The ability of engaged employees to seek out, discover and bring together resources essential for the fulfilment of their work tasks (Salanova *et al.*, 2006:3), is crucially important to the success of business. Vance (2006:2) found that organisations could expect up to five times less voluntary staff resignations than their counterparts, if they had engaged employees.

A meta-analysis carried out by Harter *et al.* (2002:272) supported a connection among engagement levels and reported business results and they stated that levels of employee satisfaction and engagement could be directly related to sort after business outcomes, which carry weight significant enough to make them important to business. In a study done by Gallup (Harter *et al.*, 2009), which included 955,000 respondents, work engagement was shown to account for 78% of the variance in profitability across 17,339 units (as cited by Schaufeli, 2014:31). Those organisations with higher levels of work engagement demonstrated 94% higher success rates in their own businesses. In summary, Gallup's (2009) meta-analysis highlighted the differences between workforces that demonstrated higher and lower levels of engagement, with those having higher levels resulting in:

- Higher productivity (18% increase);
- Increase in reported bottom line figures (16% improved profitability);
- Increased workplace safety (49% reduction in reported incidents);
- Lower turnover levels (37% less resignations);
- Lower levels of absenteeism (37% less).

2.3.3.2 The role of business

A number of surveys (e.g. Robinson *et al.*, 2004; CIPD, 2006; Gallup Organisation) all identify similar drivers for engagement, such as giving employees a voice, ensuring open channels of communication, and recognizing that the manager is key to unlocking employee engagement potential. From the perspective of, and research conducted by, Development Dimensions International (DDI, 2005) management actions that can bring about highly engaged employees include:

- The empowerment of staff;
- Putting in place measures that encourage growth and development of individual employees;
- Ensure work efforts are in alignment with the business strategy;
- Foster an environment in which teamwork is made a priority;
- Ensure that structures are in place that can provide support to employees and identify and award appropriate recognition.

Further to the above, Gallup (2013) in their Global Workplace Report alluded to three ways in which employee engagement may possibly be accelerated:

- 1) Selecting the right people
- 2) Developing employees' strengths
- 3) Enhancing employees' well-being

2.3.4 Relationship between engagement and age

Studies regarding employee engagement, conducted by Gallup and Psychometrics Canada (2011), considered, within the scope of their studies, the effect of age differences on engagement levels. Gallup's employee engagement study and articles (Harter & Agrawal, 2014:2) present findings that indicate similar engagement levels are experienced by both the baby boomer generation and the Generation Xers. However, they found that baby boomers demonstrated a slightly higher level of engagement than millennials (see table 3).

	MILLENNIALS (1980-1996)	GENERATION X (1965-1979)	BABY BOOMERS (1946-1964)
ENGAGED	29%	32%	33%
NOT ENGAGED	55%	50%	49%

Table 3: Generational Engagement Levels (Adapted from Gallup U.S Daily tracking)

Psychometrics Canada conducted a survey, among HR professionals, in December 2010, in order to gauge business perspectives on workplace engagement. An examination of differences in engagement levels among different age groups formed a key part of the study. The results (Psychometrics Canada, 2011:8) indicated that the different age groups experienced similar levels of engagement.

In a paper presented by William Schaufeli (Schaufeli, 2004), a positive relationship between work engagement and age was reported. Further to this, Schaufeli and Bakker (2003:18) posited a correlation between age and work engagement, and calculated a correlation coefficient of $r=0.14$ to support this statement.

2.4 WORK MOTIVATION

The concept of motivation has been defined by numerous contemporary authors. Pinder (1998), as cited by Tremblay *et al.* (2009:213), provided a definition for work motivation, as being a combination of forces which may originate both within one's self and beyond the individual's being, that acts to drive work-related behaviour, and to determine how, at what magnitude, and in which direction, work will be approached. Latham and Pinder (2005:487) further considered motivation from the perspective of the interaction between the individual and his or her environment or situation.

2.4.1 Intrinsic and Extrinsic Motivation

There are numerous definitions for the concepts of intrinsic and extrinsic motivation. Teresa Amabile (1993) provided a definition which explained the differences between the two forms of motivation. She explains being intrinsically motivated as being driven to extract internal rewards, such as enjoyment, interest and even personal challenge achievement, from work' while she structures extrinsic motivation as the drive to extract rewards outside of those obtained from doing the work itself, such as salary, bonus or acknowledgement (as cited in Sexton, 2013:9).

As stated by Khan and Iqbal (2013:30), extrinsic motivation may also be defined as a construct that occurs whenever an activity is undertaken for the purpose of attaining a separate outcome, outside of the fulfilment of the task. A definition for intrinsic motivation, as provided by Ryan (2000), as cited by Khan and Iqbal (2013:31), is posited as the act of engaging in an activity out of the want for the enjoyment gathered from performing the activity itself, rather than an outside reward, or the activities extraneous value.

It is believed that the rewards linked to intrinsic and extrinsic motivation do not cancel each other out, but in fact work to maintain one another in a synergistic relationship (Khan & Iqbal,

203:32). Examples of intrinsic rewards include the feeling of enjoyment one experiences from mastering a new skill or task, a sense of accomplishment for a job well done, increased levels of work engagement when work is going according to plan, and any other positive emotional experience which can stem from a direct consequence of one's behaviour and actions. Extrinsic rewards, being contingent on results, take the form of outcomes valued by the employee, but introduced by an external party such as the employer. External rewards may be in the form of performance bonuses, salaries and recognition. (Aworemi *et al.*, 2011:228).

There are different factors within the facets of intrinsic and extrinsic motivation that encourage employees to become engaged in their work (Khan & Iqbal, 2013:33). The value attached to each may differ according to each individual but both require equal evaluation, monitoring and inclusion in an organisations strategy and even employee's personal development plans (Khan & Iqbal, 2013:32).

2.4.2 Self-Determination Theory

The primary difference between self-determination theory (SDT) and a number of other work motivation theories is that SDT focuses not on the total amount of motivation but rather the relative strength of autonomous versus controlled motivation a person experiences.

Self-Determination Theory (Deci & Ryan, 2000:70) expanded on the cognitive evaluation theory to include extrinsic motivation, and provide a distinction between autonomous and controlled motivation (Gagne & Deci, 2005:333). Three psychological needs forming the basis for the direction and resolve for human behaviour, were identified – autonomy, relatedness and competency. Deci and Ryan (2000:68) considered the satisfaction of the needs a crucial requirement for an individual's successful functioning.

Vansteenkiste *et al.* (2007:269) provides a connection between engagement and the satisfaction of the basic psychological needs for autonomy, competence and relatedness. Quoting Kasser, Ryan, Couchman and Sheldon (2004), he states that individuals, who are more likely to be intrinsically, rather than extrinsically orientated, will engage in those activities that function to satisfy their psychological needs, ultimately leading to positive job outcomes. (Vansteenkiste *et al.*, 2007:269). For the converse, a mind-set that is extrinsically orientated may act to hinder or interfere with growth (Vansteenkiste *et al.*, 2007:269).

According to Sexton (2013:13) autonomy is the need to feel that you have a choice in the decision to be made; competency is a belief in one's ability to complete a task; and relatedness is the need for relationships that are supportive and meaningful in nature.

Contained within SDT, is included the Organismic Integration Theory (OIT). OIT deals with extrinsic motivation and how external forces can become internally regulated via an internalisation process.

Figure 2 below describes the degree to which external regulation has been internalized in a self-determination continuum (Ryan & Deci, 2000:72). As pointed out by Ryan and Deci (2000:73), it is not suggested the continuum is developmental in such a way that employees need to progressively move through each stage of internalization, rather that internalization of a more autonomous behavioural regulation can occur at any point on the SDT continuum given specific individual life experiences and the immediate environmental circumstances that one finds themselves in.

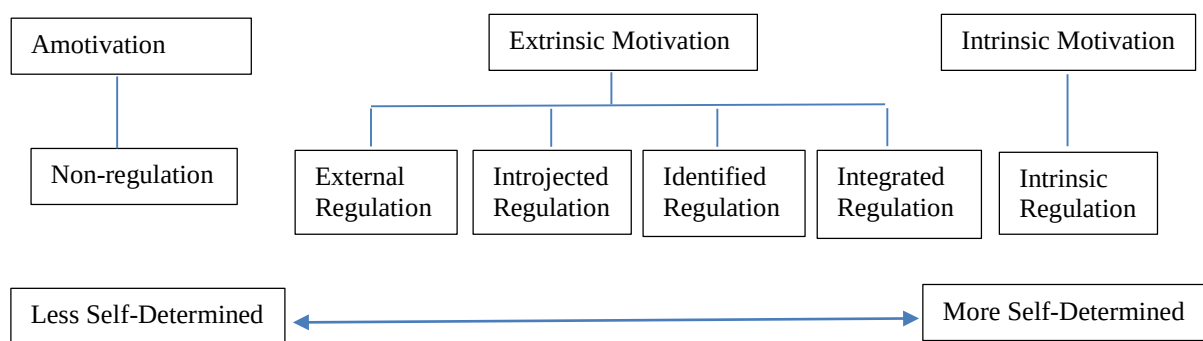


Figure 2: The Self-Determination Continuum (adapted from Ryan and Deci, 2000:72)

Amotivation and intrinsic motivation, being the two extremes of the continuum, represent the total lack of intention to act (amotivation) i.e. going through the motions; and a highly autonomous state (intrinsic motivation) characterised by the desire to perform a task purely for its inherent satisfactions (Ryan & Deci, 2000:73). In the centre of the continuum are the extrinsically motivated behaviours which range from lowest self-determined behaviour to the highest – i.e. from external regulation through to integrated regulation. *Integrated regulation* refers to the integration of acceptance that an activity can offer personal importance into the aspects of one's self; *Identified regulation* refers to a process that involves accepting the value an activity can add as being of personal importance; *Introjected regulation* refers to the taking in of a regulation but not yet accepting it as your own; and finally, *External regulation* refers to behaviours which are done to satisfy an external demand. Each progressive rightward move along the continuum involves increased levels of personal acceptance and ownership of an external regulation, into the creation of an autonomous form of extrinsic motivation.

Ultimately, the basic premise of self-determination theory is the degree to which behaviour may be autonomous versus the degree to which it is controlled (Sexton, 2013:17), where autonomous motivation includes intrinsic motivation as well as identified and integrated

regulation and controlled motivation encompasses external and introjected regulation (Gagne & Deci, 2005:335).

The key to autonomous regulation, according to SDT, is based on successfully satisfy the basic psychological needs for competence, autonomy, and relatedness (Meyer & Gagne, 2008:61). Gagne and Deci (2005:341) indicate that autonomously motivated employees are likely to realise better outcomes for both themselves and their employers, through improved effective performance and higher levels of well-being. Furthermore the limited satisfaction of the psychological needs is likely to result in a decreased level of performance and even a reduction in an individual's physical and psychological well-being (Meyer & Gagne, 2008:61). Many organisational studies using the SDT (e.g., www.selfdeterminationtheory.org) have provided support for the hypothesized contention that environments which are autonomy-supportive facilitate the promotion of intrinsic motivation, as well as the internalisation of extrinsic motivation, thus acting to increase satisfaction and performance outcomes (Sexton, 2013:18).

Meyer and Gagne (2008:31) state that proof exists that employees who are “engaged” in their work, experience higher levels of well-being, both psychologically and physically, than their colleagues who feel unmotivated or lack a degree of personal control. In a study conducted by Van den Broeck *et al.* (2010), using the WBNS, the results supported the belief that the fulfilment of the basic needs, within the context of SDT, may be associated with elements contributing to employee engagement (Dulagil, 2012:7).

2.4.3 Background: Theories of Motivation

Motivational theories have been classified into two groups, namely content theories and process theories. The first empirically based models proposed for explaining motivation were provided by James, Freud, and McDougall. These models were known as instinct theories, and were based on the belief that behaviour was a direct result of human instinct (Steers *et al.*, 2004:379-380, in Khan and Iqbal, 2013).

The shortcomings of these early theories led to the development of reinforcement based models, and the emergence of content theories (Khan & Iqbal, 2013:21). Examples of accepted content theories include Maslow's need hierarchy, McClelland's three factor theory, and Herzberg's two factor theory (Aworemi *et al.*, 2011:228). Another step forward for the study of motivational theories was the development of process or cognitive models. The most common of these include Vroom's expectancy theory, Adam's equity theory, Four-drive theory, and Skinners' reinforcement theory.

2.4.3.1 Content Theories

Content theories, according to Bloisi *et al.* (2007), and as cited by Khan and Iqbal (2013:21), explored identifying specific human needs, and the circumstances around which these said needs would function to activate certain behaviours in humans. According to Barnet (2006:2), content (or need) theories look towards the internal drivers of the individual that function to energize and mandate behaviour, i.e. motivation is a by-product of internal forces causing individuals to 'act or move' in a direction that will result in the realization of certain individual needs.

2.4.3.2 Process Theories

Process or cognitive theories of motivation are seen as the more practical motivational theories (Stotz & Bogler, 2011:21). These theories posit that individual behaviour is driven as a consequential outcome of the 'conscious decision-making process' (Barnet, 2006:2). Process theorists developed a viewpoint that considered motivation as a dynamic process, and holds that external events and factors function as motivating forces, resulting in performance which is relatable to expected outcomes. Finally, they believed that if the outcome was valued, the performance or behaviour of the individual would continue and if the outcome was not valued then the behaviour would cease.

2.4.4 Measures of Work Motivation

2.4.4.1 WBNSS

The work-related basic needs satisfaction scale (WBNSS) was developed in 2010 by Van den Broeck *et al.* The WBNSS was developed as a means to measure needs satisfaction within the organisational field of psychology (Van den Broeck *et al.*, 2010:995). Consistent with the self-determination theory, and through the administration of the scale to a number of research samples, the scale demonstrated that the three needs, namely autonomy, relatedness and competency, are distinct, yet related constructs. In other words, the scale measures the satisfaction of the three psychological needs identified in the self-determination theory.

2.4.4.2 WEIMS

The work extrinsic and intrinsic motivation scale (WEIMS) was developed by Tremblay *et al.* in 2009 (Tremblay *et al.*, 2009:213). The scale measures work motivation from the theoretical framework provided by the self-determination theory. This scale provides a tool that measures the six motivation types defined by the self-determination continuum. From the study conducted by Tremblay *et al.* in 2009, it is presented that the WEIMS is able to predict positive

and negative organisational criteria based on one's work self-determined motivation and work non self-determined motivation.

2.4.5 Work Motivation and its implications for Business

Aworemi *et al.* (2011:230) provided a list of the potential benefits that may come out of a motivated workforce:

1. Obtaining the best utilization of human resources for the benefit of the business;
2. Improvement of individual employee efficiencies, which further result in:
 - 2.1 Improved levels of productivity;
 - 2.2 Reduction in operational costs;
 - 2.3 An overall improvement in efficiency.
3. The attainment and fulfilment of organisational goals;
4. Creates a sense of employee well-being and employee satisfaction;
5. Increased work force stability and loyalty.

As stated by Sexton (2013:22), certain approaches to motivation may create an environment with the potential to be supportive of employees who feel happier, healthier, and more engaged, thus facilitating the creation of better performing employees within the work environment. The ultimate goal of motivated employees is not only improved company performance but to have a staff compliment that has high levels of citizen well-being and a desire to see the company succeed in terms of economic performance (Sexton, 2013:22).

2.4.6 Relationship between motivation and age

From reviewing the available literature, it seems that there are two distinct viewpoints with regards to the relationship that may exist between age and motivation. Rhodes (1983) initially reviewed the literature on the relationship between age-related differences in work attitudes and behaviour and found a positive correlation between age and intrinsic motivation.

Macky *et al.* (2008:860) reviewed a number of theories that asserted the existence of differences between generational cohorts and their views on work. Aligning with the fact that generations are motivated by different motivators, Montana and Lenghan (1999:29) identified that while generations X and millennials demonstrated shared motivators, Baby Boomers and older cohorts differed. Kooij *et al.* (2008:383), Kooij *et al.* (2011:214) and de Lange *et al.* (2011:349) have all provided empirical evidence that supports the viewpoint that while extrinsic work motivation decreases with age, intrinsic work motivation does the opposite and in fact increases. In examining demographic correlations that may exist among age and intrinsic

motivation, a significant positive correlation was demonstrated between age and intrinsic motivation, however, no such parallel correlation was observed for age and extrinsic motivation.

Giancola (2006:36) provided an opposing viewpoint, and stated that the differences perceived among the different generations were not substantiated by empirical evidence and in fact, motivational drivers among the cohorts are actually surprisingly similar. Support for Giancola's viewpoint was provided by Wong *et al.* (2008:887), whom, after conducting a large scale cross-sectional study was able to conclude that the differences identified, among motivators, were better explained by age differences rather than generational differences. Finegold *et al.* (2002:669) were able to identify significant differences among different age groups regarding a number of working relationships, such as satisfaction with work life balance, however, there exists no significant relationship between age and motivation. Brislin *et al.* (2005:99), Travis (2006:23), and Wiley (1997:273) in an examination of demographic correlations and intrinsic motivation among a sample population, found no significant correlation between the variables of age and motivation.

2.5 THEORETICAL MODEL

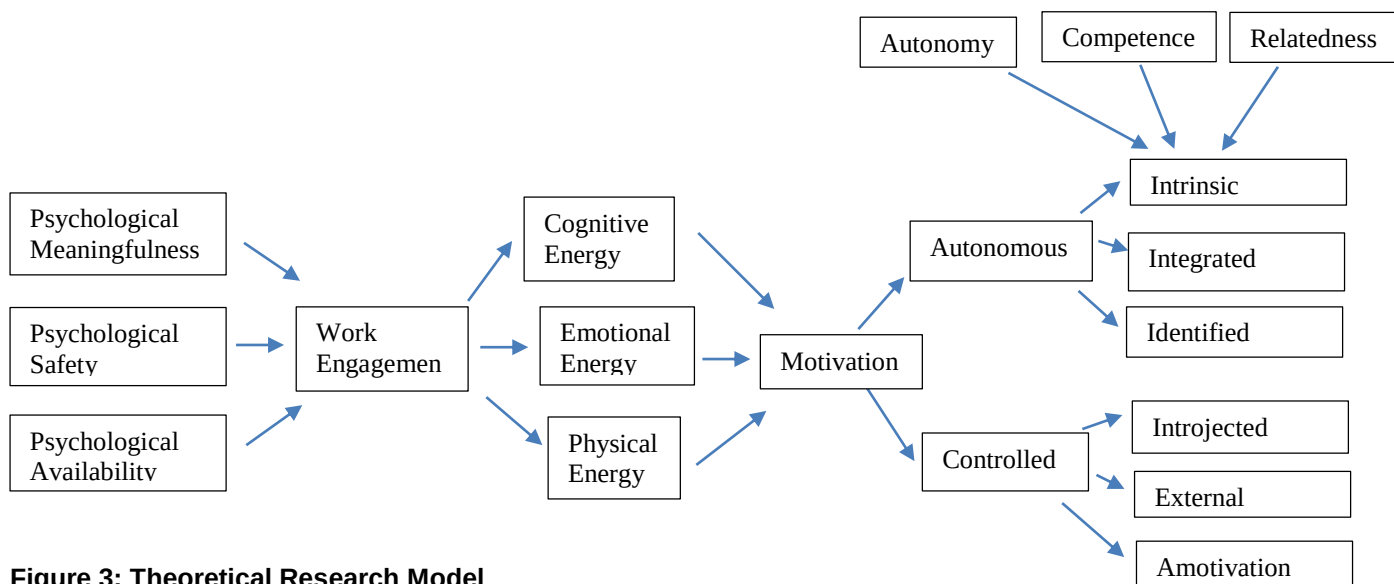


Figure 3: Theoretical Research Model

2.6 CHAPTER SUMMARY

This chapter set out to introduce the concept of the modern multigenerational workforce. Each of the generational age cohorts were defined and explored in further detail. The generation's unique characteristics and traits were touched on, as a means to provide context to how each group thinks and works. Among the challenges that these new multigenerational workforces

create for business, is the need to strive for a common shared vision and the generation of ideas and ways of empowering and engaging each member of staff.

The next section provided a definition of work engagement and considered briefly the four mainstream approaches to engagement. Khan's personal engagement theory was discussed in further detail. This section also provided an overview of the benefits that work engagement brings to business, which included increased profitability and lower turnover rates for organisations with engaged staff. Engaged employees may be indicative of a healthy organisation, and to this end, it is important to realise that business has an equally important role to play in fostering and encouraging employee engagement. As conclusion, a review of available literature pertaining to the relationship between engagement and age, presented findings which indicated that a similar degree of engagement was experienced across the age groups.

The concept of motivation was also discussed, providing an explanation and need for both intrinsic and extrinsic motivation. The self-determination theory and its continuum, as a method for establishing a platform for defining engagement, through the satisfaction of three basic psychological needs: autonomy, competence, and relatedness, was presented. A brief overview of content and process theories was provided, and, the benefits for business through building motivation were listed. To conclude, the relationship between work motivation and age was reviewed. The findings indicated that there are two distinct trains of thought regarding this relationship, those who have identified differences and those who believe the differences are negligible.

The next chapter describes the implementation phase of the research.

CHAPTER 3: DESCRIPTION OF THE IMPLEMENTATION PHASE

3.1 INTRODUCTION

This chapter discusses the research method and design employed in order to achieve the fulfilment of the research objectives as defined in Chapter 1. A description of the sample from which the data was collected is provided, as well as details of the procedure followed in order to collect the data for the statistical analysis.

3.2 RESEARCH APPROACH

The research was conducted following a quantitative research approach. By quantitative methods, researchers refer to techniques of randomised experiments, sample surveys, and such (Cook & Reichardt, 1979:9) and these techniques allow for the quantifying of an outcome in numbers thus providing an approach for measurement that allows for a more exact form (Zikmund, 2003:111).

The current research called for the need to generalise from the sample to the overall population in the plant, as well as needing to answer both the primary and secondary objectives of the study. In order to fulfil the aforementioned tasks, quantitative data was needed to facilitate the measurement of work engagement levels and motivational drivers of employees in a multigenerational workforce. As a result, the research followed a process that was primarily positivist or quantitative and questionnaires were therefore used for the collection of the data for the individual research.

3.3 RESEARCH DESIGN

Research design may be defined as the general strategy to be employed in order to solve a research problem (Creswell, 2003:247), or alternatively, as defined by Blumberg *et al.* (2008:94), it can be viewed as the planned and structured investigation embarked upon to answer a particular research question. According to Leedy (1997:94), once the problem has been correctly defined, the design is developed and becomes the format of the steps to be taken in the study.

A survey design was selected for use in this research study. Kerlinger (1986:25) considered the survey design to be very adapt for obtaining information regarding personal and social facts, as well as individual beliefs, and attitudes. In addition to this, is the fact that survey designs are believed to be very accurate within sampling error.

3.4 SAMPLE

A research population may be described as a group from which the researcher would like to make generalisations, and the sample as the group within the population, that is selected to participate in the research study.

The targeted population for this study was comprised of the employees of a particular plant (Zuikerbosch Pump Station) involved in the purification and delivery of water (Rand Water). Zuikerbosch pump station is situated in the south of Gauteng, in the suburb of Vereeniging, the plant currently employs 488 full time employees.

The development of the Zuikerbosch Pump Station came into operation in 1954. The plant forms part of Rand Water's distribution network, and is one of only two water treatment plants. This plant supplies water to Vereeniging and the Northern Free State, as well as to all booster pumping stations. Workers from all levels are included in the study population, ranging from professional staff members through to semi-skilled members of staff. All employees were presented with an opportunity to complete the questionnaire, however participation was voluntary and there was therefore no element of control over the number of responses expected.

3.5 QUANTITATIVE RESEARCH: RELIABILITY AND VALIDITY

During any data collection process for the purpose of research, the importance of the factors of reliability and validity need to be taken into account (Leedy, 1997:32).

3.5.1 Reliability in Quantitative Research

According to Muijs (2011:61) reliability in the context of statistical measurement may be seen to refer to the 'extent to which test scores are free of measurement error'. Black (1999:275) provides a definition which states that the reliability of a research tool is concerned with both the consistency of scores over time (test-retest reliability), as well as having the ability to provide the same information should the tool be used by different individuals (inter-related reliability).

The internal consistency of research instruments needs to be assessed when the measuring instrument measures more than one item and refers to how homogeneous the items are (Muijs, 2011:63). Internal consistency refers to the degree of consistency with which a number of items in a test instrument may consistently measure a particular single construct (Johnson & Christensen, 2012:140). Muijs (2011:63) discusses the two main ways that may be used to calculate internal reliability consistency, namely "split-half" reliability and coefficient alpha.

The “split-half” test functions by randomly splitting responses to a question into two sets, then the sum of the scores in each set is totalled and finally a correlation between the two sets was performed. With a strongly related correlation, a correlation coefficient of over 0, 8 is expected (Muijs, 2011:65). Coefficient alpha (also known as Cronbach’s alpha) provides an estimate of reliability as the average of all possible split-half correlations, which are corrected by the Spearman-Brown formula. Another way of looking at it, is that the coefficient alpha indicates the degree to which the instrument items are interrelated (Johnson & Christensen, 2012:142).

The reliability of the three measuring instruments utilized in the research study is discussed below.

3.5.2 Validity in Quantitative Research

Validity is defined ‘as the appropriateness of the interpretations, inferences, and actions that we make based on test scores’ (Johnson & Christensen, 2012:143).

There are three common types of validity (Swanson & Holton, 2005:36-37):

Content validity is the minimum requirement for acceptable research, and it measures how well the set of questions in an instrument represents the context of the intended setting. A major judgement of the appropriateness of an instrument’s content validity would be its accordance to the accompanying theory pertaining to how the concept works and what the concept is.

Criterion validity possess the question: Does the measure truly predict the dependent variable it is purported to measure?

Construct validity, which relates to the instruments internal structure and the particular concept that it is measuring, is a slightly more complex issue. Construct validity involves demonstrating relationships between the concepts being studied and the theory that is relevant to each concept. Among the techniques which may be used to demonstrate construct validity, is factor analysis. Factor analysis is a statistical analysis procedure that analyses correlations among test items to determine the number of factors present (Johnson & Christensen, 2012:146). A particularly useful technique for examining relationships between large numbers of items and for linking like items to various dimensions, factor analysis can determine whether the test is either one-dimensional or multidimensional.

The validity of the measuring instruments used in the study are discussed below.

3.6 MEASURING INSTRUMENTS

In order to gather necessary demographical characteristics of the participants, a biographical questionnaire was developed and included as the first section of the compiled questionnaire document. Among the information to be gathered through the completion of the biographical questionnaire were participant's gender, age group, race, level of employment, duration of employment and qualification.

Three standardized questionnaires were used in the empirical study and each is discussed below. The questionnaires are shown in the Appendix section.

3.6.1 Work Engagement Scale

The Work Engagement Scale (WES; May *et al.*, as adapted by Diedericks & Rothmann, 2013) was used to measure employee engagement. For all items, a seven-point rating scale was used, it ranged from 1 (*Never or almost never*) to 7 (*Almost always to always*). The items contained in the scale reflect the three components of employee engagement, namely cognitive (e.g. 'I am very absorbed in my work'), emotional (e.g. 'I am passionate about my job'), and physical engagement (e.g. 'I am full of energy in my work').

This scale compromised section B of the questionnaire, and required 5 to 10 minutes to complete. The scale consisted of 12 questions, and measured the level of engagement that the respondent experienced, by calculating an average of the 12 items. The 12 questions covered the three components of engagement (each component had four related questions): Cognitive Engagement (questions 1, 2, 3, 4); Emotional Engagement (questions 5, 6, 7, 8); and Physical Engagement (questions 9, 10, 11, 12). May *et al.* (2004) reported an alpha-coefficient of 0,77 for this scale.

3.6.2 Work-Related Basic Need Satisfaction Scale

In order to measure employee's personal experiences at work, the Work-related Basic Need Satisfaction Scale (WBNSS; Van den Broeck *et al.*, 2010) was used. The scale measured each participant's satisfaction with three psychological needs, namely autonomy (7 items, e.g. 'I feel like I can be myself at my job'), competence (6 items, e.g. 'I am good at the things I do in my job'), and need for relatedness (10 items, e.g. 'At work, people involve me in social activities'). The scale made use of a five-point rating scale, varying from 1 (*Totally disagree*) to 5 (*Totally agree*).

Section C of the questionnaire measured the degree to which the three psychological needs (autonomy, competence, and need for relatedness) stimulated intrinsic motivation in the

respondents. The questionnaire required approximately 15 minutes to complete. The 23 items included in the work-related basic need satisfaction scale was subdivided into 7 items related to autonomy (1, 4, 7, 10, 13, 16, and 19); 6 items for competence (2, 5, 8, 11, 14, and 17); and 10 items related to need for relatedness (3, 6, 9, 12, 15, 18, 20, 21, 22, 23). For analysis purposes, some of the questions related to the need for autonomy (questions: 7, 10, and 19) and need for relatedness (questions: 3, 9, 15, 22, and 23), needed to be reversed in ranking prior to inclusion in statistical calculations. CFA results favoured the three-factor structure of the questionnaire, and reliabilities of the autonomy, competence, and relatedness satisfaction scales were on average .81, .85, and .82 respectively (Van den Broeck *et al.*, 2010:993).

3.6.3 Work Extrinsic and Intrinsic Motivation Scale

The Work Extrinsic and Intrinsic Motivation Scale (WEIMS) is an 18-item measure of work motivation theoretically grounded in self-determination theory (Deci & Ryan, 2000) and was developed by Tremblay, Blanchard, Taylor, Pelletier and Villeneuve (2009). The WEIMS is divided into six subscales (each with three corresponding items), corresponding to the six types of motivation postulated by SDT; Intrinsic Motivation (e.g. 'Because I derive much pleasure from learning new things'), Integrated Regulations (e.g. 'Because it has become a fundamental part of who I am'), Identified Regulations (e.g. 'Because this is the type of work I chose to do to attain a certain lifestyle'), Introjected Regulations (e.g. 'Because I want to succeed at this job, if not I would be very ashamed of myself'), External Regulations (e.g. 'For the income it provides me'), and Amotivation (e.g. 'I don't know, too much is expected of us'). The instrument makes use of a Likert-type scale ranging from 1 (*does not correspond at all*) to 5 (*corresponds exactly*), representing the reasons that the participants are presently involved in their work.

The work extrinsic and intrinsic motivation scale (Section D) in the questionnaire measured all six motivational constructs postulated by self-determination theory. The questionnaire took approximately 10 minutes to complete. Below, as found by Tremblay *et al.* (2009:221) is a breakdown of the questions related to each of the six subsections, as well as the relevant alpha-coefficients for each:

Table 4: WEIMS question allocation and coefficients

Subscale		Related Questions	Alpha-Coefficient
Intrinsic Motivation		4, 8, 15	.87
Extrinsic Motivation	Integrated Motivation	5, 10 18	.80
	Identified Motivation	1, 7, 14	.70
	Introjected Motivation	6, 11, 13	.76
	External Motivation	2, 9, 16	.73
Amotivation		3, 12, 17	.75

3.7 PROCEDURE

3.7.1 Initial Preparations

An initial meeting was held with the human resource department to discuss the purpose of the research study and to ask permission to use the employees of Zuikerbosch Pump Station for the study. A letter requesting permission to administer the questionnaire was given to the human resource department, see Appendix 1.

3.7.2 Ethical Considerations

Early on in the initial discussions with the human resources department, ethical considerations regarding confidentiality and privacy of the respondents were addressed. All participants were informed that the completion of the questionnaire was voluntary and anonymous. A brief forward accompanied the questionnaire to act as an introduction to the exercise and to provide an explanation as to the purpose of the research. Included in the introduction, was a surety that the responses would be held in the strictest confidence and any feedback, which would be presented to Zuikerbosch Pump Station, would be in the form of a report detailing only the overall results and not the individual responses.

3.7.3 Administration of the Questionnaires

In order to encourage employees to participate in the study and complete the questionnaire, a covering letter was compiled and presented with each copy of the questionnaire. The letter detailed the purpose of the study and requested their assistance in completing the questionnaire. The letter highlighted and assured the employees that completion of the questionnaire was voluntary and that all information would be held as confidential.

The administration and subsequent collection of the completed questionnaires was managed by the plants human resource department. The researcher availed herself for any queries which may have arisen.

3.7.4 Data Capturing and feedback

The completed questionnaires were collected from the human resource department at Zuikerbosch Pump Station. The data was captured in an MS Excel spreadsheet in order to aid with the facilitation of the statistical analysis.

Feedback of the overall results of the questionnaire was provided to the human resource department, as per request.

3.8 STATISTICAL ANALYSIS

For the purposes of the statistical analysis of the data, two different statistical programs were used, namely; SPSS and AMOS. IBM SPSS (Version 22, release 22.0.0) will be used for the general purpose statistical analysis, whereas AMOS 22.0.0 (Version 22, Build 817) will be used for the purposes of structural equation modelling (SEM).

In order to determine validity, the research made use of confirmatory factor analysis (CFA). CFA is a part of SEM, it functions to provide a fixed value for the measurement error to a reasonable extent by looking at the relationship between the manifest variables and the latent variable (Muijs, 2011:235). The decision to use CFA, rather than exploratory factor analysis (EFA), was due to the appropriateness of CFA in confirming a predetermined factor structure based on theory or prior research (Swanson & Holton, 2005:197). EFA on the other hand is more often used in incidences where it may be necessary to discover a set of a small number of latent constructs when there is a larger number of observed variables present (Swanson & Holton, 2005:197).

Cronbach alpha coefficients were calculated as a measure of the internal consistency reliability of the three measuring instruments. Internal consistency reliability relates to the extent to which all the variables that make up the scale are measuring the same thing. As a general guideline, a Cronbach alpha above 0.7 is deemed acceptable for the purposes of research (Muijs, 2011:217).

Spearman rho rank order correlations were calculated by taking into account the rankings of the questions, rather than the actual data, considering the use of ordinal variables in the research. There are a number of restrictions which need to be kept in mind when using correlation coefficients, such as the fact that they may be affected by outliers and restricted range, and finally, it is important to be cognitive that the existence of a correlation does not necessarily imply causation (Muijs, 2011:136).

Effect sizes will be looked at for the evaluation of the practical significance of associations, and is done, so as to compare the strength of the effect of different variables. This will be done through the use of analysis of variance (ANOVA). ANOVA compares the mean score of an ordinal (or continuous) variable amongst a number of groups. ANOVA uses the F-test to determine whether there are significant differences between the means of the groups. For the purposes of this research study, the biographical variable that is of interest is the age cohorts of the sample.

3.9 RESEARCH OBJECTIVES

The following research objectives were formulated for the purposes of this study:

The *primary objective* of the research was to explore the relationship between work engagement, multigenerational workforces and employee motivation within a selected Rand Water plant.

The *secondary objectives* of this research were:

- To determine the factor structures and internal consistencies of the WES, WBNS, and WEIMS instruments used in the questionnaire within the selected sample;
- To determine whether there were differences among the generations in terms of intrinsic and extrinsic motivation in the workplace;
- To identify if the different generational groups experienced the same level of physical, cognitive and emotional work engagement;
- To determine whether the different generational groups experienced the same degree of satisfaction of the basic psychological needs: autonomy, competence, and relatedness;
- To determine whether there is a relationship between the basic psychological needs for autonomous motivation and a specific component of engagement for the sample;
- To determine whether there is a relationship between the drivers of intrinsic motivation and the motivation subscales of the SDT continuum;
- To establish if a correlation existed between levels of work engagement and intrinsic and extrinsic motivation within a multigenerational workforce.

3.10 CHAPTER SUMMARY

This chapter dealt with the methodology utilised, as it pertained to the research study. The selection of the participants was discussed, and the standardized instruments included in the questionnaire were detailed. The chosen statistical methods for the analysis of the data were provided, along with a discussion around each method.

CHAPTER 4: DISCUSSION OF RESULTS

4.1 INTRODUCTION

Chapter 3 provided an outline of the research methodology and the research techniques applied during the various stages of the empirical research. Chapter 4 details the results of the empirical study.

The chapter presents the results in two sections. Firstly, the results obtained from the biographical questionnaire are discussed and secondly, interpretations of the data collected from the three instruments included in the questionnaire are presented.

4.2 BIOGRAPHICAL INFORMATION

Below is an introduction to the biographical profile of the sample (refer to Table 5). Data for the listed biographical characteristics was collected and is reported below for gender, age group, race, level of employment, duration of employment and qualification.

A total of 164 questionnaires were completed representing a response rate of 33.6%. In Table 5, the numerical dispersion of the sample is indicated using both frequency and percentage figures. The sample of 164 respondents consisted of 107 males (65.2%) representing the majority and 57 (34.8%) females representing the minority.

The age groupings ranges were defined so as to link into the generational cohorts, as indicated in Chapter 2. Millennials (19 to 34 years of age), constituted 22% of the sample with 36 respondents falling into this age category. Generation Xers (35 to 50 years of age) represented the majority of the sample, with 97 (59%) respondents falling within this category. The minority group, the Baby Boomers cohort (51 to 69 years of age), had 31 (19%) respondents falling into this grouping.

In terms of race, the majority, 76.9%, of respondents (126) indicated that they were black. White respondents were the second most, with 28 respondents (17.1%). Indians and coloureds were each represented at a percentage of 3% of the respondents.

Table 5: Biographical Profile of the Respondents

Item	Category	Frequency	Percentage
Gender	Male	106	65
	Female	57	35
Age Group (years)	19 – 34	36	22.0
	35 – 50	97	59.1
	51 – 69	31	18.9
	≥ 70	0	00.0
Race	Black	125	76.7
	White	28	17.2
	Coloured	5	3.1
	Indian	5	3.1
	Other	0	00.0
Level of Employment	Junior	96	58.9
	Middle	53	32.5
	Senior	13	8.0
	Top	1	0.6
Duration of Employment (years)	0 – 2	29	17.7
	3 – 5	30	18.3
	6 – 10	26	15.9
	> 10	79	48.2
Qualification	Below Matric	45	27.6
	Matric	78	47.9
	Diploma/Degree	35	21.5
	Post-graduate	5	3.1

There was a single respondent in top management. Of the remaining respondents, 97 (59.2%) were junior employees, 53 (32.3%) were in middle management, and 13 (7.9%) were members of senior management.

When reviewing the duration of employment at Zuikerbosch Pump Station, the results showed that 79 (48.2%) respondents indicated that they had been employed in excess of 10 years. Collectively, 59 (36%) respondents fall in the 0 to 5 years duration of employment. Finally, 15.8% (26) of respondents reflected that they had been with Zuikerbosch Pump Station for an employment duration period of between 6 to 10 years.

The majority 47, 6% of the respondents indicated that they had as their highest qualification, a matric certificate. Those respondents with a qualification below matric level where 45 (27.4%), followed by 22% (36) of respondents having either a diploma or degree qualification, while the minority (3%) have a postgraduate qualification.

4.3 DESCRIPTIVE STATISTICS

4.3.1 Work Engagement

Results for the assessment of work engagement levels amongst the respondents are presented in Table 35 in the appendix section, the Work Engagement Scale adapted by Diedericks and Rothmann was used to collect the data. The scale relates to the three components of engagement, namely cognitive engagement, emotional engagement, and physical engagement. Table 6 presents the mean and standard deviation for each of the three engagement components:

- 1) *Cognitive Engagement* = mean (B1, B2, B3, B4)
- 2) *Emotional Engagement* = mean (B5, B6, B7, B8)
- 3) *Physical Engagement* = mean (B9, B10, B11, B12)

Table 6: Mean and Standard Deviation values for the Dimensions of Work Engagement

Dimensions	Mean	Standard Deviation
Cognitive Engagement	4.40	0.38
Emotional Engagement	5.50	0.31
Physical Engagement	5.33	0.10

As seen in the table above, the responses indicated that the respondents are most highly engaged on the emotional dimension, in other words, the respondents express a higher degree of emotional engagement. Emotional engagement indicates that employees feel they have a good relationship with their managers and their fellow colleagues. The lowest ranking of the three dimensions, cognitive engagement, with a mean score of 4.40 indicates that respondents only experienced cognitive engagement sometimes. Cognitive engagement is attained when an employee experiences a sense of importance inside the organisation and has a desire to do well. The significance of this ranking is the opportunity it presents for the organisation to develop and improve employee engagement on this particular dimension.

4.3.2 Employee Motivation

Employee motivation was measured using two instruments, the Work-related Basic Need Satisfaction Scale (WBNSS) and the Work Extrinsic and Intrinsic Motivation Scale (WEIMS).

The **WBNSS**, section C of the questionnaire, was used to measure the respondents stimulated intrinsic motivation through their levels of satisfaction with three specific psychological needs:

- 1) *Autonomy* = Mean (C1, C4, C7*, C10*, C13, C16, C19*)
- 2) *Competence* = Mean (C2, C5, C8, C11, C14, C17)
- 3) *Need for Relatedness* = Mean (C3*, C6, C9*, C12, C15*, C18, C20, C21, C22*, C23*)

* The responses to these questions need to be reversed for calculation purposes

Table 36 (in the appendix section) provides the responses, as well as the mean and standard deviation for each of the 23 questions contained within the WBNSS. Table 7 provides the mean and standard deviation values for the three psychological needs measured.

Table 7: Mean and Standard Deviation Values for the Psychological Needs of WBNSS

Psychological Need	Mean	Standard Deviation
Autonomy	3.33	0.33
Competence	3.48	1.02
Need for Relatedness	2.91	0.70

The overall response for the WBNSS demonstrates that respondents are experiencing neutral feelings in terms of the satisfaction of the psychological needs for the stimulation of intrinsic motivation. As can be seen in the table above, competence, a belief in one's ability to complete a task, ranked the highest but also had the greatest standard deviation value, 1.02. This variation in the respondent's evaluation of the satisfaction of this need shows that although the majority of respondents feel neutral regarding competence, some employees feel more competent and some feel less competent than the majority of employees.

The **WEIMS**, section D of the questionnaire, grounded in self-determination theory, measured the respondents reasons for being involved in their work. The measurement is based on the six types of motivation as postulated by self-determination theory:

- 1) *Intrinsic Motivation* = Mean (D4, D8, D15)
- 2) *Integrated Regulation* = Mean (D5, D10, D18)
- 3) *Identified Regulation* = Mean (D1, D7, D14)
- 4) *Introjected Regulation* = Mean (D6, D11, D13)

5) *External Regulation* = Mean (D2, D9, D16)

6) *Amotivation* = Mean (D3, D12, D17)

Table 8 shows the mean and standard deviations of the six subscales of motivation. Table 37 (in the appendix section) provides the details of the survey responses for the 18 questions in the WEIMS.

Table 8: Mean and Standard Deviation for the subscales of WEIMS

Subscales of Motivation	Mean	Standard Deviation
Intrinsic Motivation	5.17	0.15
Integrated Regulation	5.07	0.36
Identified Regulation	4.97	0.37
Introjected Regulation	5.43	0.30
External Regulation	4.82	0.40
Amotivation	3.28	0.53

From the table above, it is clear that the lowest ranking dimension, with an average score of 3.28, is amotivation, the relative absence of motivation. Intrinsic motivation ranked higher than average, indicating that the respondents experienced a higher than average degree of intrinsic motivation towards their work.

When reviewing the stages of the extrinsic motivation demonstrated on the SDT continuum, namely integrated, identified, introjected, and external regulation, and comparing them according to the mean values obtained, we find that introjected regulation ranks highest with a mean score of 5.43. As stated in the theory, the stages of extrinsic motivation along the SDT continuum is not a progressive move, and that individuals can express differing degrees of autonomous behaviour internalization as a consequence of individual experiences and the work environment. Given the aforementioned, the interpretations of the results indicate that many employees are in a process of adopting organisational rules but not yet incorporating them into a sense of self – employees go along with the task because they believe they should and experience feelings of guilt if they do not.

4.4 FACTOR ANALYSIS AND RELIABILITY MEASUREMENTS

Confirmatory factor analysis was used to investigate the proposed theoretical dimensions of employee engagement as presented in the WES adapted by Diedricks and Rothmann (2013).

Cronbach alpha statistic is widely used in the social sciences as a coefficient of reliability and not a statistical test. The Cronbach alpha value reflects a level of internal reliability. The

minimum required value for Cronbach alpha is 0.7, indicating acceptable reliability (Schmitt, 1996:351).

Following the reliability calculations, confirmatory factor analysis (CFA) was carried out for each instrument. CFA is a statistical technique used to verify the factor structure of a set of observed variables, in other words, it is used to confirm or reject the measurement theory. In using CFA, researchers can specify the number of factors required in the data, and which measured variable is related to which latent variable. In the case of the current research, the factors were already identified in the instruments and confirmatory factor analysis was only performed to confirm the proposed model of theory each questionnaire was testing.

In order to determine the adequacy of model fit to the data, there are several statistical tests on which CFA relies:

- The chi-square test (CMIN/DF) indicates the amount of difference between expected and observed covariance matrices (Suhr, 2006:1). An acceptable ratio for this statistic ranges from a high point of 5.0 (recommended by Wheaton et al., 1977) to a low end point of 2.0 (recommended by Tabachnick & Fidell, 2007) (Hooper et al., 2008: 54).
- The Comparative Fit Index (CFI) is equal to the discrepancy function adjusted for sample size. CFI ranges from 0 to 1 with a larger value indicating better model fit (Suhr, 2006:2).
- Root Mean Square Error of Approximation (RMSEA) is related to residual in the model. RMSEA values range from 0 to 1 with a smaller RMSEA value indicating better model fit (Suhr, 2006:2).

4.4.1 Employee Engagement

Work Engagement Scale:

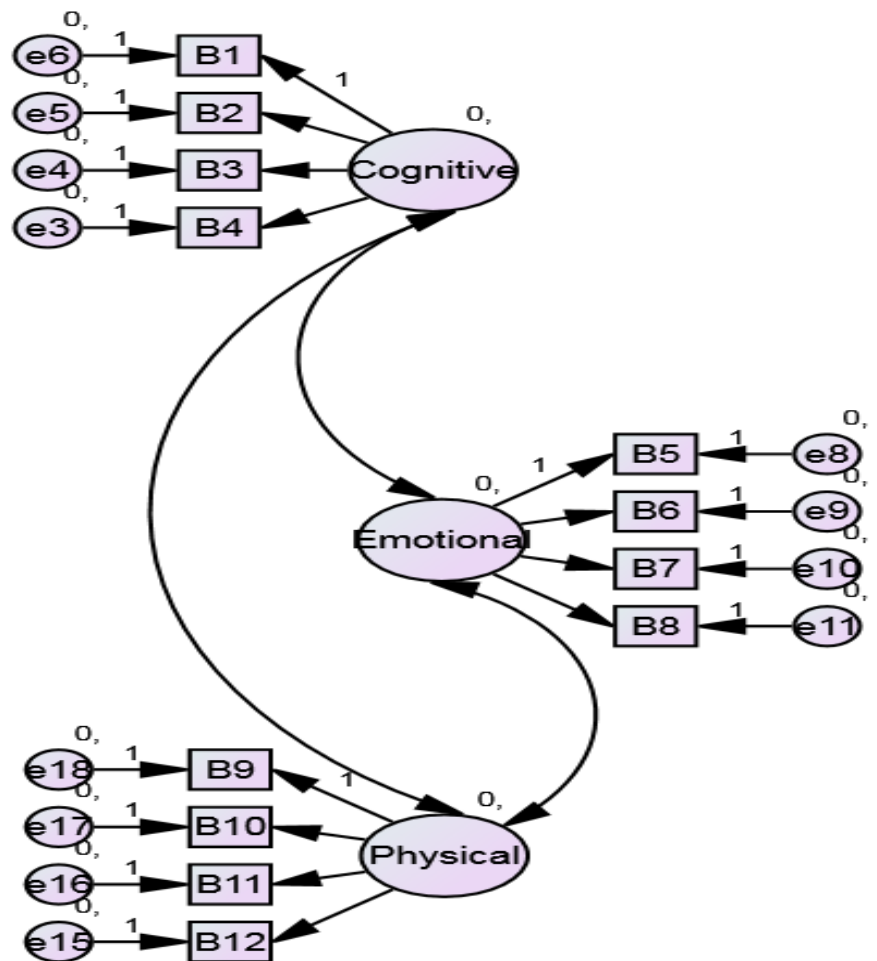


Figure 4: CFA Model for Work Engagement: 3 Factors

In Table 9 below, the reliability values for the three identified constructs of employee engagement are presented. The Cronbach alpha values are above the minimum required value of 0.7.

Table 9: Results for the factor reliability for the identified dimensions of the WES

Factor	Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of items
Cognitive Engagement	.78	.78	4
Emotional Engagement	.94	.94	4
Physical Engagement	.94	.94	4

Both emotional engagement and physical engagement showed very high reliability levels with Cronbach alphas of 0.94 and 0.94 respectively. Given the acceptability of the factors based on the Cronbach alpha values, the mean and standard deviations of the aggregate scores were calculated and are presented in Table 10 below.

Table 10: Descriptive Statistics for the identified factors of the WES

	Mean	Standard Deviation
Cognitive Engagement	4.41	1.33
Emotional Engagement	5.50	1.46
Physical Engagement	5.32	1.42

Work engagement was measured through the ranking of items related to the three identified constructs, namely, cognitive engagement, emotional engagement, and physical engagement. The scale used for the ranking was a 7-point Likert scale, with four indicating a ranking of “sometime”, values above four indicate an increase in frequency and values below a decrease in frequency of occurrence. From the results above, it appears that the respondents experience elements of physical and emotional engagement more frequently, with the average figure being slightly more positive for both components (5.50 and 5.32 respectively), then cognitive engagement, with a mean value of 4.41, indicating sometimes. The scores shown above are similar to the scores calculated from the theoretical dimensions of cognitive, emotional and physical engagement shown in Table 6.

Table 11: Standardized Regression Weights for the WES

	Estimate	Significance
B4 <--> Cognitive	.86	***
B3 <--> Cognitive	.54	***
B2 <--> Cognitive	.60	***
B1 <--> Cognitive	.80	***
B5 <--> Emotional	.88	***
B6 <--> Emotional	.94	***
B7 <--> Emotional	.91	***
B8 <--> Emotional	.82	***
B12 <--> Physical	.91	***
B11 <--> Physical	.91	***
B10 <--> Physical	.93	***
B9 <--> Physical	.85	***

*** p<0.005

From the table above, we can see that all the variables for the engagement constructs are significant, with significance values below 0.005. The estimate values for the three identified components of work engagement range from 0.54 to 0.94. On average, the cognitive engagement construct has the lowest factor loadings for the three components.

For cognitive engagement, the statement with the highest ranking is B4 “When I’m working, I often lose track of time”. For emotional engagement, B6 is the highest ranking, “I feel energised when I work”. B10, “I am full of energy in my work” is the highest related item for the physical engagement construct.

Table 12: Correlations between the identified factors in the WES

	Estimate	Significance
Cognitive <--> Emotional	.54	***
Physical <--> Emotional	.92	***
Physical <--> Cognitive	.46	***

*** p<0.005

Table 12 above provides the correlation estimates and significance values for the combinations of the identified factor pairings. The correlation of the factor pair, physical-emotional is very high and may warrant further investigation into the possibility of a combined factor, thus changing the work engagement scale from a three factor measurement to a two factor measurement. However, for the purposes of this research the acceptability of the three factor model will be held and carried forward. Cognitive engagement has a similar correlation with both physical engagement and emotional engagement.

The model fit is presented in Table 13 below. From the results, we can conclude that the model is a good fit, all the measured variables meet the guideline value expectations.

Table 13: Model Fit Results for the 3 factor WES model

		Guideline Values	Result
<i>CMIN/DF</i>		2 – 5	2.42
<i>CFI</i>		>0.9	0.96
<i>RMSEA</i>		<0.1	0.09
	LO 90		0.07
	H 90		0.12

4.4.2 Employee Motivation

The evaluation of the reliability of the two instruments, namely the WBNSS and WEIMS, used to measure employee motivation, was carried out through the calculation of Cronbach Alpha for each of the identified factors within each of the questionnaires.

Work-Related Basic Needs Satisfaction Scale:

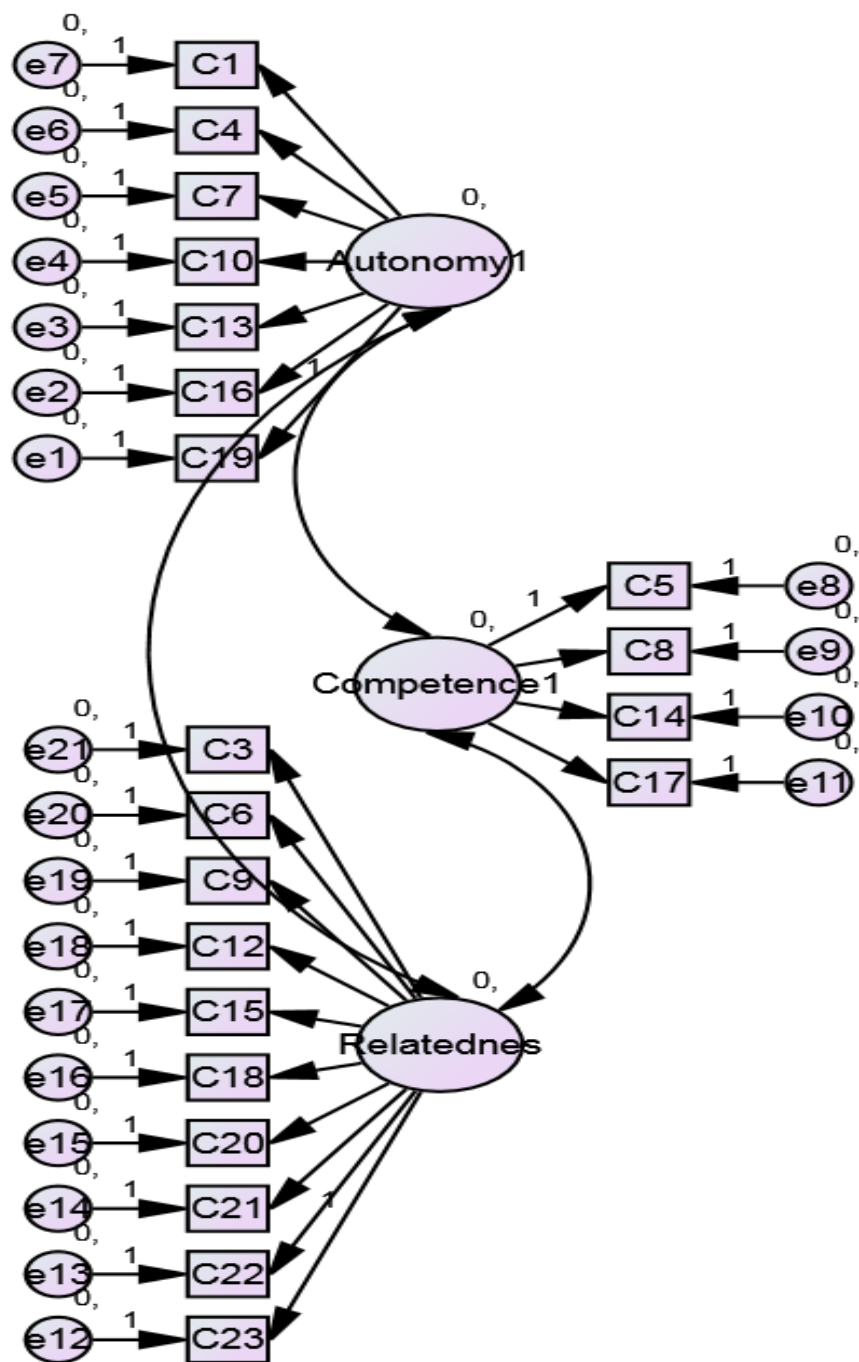


Figure 5: CFA Model for the WBNS: 3 Factors

Table 14 below presents the calculated Cronbach Alpha values for the three identified factors of the WBNS instrument, namely autonomy, competence and need for relatedness.

Table 14: Results for the factor reliability for the identified dimensions of the WBNSS

Factor	Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of items
Autonomy	.67	.67	7
Competence*	.84	.84	4
Need for Relatedness	.79	.79	10

All three factors have Cronbach alpha values above and near the stated minimum requirement of 0.7, and can thus be regarded as acceptable. Competence shows the highest level of reliability with a value of 0.84, however this was only after adjustment, see Table 15 below. (*This factor was adjusted from being based on six questions, to only four. This decision was reached following further analysis (i.e. item-total statistics). Questions C2 and C11 were excluded from the calculation going further.)

Table 15: Cronbach's Alpha for the competence factor of the WBNSS

	Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of items
Initial Competence	.54	.59	6
Recalculated Competence	.84	.84	4

Table 16 below presents the mean score and standard deviation for the three factors. Along with demonstrating the highest level of internal consistency, the competence factor also has the highest mean value of the three factors. The Likert scale used for this questionnaire was a five point scale. Three was "neutral", higher values being "agree" and lower values "disagree". It appears that the respondents felt that their intrinsic need for competence was met to a higher degree, than the other two needs.

Table 16: Descriptive statistics for the confirmed factors of the WBNSS

	Mean	Standard Deviation
Autonomy	3.29	0.73
Competence	4.13	0.80
Need for Relatedness	3.63	0.71

In CFA analysis, the standardized estimates allow the researcher to evaluate the relative contributions of each predictor variable to each outcome variable. Table 17 below provides the estimate and significance values for the individual items related to the factors of work engagement. The results are significant for values <0.005. The larger the estimate value, the stronger the factor loading. (***) $p < 0.005$

Table 17: Standardized Regression Weights for the WBNSS

	Estimate	Significance
C19 ← Autonomy	.51	***
C16 ← Autonomy	.63	***
C13 ← Autonomy	.60	***
C10 ← Autonomy	.03	.746
C7 ← Autonomy	.18	.059
C4 ← Autonomy	.36	***
C1 ← Autonomy	.72	***
C5 ← Competence	.73	***
C8 ← Competence	.72	***
C14 ← Competence	.74	***
C17 ← Competence	.79	***
C23 ← Relatedness	.43	***
C22 ← Relatedness	.47	***
C21 ← Relatedness	.47	***
C20 ← Relatedness	.65	***
C18 ← Relatedness	.38	***
C15 ← Relatedness	.44	***
C12 ← Relatedness	.69	***
C9 ← Relatedness	.28	.005
C6 ← Relatedness	.74	***
C3 ← Relatedness	.36	***

*** p<0.005

The estimates for autonomy ranged from a very low value of 0.03 to a high of 0.72, with the statements related to C10 and C7 showing significance values above 0.005, indicating limited significance for the autonomy dimension. Statement C1 “I feel free to express my ideas and opinions in this job”, is the most highly related item for the autonomy construct. The estimates for the competence construct ranged from 0.72 to 0.79 indicating that all factors had a high relatability to the construct. C17 “I have the feelings that I can even accomplish the most difficult tasks at work” having the highest relatability. The construct of relatedness had a single item with a significance level below 0.005, C9. Overall, the estimates ranged from 0.28 to 0.74. C6 “At work, I feel part of a group” relating to the highest degree with the construct under measurement.

Table 18: Correlations between the identified factors in the WBNSS

	Estimate	Significance
Autonomy <--> Competence	.66	***
Relatedness <--> Competence	.59	***
Relatedness <--> Autonomy	.82	***

*** p<0.005

Further to the estimate and significance values provided in Table 17, Table 18 provides the calculated correlations between each pair of factors. The correlation estimates show the strength of association among the factors. The pair of factors with the highest correlation (0.82) is relatedness and autonomy. Table 19 below presents the results of the statistical tests performed to measure the “goodness of fit” of the model.

Table 19: Model Fit Results: 3 factor WBNSS Model

		Guideline Values	Result
<i>CMIN/DF</i>		2 – 5	3.32
<i>CFI</i>		>0.9	0.62
<i>RMSEA</i>		<0.1	.12
	LO 90		.11
	H 90		.13

Work Extrinsic and Intrinsic Motivation Scale:

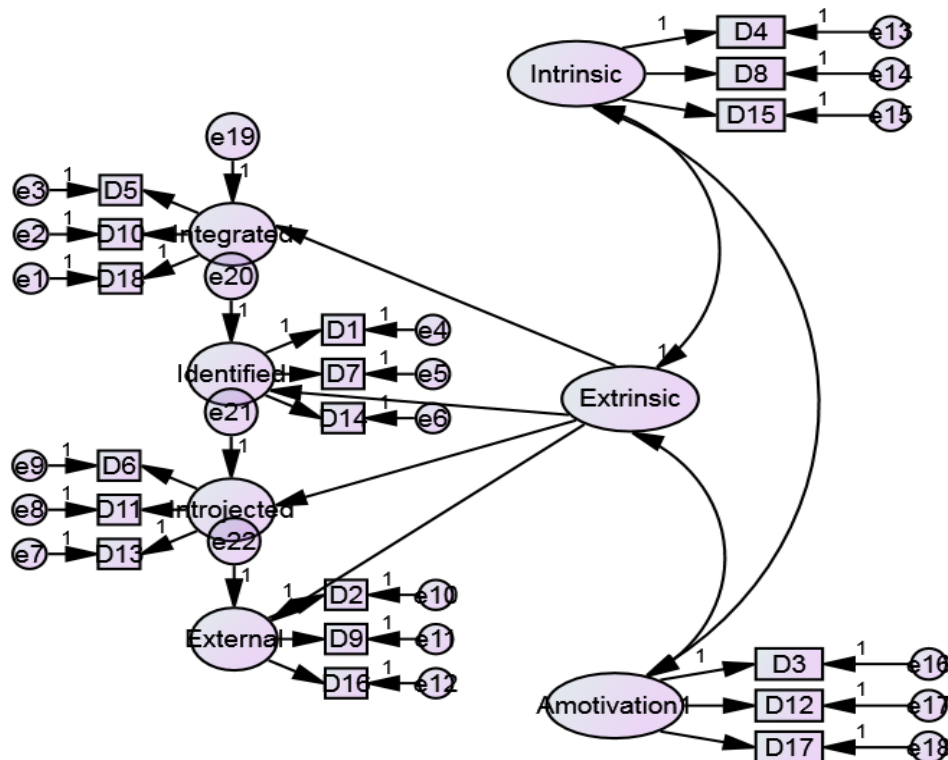


Figure 6: CFA Model for WEIMS: 7 Factors

Table 20 below presents the internal reliability values for the subscales of the WEIMS instrument. In total, seven constructs were measured using the Cronbach's alpha method with extrinsic motivation subdivided into four separate subscales. The values ranged from the lowest at 0.64 to the highest value of 0.86. In considering the three main constructs, namely intrinsic motivation, extrinsic motivation and amotivation, with respective values of 0.73, 0.86, and 0.70, all were above the minimum requirement of 0.7 indicating a high degree of consistency.

In the subscales of extrinsic motivation, Identified and Introjected Regulation had Cronbach alpha values above 0.7, while Integrated and External Regulation presented with values below 0.7. It should be taken into account however, that given the diversity of the constructs which are being measured by the instrument, particularly in the case of psychological constructs, that even values below 0.7 can realistically be expected (Field, 2009:675).

Table 20: Results for the factor reliability for the identified dimensions of the WEIMS

Factor	Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of items
Intrinsic Motivation	.73	.74	3
Integrated Regulation*	.66	.66	3
Identified Regulation*	.76	.76	3
Introjected Regulation*	.70	.70	3
External Regulation*	.64	.65	3
Amotivation	.70	.70	3
Extrinsic Motivation	.86	.86	4*

Since the Cronbach alpha values indicated that all subscales were sufficiently reliable, average scores for each of the subscales was calculated. Table 21 below presents the calculated averages and standard deviations of the aggregated scores. The WEIMS instrument was measured using a 7-point Likert scale. From the Likert scale five represented “neither agree nor disagree” answers, whereas values larger than five represented “agree” answers and values smaller than five indicated “disagree” answers. External regulation and amotivation fall on the more negative side of the Likert scale (towards disagree), with mean values of 4.81 and 3.27 respectively. This indicates that the respondents felt less positively about the impact of amotivation and external regulation as driving forces for employee motivation. Intrinsic motivation with a mean value of 5.18 showed that respondents felt marginally more positive about internal motivation as a driver of employee motivation.

Table 21: Descriptive statistics for the confirmed factors in the WEIMS

	Mean	Standard Deviation
Intrinsic Motivation	5.18	1.19
Extrinsic Motivation	5.08	1.05
Integrated Regulation	5.09	1.18
Identified Regulation	4.98	1.34
Introjected Regulation	5.42	1.22
External Regulation	4.81	1.28
Amotivation	3.27	1.42

Table 22 presents the estimate and significance values for the predictor variable for each outcome variable. When we consider the four subscales that make up the extrinsic motivation subscale, it is observed that all the variables strongly contribute to the extrinsic motivation

construct (as prelude to in the literature). All the variable had a significance value below 0.005, and as such all the items were significant. The estimate values of the six subscales ranged from 0.39 to 0.85.

Table 22: Standardized Regression Weights for WEIMS

	Estimate	Significance
Identified Regulation ← Extrinsic	.91	***
Introjected Regulation ← Extrinsic	.94	***
External Regulation ← Extrinsic	.81	***
Integrated Regulation ← Extrinsic	.95	***
D18 ← Integrated	.70	***
D10 ← Integrated	.64	***
D5 ← Integrated	.64	***
D1 ← Identified	.50	***
D7 ← Identified	.83	***
D14 ← Identified	.82	***
D13 ← Introjected	.67	***
D11 ← Introjected	.74	***
D6 ← Introjected	.66	***
D2 ← External	.49	***
D9 ← External	.65	***
D16 ← External	.72	***
D4 ← Intrinsic	.63	***
D8 ← Intrinsic	.78	***
D15 ← Intrinsic	.68	***
D3 ← Amotivation	.39	***
D12 ← Amotivation	.85	***
D17 ← Amotivation	.76	***

*** p<0.005

It can be seen from Table 23 below, that there are negative correlations between the intrinsic-amotivation and extrinsic-amotivation factor pairs. As expected, the extrinsic-intrinsic factor pair as a very high correlation estimate, 0.92. This high correlation attests to the increase in motivation level as both intrinsic and extrinsic motivation increases.

Table 23: Correlations between the identified factors: Extrinsic, Intrinsic, Amotivation

	Estimate	Significance
Extrinsic <--> Intrinsic	.92	***
Intrinsic <--> Amotivation	-.27	.03
Extrinsic <--> Amotivation	-.20	.05

*** p<0.005

Table 24 below presents the results of the data for the measurement of the model fit. The CFI value of 0.84 is near 0.9, which is indicative of a good model fit, further to this, a CMIN/DF of <3 represents a good fit. The 0.09 value for RMSEA demonstrates a moderate fit for the model. In conclusion, the results indicate an acceptable model fit.

Table 24 Model Fit Results: 7 factor WEIMS model

		Guideline Values	Result	Comment
CMIN/DF		2 – 5	2.44	Data Fits
CFI		>0.9	0.84	Still acceptable
RMSEA		<0.1	.09	Acceptable within the intervals
	LO 90		.08	
	H 90		.11	

4.5 SPEARMAN'S RHO CORRELATIONS

It is known that the use of questionnaire items which are built up into scales are commonly used in research in the social sciences. As stated by Gauthier (2001:359), a probable reason for this, is that it allows for the exercise of stronger approximations to the exploration and analysis of relationships. Given that the variables contained within this research are at the ordinal level (i.e. the data has been classified into distinct variables in which ranking is implied), a ranked measure of correlation may be used. Among the most commonly used methods for examining the relationship between pairs of ordinal variables is Spearman's Correlation Coefficient (SRCC), also referred to as Spearman's rho. The computed coefficient varies between -1 and +1, and provides information on the strength and direction of the relationships.

SRCC is comparatively impervious to outliers as it is nonparametric and is therefore unaffected by the distribution of the population. SRCC proves advantageous over other relationship measures in that it operates on the ranking of data.

The practical significance of relationship or effect sizes guideline values are as follows (Gauthier, 2001):

- ~ 0.1 indicates a small, no practical significant relationship
- ~ 0.3 indicates a medium, practical visible relationship
- ~ 0.5 indicates a large, practical significant relationship

4.5.1 Relationship between the dimensions of work engagement and the types of work motivation

Table 25 below is a summary of the correlation between the dimensions of work engagement and the types (i.e. intrinsic, extrinsic, and amotivation) of motivation presented by the self-determination theory continuum.

Table 25: Correlation coefficients for work engagement and extrinsic and intrinsic motivation

	Intrinsic	Amotivation	Extrinsic	Cognitive	Emotional	Physical
Intrinsic	1.00	-.24**	.65**	.37**	.42**	.37**
Amotivation		1.00	-.17*	-.12	-.22**	-.22**
Extrinsic motivation			1.00	.23**	.36**	.32**
Cognitive				1.00	.46**	.42**
Emotional					1.00	.84**
Physical						1.00

**Correlation is significant at the 0.005 level (2-tailed)

From the table above, it is clear that amotivation has a negative relationship with the other variables under consideration. This negative relationship was expected, as amotivation is the opposite of intrinsic and extrinsic motivation. When we consider the relationship that the three dimensions of work engagement have with the three types of motivation we see the strongest (all factors are above 0.3 indicating a medium, practical visible relationship) linear relationship between intrinsic motivation and the dimensions of engagement. The emotional engagement component has the largest relationship with the three motivation types, indicating that the respondents appear more readily motivated through emotional engagement, than through cognitive or physical engagement.

4.5.2 Relationship between the dimensions of work engagement and the drivers of intrinsic motivation

The relationship between the dimensions of work engagement and the drivers of intrinsic motivation are presented in Table 26 below. From the literature it is understood that it is the satisfaction of three psychological needs, namely autonomy, competence, and relatedness

that is resultant in driving intrinsic motivation. The table below presents the correlations between the cognitive, emotional and physical engagement dimensions and each of the psychological needs for intrinsic motivation.

Table 26: Correlation coefficients for work engagement and intrinsic motivation

	Cognitive	Emotional	Physical	Autonomy	Competence	Relatedness
Cognitive	1.00	.46**	.42**	.26**	.37**	.27**
Emotional		1.00	.84**	.42**	.46**	.40**
Physical			1.00	.34**	.44**	.41**
Autonomy				1.00	.36**	.58**
Competence					1.00	.40**
Relatedness						1.00

**Correlation is significant at the 0.005 level (2-tailed)

From the table above it is clear that there is a medium (positive), practical and visible relationship between the psychological needs of intrinsic motivation and the emotional and physical dimensions of engagement. Cognitive engagement demonstrates a medium, practical and visible relationship with the psychological need of competence.

4.5.3 Relationship between the drivers of intrinsic motivation and the motivation subscales on the SDT continuum

Table 27 presents the data for the relationship between the three psychological drivers of intrinsic motivation and the motivation subscales as identified on the SDT continuum.

Table 27: Correlation coefficients for intrinsic motivation and the six-subscales of the WEIMS

	Intrinsic	Integrated	Identified	Introjected	External	Amotivation	Autonomy	Competence	Relatedness
Intrinsic	1.000	.67**	.53**	.57**	.44**	-.24**	.36**	.42**	.38**
Integrated		1.000	.63**	.64**	.59**	-.13**	.30**	.29**	.35**
Identified			1.000	.62**	.51**	-.14**	.22**	.20*	.22**
Introjected				1.000	.49**	-.22**	.23**	.32**	.25**
External					1.000	-.04**	.14**	.05**	.08**
Amotivation						1.000	-.44**	-.19*	-.38**
Autonomy							1.000	.36**	.58**
Competence								1.000	.40**
Relatedness									1.000

**Correlation is significant at the 0.005 level (2-tailed)

Intrinsic motivation has a medium (positive), practical and visible relationship with the three dimensions of work engagement. Amotivation has a medium (negative), practical and visible relationship with the psychological needs autonomy and relatedness. Of the four stages of the internalisation of external motivation, the final stage, external regulation, has a small (positive) relationship with the psychological needs of intrinsic motivation which is neither practical nor significant.

4.6 ANOVA

Analyses of variances (ANOVA) tests are used to compare the mean scores of more than two groups. ANOVA was used to compare the generational cohorts in terms of work engagement levels, intrinsic motivational drivers, extrinsic and intrinsic motivation at work, and finally, for the deeper consideration of the subscales of extrinsic motivation measured in the WEIMS.

Guidelines for evaluating the effect sizes as provided by Cohen (1988):

- ~ 0.2 is considered a small effect
- ~ 0.5 is a medium effect
- ~ 0.8 is a large effect

4.6.1 Work Engagement Levels and Generational Age Cohorts

As is evident in Table 28 below, the p-values for the dimension factors are above 0.05, indicating no significant difference between the age cohorts. However, for the comparison of work engagement levels among the different generational age cohorts, a medium effect is observed with the cognitive engagement dimension. The effect is observed between the millennials (19 – 34 years of age) and the baby boomers (51 – 69 years of age). The result indicates that the millennials experience a greater sense of importance within the organisation, as well as a clearer sense of purpose than is indicated by the baby boomers. To a lesser degree, we observed a difference with the emotional engagement dimension (effect size: 0.28), with the millennials perceiving themselves as having more significant relationships, based on mutual respect and recognition, with colleagues and managers, than is perceived by the baby boomers.

Table 28: Descriptive statistics and ANOVA results for Work Engagement Levels

		N	Mean	Std. Deviation	p value	Effect Sizes		ANOVA	
						19–34 with	35–50 with	F	Sig.
Cognitive	19 - 34	35	4.72	1.27	0.25			1.42	.25
	35 – 50	96	4.37	1.35		0.26			
	51- 69	29	4.19	1.34		0.40	0.13		
Emotional	19 - 34	36	5.73	1.43	0.50			.69	.50
	35 – 50	96	5.47	1.46		0.17			
	51- 69	31	5.31	1.51		0.28	0.11		
Physical	19 - 34	36	5.38	1.44	0.93			.07	.93
	34 – 50	96	5.32	1.40		0.04			
	51 - 69	31	5.25	1.47		0.09	0.05		

4.6.2 Basic psychological needs and Generational Age Cohorts

All the p-values for the intrinsic psychological needs measured are above the 0.05 significance point, indicating that there is no statistically significant differences in the way the different age groups responded to the relevant questions. The largest effect size difference was noted for the autonomy need, between millennials and generation Xers. The difference highlights that millennials indicated a higher satisfaction with the psychological need of autonomy than expressed by generation Xers. In other words, millennials felt that they had a higher sense of autonomy, that they have a choice in matters affecting them.

Table 29: Descriptive statistics and ANOVA results for Basic Psychological Needs

		N	Mean	Std. Deviation	p value	Effect Sizes		ANOVA	
						19–34 with	35–50 with	F	Sig.
Autonomy	19 - 34	36	3.47	0.69	0.20			1.64	.20
	35 – 50	96	3.21	0.70		0.36			
	51- 69	29	3.32	0.85		0.18	0.12		
Competence	19 - 34	36	4.12	0.95	0.81			.21	.81
	35 – 50	94	4.11	0.77		0.00			
	51- 69	29	4.22	0.68		0.11	0.14		
Need for Relatedness	19 - 34	36	3.71	0.71	0.72			.33	.72
	35 – 50	95	3.60	0.73		0.15			
	51- 69	29	3.64	0.64		0.10	0.06		

4.6.3 Extrinsic and Intrinsic Motivation and Generation Age Cohorts

Table 30 below presents the p-values and the ANOVA results for the differences measured among the generational age cohorts for intrinsic motivation, extrinsic motivation and amotivation. The results show no statistically significant difference based on p-values, or any medium or large differences indicated by the effect sizes.

Table 30: Descriptive statistics and ANOVA results for Extrinsic and Intrinsic Motivation

		N	Mean	Std. Deviation	p value	Effect Sizes		ANOVA	
						19–34 with	35–50 with	F	Sig.
Intrinsic Motivation	19 - 34	36	5.18	1.17	0.44			.83	.44
	35 – 50	94	5.00	1.19		0.25			
	51- 69	29	5.26	1.23		0.19	0.05		
Extrinsic Motivation	19 - 34	36	5.25	1.02	0.50			.70	.50
	35 – 50	94	5.00	1.04		0.24			
	51- 69	29	5.09	1.13		0.14	0.07		
Amotivation	19 - 34	36	3.17	1.48	0.75			.21	.75
	35 – 50	94	3.26	1.44		0.06			
	51- 69	29	3.44	1.29		0.18	0.12		

4.6.3.1 Extrinsic subscales and Generation Age Cohorts

Table 31 below provides the results of each generation's answers for the subscales of extrinsic motivation as presented in the WEIMS questionnaire. These four subscales represent the internalization of external regulation. The subscales move progressively from controlled (external regulation) to autonomous (integrated regulation) motivation. On average, introjected regulation was ranked the highest, suggesting that respondents take in a regulation but do not fully accepting it as their own.

Table 31: Descriptive statistics and ANOVA results for the subscales of extrinsic motivation

		N	Mean	Std. Deviation	p value	Effect Sizes		ANOVA	
						19–34 with	35–50 with	F	Sig.
Integrated Regulation	19 - 34	36	5.18	1.10	0.53			.65	.53
	35 – 50	94	5.00	1.22		0.14			
	51- 69	29	5.26	1.12		0.07	0.21		
Identified Regulation	19 - 34	36	5.21	1.24	0.38			.96	.38
	35 – 50	94	4.86	1.38		0.25			
	51- 69	29	5.06	1.31		0.11	0.14		
Introjected Regulation	19 - 34	36	5.66	1.06	0.36			1.03	.36
	35 – 50	94	5.38	1.21		0.23			
	51- 69	29	5.26	1.39		0.30	0.09		
External Regulation	19 - 34	36	4.94	1.27	0.78			.25	.78
	35 – 50	94	4.77	1.27		0.14			
	51- 69	29	4.78	1.35		0.13	0.00		

4.7 DISCUSSION

The primary objective of the study was to determine whether or not different generational cohorts experienced work engagement and motivation differently. In order to achieve the primary objective various secondary objectives were defined and were, through the administration of a questionnaire, attempted to be answered. Various statistical properties of the instruments (WES, WBNSS, WEIMS), contained within the questionnaire, were determined, namely construct validity, reliability, and inter-correlations. The demographic data collected by the questionnaire was analysed and presented to provide a perspective of the population sample.

There were seven secondary objectives defined for the study. The first of these was to determine the factor structures and internal consistencies of the WES, WBNSS, and WEIMS instruments used in the questionnaire within the selected sample. To this end, reliability was measured using Cronbach's alpha coefficient and factor structure for each instrument was investigated through the application of confirmatory factor analysis.

For the WES the Cronbach alphas for each factor was found to be above the minimum required value of 0.7. The table below provides a comparison of the calculated alpha's for this study against the values found and reported by Rothmann in 2010.

Table 32: Calculated versus reported Cronbach Alpha Values for the WES

	Cronbach Alpha Values	
FACTORS	Calculated Results	Reported Results
Cognitive Engagement	0.78	0.78
Emotional Engagement	0.94	0.82
Physical Engagement	0.94	0.80

From the CFA conducted, a three factor model was confirmed for the WES. Further evaluation of model fit concluded that the model is a good fit.

For the Work-Related Basic Need Satisfaction Scale (WBNSS) a three factor model was confirmed through CFA analysis, following this reliability evaluation using Cronbach's Alpha coefficient was carried out. The alpha coefficient for the competence factor, following further evaluation, was recalculated and subsequently two of the original six questions were excluded from the calculation. The table below shows the calculated Cronbach alpha values for the three factors against those values reported by Van den Broeck *et al.* in 2010.

Table 33: Calculated versus reported Cronbach Alpha Values for the WBNSS

	Cronbach Alpha Values	
FACTORS	Calculated Results	Reported Results
Autonomy	0.67	0.81
Competence	0.84	0.85
Need for Relatedness	0.79	0.82

Model fit for the WBNSS was assessed and the model was found to have a good degree of "goodness of fit".

The CFA of the WEIMS confirmed a six factor model. The model was evaluated for model fit and was found to have an acceptable model fit. The reliability of the six factors was tested using Cronbach's alpha, the table below presents the figures found in the study as well as those reported in the literature by Tremblay *et al.* in 2009.

Table 34: Calculated versus reported Cronbach Alpha Values for the WEIMS

	Cronbach Alpha Values	
FACTORS	Calculated Results	Reported Results
Intrinsic Motivation	0.73	0.87
Integrated Regulation	0.66	0.80
Identified Regulation	0.76	0.70
Introjected Regulation	0.70	0.76
External Regulation	0.64	0.73
Amotivation	0.86	0.75

The second objective was to determine whether there were differences among the generations in terms of intrinsic and extrinsic motivation in the workplace. This objective was investigated using the statistical ANOVA test. No statistically significant differences, based on p-values, were observed. The effect sizes showed no large, or medium differences between the cohorts. From these results, it appears that the generational cohorts are motivated similarly by intrinsic and extrinsic motivation. Overall the Generation Y cohort presented higher average scores for intrinsic and extrinsic motivation and the lowest means value for amotivation.

Thirdly, the research attempted to identify if the different generational groups experienced the same level of physical, cognitive, and emotional work engagement. Although the p-values from the ANOVA showed no statistically significant differences between the generational cohorts, a medium effect according to the effect size evaluation was observed. A 0.40 effect size was found, in relation to Generation Y and Baby Boomer responses, for the cognitive dimension of work engagement. From the literature review, cognitive engagement was defined as an aspect of engagement that is attained when an employee experiences a sense of importance inside the organisation and has a desire to do well in their work. From the result, it appears that the respondents in the Generation Y cohort experience a greater sense of importance in comparison to that experienced by the Baby Boomer cohort. A similar, but less significant effect size was seen for the emotional engagement dimension, indicating that the younger, Generation Y cohort experiences closer relationships with managers and fellow colleagues based on trust and recognition, compared to the Baby Boomer cohort. Overall, of the three dimensions of engagement, all three cohorts indicated that they experience higher levels of emotional engagement and lower levels of cognitive engagement.

The fourth object was to attempt to determine whether the different generational cohort groups experienced the same degree of satisfaction of the basic psychological needs: autonomy, competence, and relatedness. No statistically significant differences were found through the ANOVA analysis. A medium effect size of 0.36 was observed for the psychological need for

autonomy. This effect was observed between the Generation Y cohort and the Generation X cohort, signally that Generation Y respondents experience a higher sense of autonomy in their work when compared to the responses of the Generation X respondents. All cohorts ranked the satisfaction of the psychological need for competence the highest, indicating that the respondents demonstrate a strong belief in the ability to complete a task.

Our fifth objective was to try and determine whether there is a relationship between the basic psychological needs for autonomous motivation and a specific component of engagement for the sample. Spearman's rho correlations were used to evaluate the relationships between different variables. The psychological need competence has a positive medium, practical visible relationship with all three dimensions of work engagement, indicating that as competence levels increase, all dimensions of employee engagement will increase. Both the psychological needs for autonomy and relatedness demonstrated positive medium, practical visible relationships with the emotional and physical dimension of engagement.

The sixth secondary objective, determining whether there is a relationship between the drivers of intrinsic motivation and the motivation subscales on the SDT continuum was calculated through the use of Spearman's rho correlations. The calculated correlation coefficients for the evaluation of the aforementioned relationship showed positive medium, practical visible relationships across all three psychological needs for integrated regulation. The relationship observed between the drivers of intrinsically motivated behaviour and integrated regulation align with the literature, which states that integrated regulation is the stage on the SDT continuum that is closest to the fully autonomous intrinsic motivation. In agreement with the SDT literature, external regulation demonstrated no practical significant relationship with the drivers of intrinsic motivation, as, according to the continuum this stage is still predominantly a controlled behaviour.

Finally, the study attempted to establish if a correlation existed between levels of work engagement and intrinsic and extrinsic motivation within a multigenerational workforce. As expected, amotivation demonstrates a negative relationship with all three dimensions of work engagement. Clearly this indicates that amotivated behaviour decreases as the level of work engagement increases.

Intrinsically motivated behaviour has a positive medium, practical visible relationship with all three dimensions of work engagement, with the most visible of the relationships being the emotional dimension of engagement. In other words, targeting ways to increase emotional engagement will have the greatest effect on increasing intrinsically motivated behaviour.

The emotional and physical dimensions of work engagement have positive medium, practical visible relationships with extrinsic motivation, indicating that behaviour motivated by extrinsic factors will increase when these two dimensions of work engagement are increased.

4.8 CHAPTER SUMMARY

The results of the empirical research, in terms of quantitative results, are reported and discussed in chapter 4. The factor analysis and Cronbach alpha evaluations conducted on the instruments contained in the questionnaire, concluded that the WES, WBNSS, and WEIMS were valid and reliable.

Results indicated that the Generation Y cohorts demonstrated some medium effect size differences in the dimensions of work engagement and the satisfaction of the basic psychological needs for intrinsically motivated behaviour, in relation to both the Generation X and Baby Boomer cohorts.

Overall, within the sample, positive medium, practical visible relationships were most notably found between work engagement and the psychological need for competence. The evaluation of work engagement and intrinsic and extrinsic motivation confirmed that amotivational behaviour decreases as work engagement levels increase. For intrinsically motivated behaviour, the emotional engagement dimension has the strongest positive relationship and effect in driving intrinsic behaviour. Extrinsically motivated behaviour is positively affected by the emotional and physical dimensions of work engagement. Additionally, the research confirmed the literature regarding the stages as identified on the SDT continuum, with integrated regulation being the closest related stage to intrinsic motivation and external regulation being pre-dominantly controlled behaviour.

Chapter 5 provides conclusions pertaining to the research objectives, discusses the limitation of the research and provides possible recommendations for both the organisation and future research.

CHAPTER 5: CONCLUSIONS AND RECOMMENDATIONS

5.1 INTRODUCTION

Chapter 5 provides conclusions regarding the results presented in chapter 4. From the results, conclusions are drawn regarding the primary and secondary objectives for the research. In addition to this, the various limitations identified during the progression of the study are dealt with. Finally, recommendations for both the organisation and for further research opportunities, coming from the presented research, are provided.

5.2 CONCLUSIONS

Conclusions regarding the objectives set for the study, as well as the results of the empirical research are discussed below.

5.2.1 Primary objective conclusions

The primary objective of this study was to explore the relationship between work engagement, multigenerational workforces, and employee motivation within a selected Rand Water plant. From the literature research conducted, the following definitions for the research variables, namely multigenerational workforces, work engagement and employee motivation were obtained:

A multigenerational workforce as described by Ballone (2007:9) is a workforce composed by a multitude of different generational cohorts. Currently the modern day workforce has up to four different generations working side by side.

Gibson (2006), as cited by Khan (2007:694), defined engagement as an emotional connection that an employee feels for the organisation at which they work, and that this connection acts to influence the exertion of a greater degree of voluntary effort towards their work.

Pinder (1998), as cited by Tremblay *et al.* (2009:213), defined work motivation as a combination of forces originating both from within oneself and beyond the individual's being, that acts to drive work-related behaviour and to determine how, at what magnitude and in which direction work will be approached.

The proposed theoretical research model considered, for each generational cohort how work engagement, manifesting as emotional, physical, and cognitive energy, act together to stimulate employee motivation. Further to this, the model considered motivation in terms of autonomous and controlled motivation. For autonomous motivation, the degree of satisfaction

of the psychological needs autonomy, competence and need for relatedness was considered in terms of potential relationships with this form of motivation. The stages of internalisation of extrinsic motivation were sub-divided into autonomous and controlled forms of extrinsic motivation and were to be evaluated as such.

From the research undertaken during the literature review, the challenges that multigenerational workforces create for business were identified, and included the need to strive for a common shared vision and the generation of ideas and ways of empowering and engaging each member of staff. These challenges related back to the core undertaking of the theoretical research model. A review of available literature pertaining to the relationship between engagement and age, presented findings that indicated a similar degree of engagement was experienced across the age groups. The relationship between work motivation and age presented findings that indicated two distinct trains of thought regarding this relationship: firstly there are those who have identified differences and secondly those who believe the differences are negligible.

The statistical results from the research provide findings that support the literature in that they indicate that the generational cohorts appear to experience similar degrees of engagement. Across all three cohorts, engagement was highest in terms of the emotional dimension and lowest for the cognitive dimension.

The statistical results pertaining to motivation across the generations found support for the latter of the two trains of thought, in that negligible differences between the groups were identified. In fact, the results showed that all three generational groups were motivated similarly by intrinsic and extrinsic motivation and all three groups indicated similar degrees of satisfaction with the three psychological needs related to autonomous, intrinsically motivated behaviour.

The implications of the results for the Rand Water plant, Zuikerbosch, are as follows:

- There is a positive relationship between engagement outcomes and the satisfaction of the psychological need for competence. What this says, is that as the one increases, so does the other. Competency relates to a belief that one is capable of performing their work, by supporting this, the company will improve engagement levels across all generations.
- Targeting ways to increase emotional engagement will have the greatest effect on increasing intrinsically motivated behaviour, i.e. relationships with colleagues and managers.

- Behaviour motivated by extrinsic factors will increase when emotional and physical dimensions of engagement are increased. To be engaged in *emotional* terms means that employees have a particular relationship with their managers and fellow colleagues. The relationship needs to be based on mutual respect and recognition. *Physical engagement* refers to levels of passion and energy required to complete and reach work related goals.

5.2.2 Secondary objective conclusions

There were seven secondary objectives defined for the study. The first of these was to determine the factor structures and internal consistencies of the WES, WBNSS, and WEIMS instruments used in the questionnaire within the selected sample. Factor analysis for all three models confirmed, three factor model for WES; three factor model for WBNSS; and six factor model for WEIMS. The Cronbach alpha's for all factors in each model were above or near the minimum required 0, 7. Finally, the three models were evaluated for model fit and were all found to have a good degree of "goodness of fit".

The second objective was to determine whether there were differences among the generations in terms of intrinsic and extrinsic motivation in the workplace. From the results it appears that the generational cohorts are motivated similarly by intrinsic and extrinsic motivation. This finding echoes the viewpoint set forward by Giancola (2006:36), where empirical evidence demonstrated that motivational drivers among generations were very similar. Overall the Generation Y cohort presented higher average scores for intrinsic and extrinsic motivation and the lowest mean value for amotivation. The aforementioned lends itself in support of the belief that intrinsic and extrinsic motivational rewards do not cancel out each other, but work to maintain each other in a synergistic relationship (Khan & Iqbal, 2003:32). The Generation Y respondents indicate on average the highest level of motivation, and the presented results show this is based on a relationship between intrinsic and extrinsic motivations. This conclusion indicated that in order to maintain the current motivation levels among the Millennials, the organisation needs to focus on both intrinsic and extrinsic rewards.

Thirdly, the research attempted to identify if the different generational groups experienced the same level of physical, cognitive and emotional work engagement. The p-values from the ANOVA showed no statistically significant differences between the generational cohorts. However, from the evaluation of the effect sizes, differences between the Generation Y and Baby Boomer cohorts were observed for both the cognitive and emotional dimensions of work engagement. Being a generation characterised by their expectation to be recognised on an equal footing with colleagues, and to be exposed to work environments that offer diversification and opportunities for participation in work teams (Ballone, 2007:11), it is not

surprising that the respondents in the Generation Y cohort perceived both a greater sense of importance within the organisation, as well as closer relationships with managers and fellow colleagues, than what the members of the Baby Boomer cohort perceive for themselves, given that this cohort respects a corporate hierarchical structure, and prefers stability and job-security (Hart, 2006:26). Overall, of the three dimensions of engagement, all three cohorts indicated that they experience higher levels of emotional engagement and lower levels of cognitive engagement. This finding provides an opportunity for the organisation to focus on factors that can contribute towards increasing psychological safety, such as incidents of transformational leadership and leader-member exchanges (Crawford et al., 2014:63-67).

The fourth object was to attempt to determine whether the different generational cohort groups experienced the same degree of satisfaction of the basic psychological needs: autonomy, competence, and relatedness. No statistically significant differences were found through the ANOVA analysis, this is supported by findings by Brislin et al. (2008:99), Travis (2006:23), and Wiley (1997:273) who found no significant correlation between the variables of age and motivation. All cohorts indicated a strong belief in their ability to complete a task, as seen with the high ranking of the competency dimension. When referring to the effect sizes, the only notable difference was found between Generation Y respondents and Generation X respondents in terms of the autonomy dimension. The Generation Y cohort indicated a higher sense of autonomy in their work when compared to the responses of the Generation X cohort. It is possible that because Generation Xers expect to be included in all aspects of the business (Ballone, 2007:10), which may prove difficult for the organisation to facilitate, the respondents may not feel like this need is being fully fulfilled, as seen by the difference in the response rate between Generation X and Generation Y.

Our fifth objective was to try and determine whether there is a relationship between the basic psychological needs for autonomous motivation and a specific component of engagement for the sample. The most notable relationship was the positive medium, practical visible relationship between competency and the three dimensions of work engagement, which indicates that as competence levels increase, all dimensions of employee engagement will increase. This can be understood through defining competence as an ability to complete a task, and then relating this to Khan's (1990:694) definition of engagement, and the three factors he posited, which combine to produce engagement: sense of meaning; psychological safety; and psychological availability. It is possible that the higher one's sense of competence, the more one may feel that the three identified factors are being fulfilled, hence the higher the employee's sense of engagement.

The sixth objective looked to determine whether there is a relationship between the drivers of intrinsic motivation and the motivation subscales on the SDT continuum. The calculated correlation coefficients for the evaluation of the aforementioned relationship showed positive medium, practical visible relationships across all three psychological needs for integrated regulation. In agreement with the SDT literature, external regulation demonstrated no practical significant relationship with the drivers of intrinsic motivation, as according to the continuum this stage is still predominantly a controlled behaviour.

Finally, the study attempted to establish if a correlation existed between levels of work engagement and intrinsic and extrinsic motivation within a multigenerational workforce. As expected, amotivation demonstrated a negative relationship with all three dimensions of work engagement. Intrinsically motivated behaviour had a positive medium, practical visible relationship with all three dimensions of work engagement, the most visible being the emotional dimension of engagement. From Khan and Iqbal (2003:32), it is posed that intrinsically motivated behaviour may lead to increased positive emotional experiences, an example of which is increased levels of work engagement. The emotional and physical dimensions of work engagement have positive medium, practical visible relationships with extrinsic motivation, indicating that behaviour motivated by extrinsic factors, such as performance bonuses and salaries, will increase when these two dimensions of work engagement are increased.

5.3 LIMITATIONS

Several limitations regarding the research were identified. First, the size of the sample, and more specifically the distribution of the age groups; and secondly, the sampling procedure used in the study, which may have significant limitations in terms of applying generalisations of the findings to the larger population. For future studies, the use of a stratified random-sample design may be beneficial in that it could ensure sufficient representation of the different generational groups in the larger selected population.

The objective of the study was to explore the relationship between work engagement, employee motivation and a multigenerational workforce within a selected population. As such, it looked to determine if there was correlating relationships between the variables and the strength of the relationships. The study used a cross-sectional design and thus there was no intention to prove casual relationships between the variables.

The administered questionnaire was only provided in English. The majority of the respondent's first language was not English and it is likely that this may have had a measure of influence on the interpretation and thus subsequent answering of some of the questions.

Self-report measures were exclusively relied upon as all the instruments were evaluated based on rating scales. Self-report measure are inherently biased and validity should be assessed by comparing the results with other self-reports on the same topics.

Although the confidentiality of the survey responses was made abundantly clear, it is probable that respondents may still have had concerns regarding this, and may thus have not disclosed fully their responses and information in completing the questionnaires.

5.4 RECOMMENDATIONS

In the section that follows, recommendations for both the organisation, in which the study was conducted, as well as recommendations for potential future research are made.

5.4.1 Recommendations for the Organisation

It is likely that workplaces will continue to become even more multigenerational in the future (Haynes, 2011:106). And, as such, it is recommended that the organisation look for ways to increase interaction amongst its employees, of different ages, through inter-group activities, mentorship programs and other initiatives.

According to Next Step Growth (2013:6), the top suggestions for bridging generational differences within the work environment may include:

- Collaborative work styles and tools;
- Team-building events;
- Use of the latest technology;
- Leadership coaching; and
- Mentorship programs.

Engagement needs to be viewed as a broad organisational strategy which involves every level of the organisation (Frank *et al.*, 2004:12). Research, such as that conducted by Harter *et al.* (2002), demonstrates a link between levels of engagement and organisational performance. Gallup's 2009 meta-analysis showed that workforces with higher levels of engagement reported higher levels of productivity, increases in the reported bottom line figures, increased workplace safety, lower levels of absenteeism and lower turnover levels. Markos and Sridevi's (2010:93-94) ten strategies for keeping employees engaged are recommended as a possible guideline for the organisation. These strategies include: enhancing employee engagement through effective two-way communication; creating opportunities for employees to develop and advance; ensure that there are opportunities to provide employees with appropriate training to do their work effectively and efficiently; and have an employment performance

management system that ensures relevant employees are held accountable for the level of engagement that each has shown.

Engagement begins with the effective recruitment and orientation of employees, and stems from an engaged leadership and management team.

To build and foster engagement managers need to encourage and improve two-way communication, they need to look at factors such as job challenge, autonomy, variety, fit, opportunities for development, and rewards and recognition (Crawford *et al.*, 2014:59-62). The aforementioned job design changes are simple and cost effective means that can be used by management.

Further to this, it is recommended that the organisation increase the incidents of transformational leadership behaviour among leadership and senior teams, which will translate into positive changes in the organisation's workplace climate, social support and organisational justice structures and employees' levels of job security.

Finally, organisations can, through monitoring individual differences, and adopting practices which allow for flexibility and detachment in fast-paced environments, fulfil the psychological availability need of employees and thus improve engagement levels.

5.4.2 Recommendations for Future Research

Notwithstanding the limitations of the present study, the findings offer valuable suggestions for possible future research.

It is recommended that the study be replicated with a larger sample group and that the findings be compared with those from this research, in order to be able to draw conclusions regarding the factor-structure of the WES, WBNSS and WEIMS instruments within the South African context.

In order to allow for generalisation of findings, it is recommended to use a larger sample and to administer a stratified random-sample design. In order to establish levels of motivation and engagement over-time, the use of longitudinal research is recommended.

As was found by Wong *et al.* (2008:888), many of the differences observed in this study, taking into account that the majority of the standard deviations within each generational cohort was greater than 1, may be better explained by differences in age, rather than by generational differences. And, as suggested by Wong *et al.* (2008:888) greater differences may exist between the individuals within the same generational cohort, than what exists as generational

differences. It is recommended, given the aforementioned, to conduct a longitudinal study to assess engagement and motivational drivers of different generational cohorts, when the particular participants are at different ages.

The relationship between engagement and business success was not explored in full in this study. There thus exists an opportunity to explore this concept, and to build on the research and findings presented in this study.

5.5 CHAPTER SUMMARY

Chapter 5 provided conclusions regarding the study's theoretical and empirical objectives. Research limitations were highlighted and discussed. Recommendations for the organisation, in which the study took place, as well as for potential future research were provided.

REFERENCES

Amos Development Company. 2015. Amos 22.0.0 (Build 817) Copyright IBM Corporation and its licensors. <http://amosdevelopment.com>

Aworemi, J.R., Abdul-Azeez, I.A., and Durowoju, S.T. 2011. An empirical study of the motivational factors of employees in Nigeria. *International journal of economics and finance*, 3(5):227-233.

Bakker, A.B., Schaufeli, W.B., Leiter, M.P., & Taris, T.W. 2008. Work engagement: an emerging concept in occupational health psychology. *Work and stress*, 22:187-200.

Ballone, C. 2007. Consulting your clients to leverage the multi-generational workforce. *Journal of practical consulting*, 2(1):9-15.

Barnet, T. 2006. Motivation and motivation theory. In M. Helms, ed. Encyclopedia of management. <http://www.referenceforbusiness.com/management/Mar-No/Motiation-and-Motivation-Theory.html> Date of access: 16 Feb. 2015.

Baumruk, R. 2004. The missing link: the role of employee engagement in business success. *Workspan*, 47:48-52.

Bawany, S. 2013. Unlocking the benefits of a multigenerational work force in Singapore. *Singapore business review*. <http://sbr.com.sg/hr-education/commentary/unlocking-benefits-multi-generational-workforce-in-singapore#sthash.IG9f19NY.pdf> Date of access: 19 Feb. 2015.

Bell, E. 2008. Exploring employee perception of the work environment along generational lines. *Performance improvement*, 47(9):35-45.

Black, T.R. 1999. Doing quantitative research in the social sciences: an integrated approach to research design, measurement and statistics. London: Sage.

Blumberg, B., Cooper, D.R., & Schindler, P.S. 2008. Business research methods. 2nd ed. New-York, NY: McGraw-Hill

Brislin, R. W., Kabigting (Jr), F., MacNab, B., Zukis, B., & Worthley, R. 2005. Evolving perceptions of Japanese workplace motivation: an employee-manager comparison. *International journal of cross cultural management*, 5(1):87-104.

Christian, M. S., Garza, A. S., & Slaughter, J. E. 2011. Work engagement: A quantitative review and test of its relations with and contextual performance. *Personnel psychology*, 64:89-136.

Clark, T.R. 2012. The employee engagement mindset: the six drivers for tapping into the hidden potential of everyone in your company. New York, NY: McGraw-Hill.

Cohen, J. 1988. Statistical power analysis for behavioral sciences. 2nd ed. Hillsdale, NJ: Erlbaum.

Cook T.D. & Reichardt, C.S. 1979. Qualitative and quantitative methods in evaluation research. Beverly Hills: Sage Publications.

Crawford, E. R., Rich, B. L., Buckman, B. & Bergeron, J. 2014. The antecedents and drivers of employee engagement. *In* C. Truss, R. Delbridge, E. Soane, K. Alfes, & A. Shantz, eds. Employee engagement in theory and practice. Abingdon: Routledge. p. 57-81).

Creswell, J.W. 2003. Research design: qualitative, quantitative and mixed methods approach. London: Sage.

Creswell, J.W. 2013. Qualitative inquiry and research design: choosing among five approaches. 3rd ed. London: Sage.

Creswell, J.W. 2014. Research Design: qualitative, quantitative and mixed methods approach 4th ed. London: Sage.

Deci, E. L., & Ryan, R. M. 2000. The “what” and “why” of goal pursuits: Human needs and the self-determination of behavior. *Psychological Inquiry*, 11:227–268.

De Lange, A.H., Bal, P. M., Van der Heiden, B. I. J. M., de Jong, N., & Schaufeli, W. B. 2011. When I’m 64: psychological contract breach, work motivation and the moderating roles of future time perspective and regulatory focus. *Work & stress*, 25(4):338-354.

Development Dimensions International. 2005. Predicting employee engagement. <http://www.ddiworld.com> Date of Access: 22 Feb. 2015.

Diedericks, E., & Rothmann, S. 2013. Flourishing of information technology professionals: the role of work engagement and job satisfaction. *Journal of psychology in Africa*, 23(2):225-234.

Dulagil, A. 2012. The relationship of employee engagement and wellbeing to organisational and student outcomes. <http://ro.uow.edu.au/sbshdr/2012/papers/1> Date of access: 3 Jun. 2015.

Durkin, D. 2011. Effectively managing the multigenerational workforce. <http://under30ceocom/effectively-managing-the-multigenerational-workforce.html> Date of access: 20 Feb. 2015.

Ebscohost. 2013. The convergence of baby boomers, generation x and millennials. <http://www.ebscohost.com/uploads/corpLearn/pdf/Generations%20in%20the%20workplace.pdf> Date of access: 19 Feb. 2015.

Field, A. 2009. Discovering statistics using SPSS (Introducing statistical method). London: SAGE publications.

Finegold, D., Mohrman, S., & Spreitzer, G. M. 2002. Age effects on the predictors of technical workers' commitment and willingness to turnover. *Journal of organisational behavior*, 23:655-674.

Frank, F.D., Finnegan, R.P., & Taylor, C.R. 2004. The race for talent: retaining and engaging workers in the 21st century. *Human resource planning*, 27(3):12-25.

Fraone, J.S., Hartmann, D., & McNally, K. 2008. The multi-generational workforce: management implications and strategies for collaboration. http://www.bc.edu/centers/cwf/research/publicatons/meta-elements/pdf/MultiGen_lebs.pdf Date of access: 13 Mar. 2015.

Gagne, M., & Deci, E.L. 2005. Self-determination theory and work motivation. *Journal of organisational behavior*, 26(4):331-362.

Gauthier, T.D. 2001. Detecting trends using Spearman's rank correlation coefficient. *Environmental forensics*, 2:359-362.

Giancola, F. 2006. The generation gap: more myth than reality? *Human resource planning*, 29(4):32-37.

Glass, A. 2007. Understanding generational differences for competitive success. *Industrial and commercial training*, 39(2):98-103.

Hallberg, U., & Schaufeli, W.B. 2006. "Same" but different? Can work engagement be discriminated from job involvement and organisational commitment? *European psychologist*, 11:119-127.

Hammill, G. 2005. Mixing and managing four generations of employees. <http://www.fdu.edu/newspubs/magazine/05ws/generations.htm> Date of access: 19 Feb. 2015.

Hantrais, L. 2009. International comparative research: theory, methods and practice. New York: Palgrave

Hart, K.A. 2006. Generations in the workplace: finding common ground. *Medical laboratory observer*, 38(10):26-27.

Harter, J., & Agrawal, S. 2014. Many baby boomers reluctant to retire. *Gallup economy*. <http://www.gallup.com/poll166952/baby-boomers-reluctant-retire.aspx> Date of access: 3 Apr. 2015.

Harter, J.K., Schmidt, F.L., & Hayes, T.L. 2002. Business-unit level relationship between employee satisfaction, employee engagement, and business outcomes: a meta-analysis. *Journal of applied psychology*, 87:268-279.

Harter, J.K., Schmidt, E.A., Killan, E.A., & Agrawal, S. 2009. Q12 meta-analysis: The relationship between engagement at work and organisational outcomes. *White paper Gallup Organisation*. <http://www.gallup.com/consulting/126806/q12-meta-analysis.aspx> Date of access: 12 Feb. 2015.

Haynes, B.P. 2011. The impact of generational differences on the workplace. *Journal of corporate real estate*, 13(2):98-108.

Hooper, D., Coughlan, J., & Mullen, M.R. 2008. Structural equation modelling: Guidelines for determining model fit. *The electronic journal of business research methods*, 6(1):53-60.

Huntley, R. 2006. The world according to y: inside the new adult generation. Sydney: Allen & Unwin.

Johnson, B., & Christensen, L. 2012. Educational research: quantitative, qualitative, and mixed approaches. 4th ed. Thousand Oaks, CA: Sage Publications Ltd.

Kerlinger, F.N. 1986. Foundations of behavioral research, 3(4). London: Holt, Rinehart and Winston Inc.

Khan, W.A. 1990. Psychological conditions of personal engagement and disengagement at work. *Academy of management journal*, 17:325-346.

Khan, W.A. 2007. Meaningful connections: positive relationships and attachments at work. (In Dutton, J.E., & Ragins, B.R., ed. Exploring positive relationships at work: building a theoretical and research foundations. Mahwah, NJ: Erlbaum. p. 189-206).

Khan, W., & Iqbal, Y. 2013. An investigation of the relationship between work motivation (intrinsic & extrinsic) and employee engagement. Umea University: Umea School of Business (Thesis – MA).

Kooij, D., De Lange, A., Jansen, P., & Dikkers, J. 2008. Older workers' motivations to continue to work: five meanings of age: a conceptual review. *Journal of managerial psychology*, 23(4):364-394.

Kooij, D. T. A. M., De Lange, A.H., Jansen, P. G. W., Kanfer, R., & Dikkers, J. S. E. 2011. Age and work-related motives: results of a meta-analysis. *Journal of organisational behavior*, 32(2):197-225.

Latham, G., & Pinder, C. 2005. Work motivation theory and research at the dawn of the twenty-first century. *Annual review of psychology*, 56:485-516.

Leedy, P.D. 1997. Practical research planning and design. 6th ed. New Jersey: Prentice Hall.

Leedy, P.D., & Ormrod, J.E. 2013. Practical research planning and design. 10th ed. Pearson Education.

Loomis, J.E. 2000. Gen x. Indianapolis, IN: Rough Notes Co.

Macky, K., Gardner, D., & Forsyth, S. 2008. Generational differences at work: introduction and overview. *Journal of managerial psychology*, 23(8):857-861.

Markos, S., & Sridevi, M.S. 2010. Employee engagement: the key to improving performance. *International journal of business and management*. 5(12):89-96.

May, D.R., Gilson, R.L., & Harter, L.M. 2004. The psychological conditions of meaningfulness, safety and availability and the engagement of the human spirit at work. *Journal of occupational and organisational psychology*, 77:11-37.

McCrindle, M. An excerpt from the abc of xyz. 2009. http://www.mccrindle.com.au.whitepapers/mccrindle-research_ABS-01_Generations-Defined_Mark-McCrindle-1.pdf Date of access: 20 Feb. 2016.

Meyer, J. P., & Gagne, M. 2008. Employee engagement from a self-determination theory perspective. *Industrial and organisational psychology*, 1:60-62.

Montana, P. J. & Lenaghan, J.A. 1999. What motivates and matters most to generations x and y? *Journal of career planning and employment*, 59:27-30.

Muijs, D. 2011. Doing quantitative research in education using SPSS. 2nd ed. London: Sage Publications Ltd.

Next Step Growth. 2013. The multi-generational workforce challenge. <http://www.nextstepgrowth.com/wp-content/uploads/2013/01/ResearchSummary09.pdf> Date of access: 19 Feb. 2015.

O'Boyle, E., & Harter, J. 2013. Gallups State of the global workplace report. http://ihrim.org/Pubonline/Wire/Dec13/GlobalWorkplaceReport_2013.pdf Date of access: 19 Feb. 2015.

Psychometrics Canada. 2011. A study of employee engagement in the Canadian workplace.

Rich, B.L., Lepine, J.A., & Crawford, E.R. 2010. Job engagement: antecedents and effects on job performance. *Academy of management journal*, 53:617-635.

Richman, A. 2006. Everyone wants an engaged workforce, how can you create it? *Workspan*, 49:36-39.

Rothmann, S., & Rothmann, S., Jr. 2010. Factors associated with employee engagement in South Africa. *South African journal of industrial psychology*, 36(2):1-12.

Ryan, R.M., & Deci, E.L. 2000. Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American psychologist*, 55(1):68-78.

Ryan, R.M., & Deci, E.L. 2002. Overview of self-determination theory: An organismic-dialectical perspective. (In E.L. Deci & R.M. Ryan, eds. *Handbook of self-determination research*. Rochester, New York: The University of Rochester Press).

Saks, A.M. 2006. Antecedents and consequences of employee engagement. *Journal of managerial psychology*, 21(7):600-619.

Salanova, M., Bakker, A.B., & Llorens, S. 2006. Flow at work: evidence of an upward spiral of personal and organisational resources. *Journal of happiness studies*, 7:1-22.

Schaufeli, W.B. 2004. Burnout and engagement. Paper presented at the 2nd South African Work Wellness Conference, Potchefstroom, SA.

Schaufeli, W.B. 2014. What is engagement? (In C. Truss, K. Alfes, R. Delbridge, A. Shantz, & E. Soane, eds. *Employee engagement in theory and practice*. London: Routledge).

Schaufeli, W.B., & Bakker, A.B. 2003. Utrecht work engagement scale: preliminary manual. Utrecht: Utrecht University.

Schaufeli, W.B., & Bakker, A.B. 2004. Job demands, job resources, and their relationship with burnout and engagement: a multi-sample study. *Journal of organisational behavior*, 25:293-315.

Schmitt, N. 1996. Uses and abuses of co-efficient alpha. *Psychological assessment*, (4):50-353.

Shuck, B. 2011. Four emerging perspectives of employee engagement: an integrative literature review. *Human resource development review*, 10(3):304-328.

Sexton, J. 2013. The application of self-determination theory to employee motivation in Irish workplaces. Dublin, Ireland: DBS School of Arts (Higher Diploma in Psychology).

SPSS Inc. 2015. IBM SPSS Statistics Version 22, Release 22.0.0, Copyright IBM Corporation and its licensors. <http://www-01.ibm.com/software/analytics/spss> Date of access: 2 Jul. 2015.

Statistics South Africa. 2014. Quarterly labour force survey. <http://beta2.statssa.gov.za/publications/P0211/P02111stQuarter2014.pdf> Date of access: 20 Mar. 2015.

Stockley, D. 2007. Employee engagement and organisational pride. <http://derekstockley.com.au/newsletters-05/038-employee-engagement.html> Date of access: 12 Mar. 2015.

Stotz, R., & Bolger, B. 2011. Content and process theories of motivation. <http://c.ymcdn.com/sites/www.incentivemarketing.org/resource/resmgr/imported/Sec%201.4.pdf> Date of access: 1 Mar. 015.

Suhr, D. 2006. Exploratory or confirmatory factor analysis. *SAS users group international conference* (p 1-17). Cary: SAS Institute, Inc.

Swanson, R.A., & Holton, E.F. 2005. Research in organisations: foundations and methods of inquiry. San Francisco, CA: Berrett-Koehler Publishers Inc.

Tan, C. 2012. The aging workforce in Singapore: managing intergenerational issues of generation y and baby boomers at the workplace. https://www.cscollege.gov.sg/knowledge/pages/the_aging_workforce_in_singapore_managing_intergenerational_issues_of_generation_y_and_baby_boomers_at_the_workplace.aspx Date of access: 3 Jun. 2015.

Travis, D.J. 2007. Is doing good enough? A path analytic model of intrinsic job satisfaction among human service workers. *Journal of workplace behavioral health*, 22(1):13-32.

Tremblay, M.A., Blanchard, C.M., Taylor, S., Pelletier, L.G., & Villeneuve, M. 2009. Work extrinsic and intrinsic motivation scale: Its value for organisational psychology research. *Canadian journal of behavioural science*, 41(4):213-226.

Ulrich, D. 1997. Human resource champions. *Harvard business school press*, Boston: MA.

Van den Broeck, A., Vansteenkiste, M., De Witte, H., Soenens, B., & Lens, W. 2010. Capturing autonomy, competence, and relatedness at work: Construction and initial validation of the work-related basic need satisfaction scale. *Journal of occupational and organisational psychology*, 83:981-1002.

Vance, R.J. 2006. Employee engagement and commitment
<http://www.vancerenz.com/researchimplementation/uploads/1006EmployeeEngagementOnlineReport.pdf> Date of access: 3 Feb. 2015.

Vansteenkiste, M., Neyrinck, B., Niemiec, C. P., Soenens, B., De Witte, H., & Van de Broeck, A. 2007. On the relations among work value orientations, psychological need satisfaction and job outcomes: a self-determination theory approach. *Journal of occupational and organisational psychology*, 80:251-277.

Weidert, J.M. 2011. The physiological measurement of employee engagement. Fort Collins, Colorado: Colorado State University (Thesis – MA).

Welman, C., Kruger, F. & Mitchell, B. 2005. Research methodology. 3rd ed. Cape Town: Oxford University Press.

Wiley, C. 1997. What motivates employees according to over 40 years of motivation surveys. *International journal of manpower*, 18:263-280.

Wong, M., Gardiner, E., Lang, W., & Coulon, L. 2008. Generational differences in personality and motivation. *Journal of managerial psychology*, 23(8):878-890.

Zikmund, W. G., 2003. Business research methods. Ohio, Thompson: South Western.

APPENDIX 1 – LETTER TO COMPANY

LETTER FOR APPROVAL TO CONDUCT ACADEMIC RESEARCH - STRICTLY CONFIDENTIAL

10 March 2015

Dear Sir/Madam

Re: REQUEST TO CONDUCT AN ACADEMIC RESEARCH STUDY WITH EMPLOYEES ENGAGED AT ZUIKERBOSCH PUMP STATION

My name is Marilyn Kerr and I am a registered final year MBA student with the Potchefstroom Business School at the North-West University. As partial fulfillment of my MBA degree, I am conducting a research project for my dissertation. The title of my research project is "INTRINSICALLY OR EXTRINSICALLY DRIVEN: GENERATIONAL DIFFERENCES IN WORKPLACE MOTIVATION AND ENGAGEMENT".

The purpose of this research is to identify potential differences in motivational drivers for a multigenerational workforce, and thus provides tools for building a sustainable organisation capable of having a competitive advantage. The value of the investigation is that it provides an introduction to work engagement and the role that intrinsic and extrinsic motivators play in motivating multigenerational workforces, thus equipping managers with tools to manipulate variables within their control and to increase workplace motivation. This action, in turn, may result in benefits to the organisation, such as a reduction in employee turnover.

I hereby request permission to conduct the research using the employees at Zuikerbosch Pump Station. The research will be done using the attached questionnaire. Please take note that the confidentiality and anonymity of the participants will be ensured, and that the research will be conducted purely for academic purposes. The questionnaire should take approximately 30 minutes to complete. With your kind approval, I would appreciate if your department could arrange the distribution of the attached questionnaire to all willing participants, and to then collect the completed questionnaires, which will be collected by myself on or before the 30th of April 2015.

Permission is granted (please tick the appropriate box)

☒ YES	☐ NO
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Signature: _____

Designation: HR. MANAGER

Date: 13/3/15

I thank you for your time and assistance in conducting this research.

Yours faithfully

Marilyn Kerr

Mobile: +27 78 048 5287

Email: marilyn.kerr1980@gmail.com

APPENDIX 2 – QUESTIONNAIRE

WES (Work Engagement), **WBNESS** (Work-related Basic Need Satisfaction Scale), and **WEIMS** (Work Extrinsic and Intrinsic Motivation Scale) Questionnaires

Completion of the questionnaires to be used in partial fulfillment of the requirements for the degree Masters in Business Administration (MBA) at the Potchefstroom Business School of the North West University

QUESTIONNAIRE:

INTRINSICALLY OR EXTRINSICALLY DRIVEN: GENERATIONAL DIFFERENCES IN WORKPLACE MOTIVATION AND ENGAGEMENT

CONTACT DETAILS:

Marilyn Kerr
Cell: 078 048 5287
E-Mail: marilyn.kerr1980@gmail.com

All information will be treated as STRICTLY CONFIDENTIAL and will only be used for ACADEMIC PURPOSES

GENERAL INSTRUCTIONS

1. Please answer the questions as objectively and honestly as possible.
2. Please answer the questionnaire in full.
3. All responses will be treated with confidentiality.
4. Please note that participation is completely voluntary.

SECTION A: DEMOGRAPHIC INFORMATION

The following information is needed to help the researcher construct an overview of the participants. The researcher appreciates your help in providing this important information.

Mark the applicable block with a cross (X)

A1	Gender	Male	Female
		1	2

A2	Age Group	19 - 34	35 - 50	51 - 69	≥70
		1	2	3	<u>4</u>

A3	Race	Black	White	Coloured	Indian	Other
		1	2	3	4	5

A4	Level of Employment	Junior	Middle	Senior	Top
		1	2	3	4

A5	Duration of Employment	0 - 2 yrs	3 – 5 yrs	6-10 yrs	>10 years
		1	2	3	4

A6	Qualification	Below Matric	Matric	Diploma/ Degree	Postgraduate
		1	2	3	4

SECTION B:

Please read the following statements and indicate how each statement relates to the work you usually do. It is expected of you to indicate your agreement with each of the statements by choosing the appropriate response from the scale (1-7) and marking the number of your choice.

1 = Never or almost never	2 = Very infrequently	3 = Quite infrequently	4 = Sometimes	5 = Quite frequently	6 = Very frequently	7 = Almost always or always
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1.	I get so into my job that I lose track of time.	1	2	3	4	5	6	7
2.	I am very absorbed in my work.	1	2	3	4	5	6	7
3.	I feel I am able to contribute new ideas.	1	2	3	4	5	6	7
4.	When I'm working, I often lose track of time.	1	2	3	4	5	6	7
5.	I am passionate about my job	1	2	3	4	5	6	7
6.	I feel energised when I work.	1	2	3	4	5	6	7
7.	I am enthusiastic about my job.	1	2	3	4	5	6	7
8.	I get excited when I perform well on my job.	1	2	3	4	5	6	7
9.	I feel a lot of energy when I am performing my job.	1	2	3	4	5	6	7
10.	I am full of energy in my work.	1	2	3	4	5	6	7
11.	I feel alive and vital at work.	1	2	3	4	5	6	7
12.	I feel physically strong at work.	1	2	3	4	5	6	7

SECTION C:

The following statements aim to tap your personal experiences at work. Would you please indicate to what extent you agree with these statements? You can indicate the most suitable number between 1 (Totally Disagree) and 5 (Totally Agree).

1 = Totally disagree	2 = Disagree	3 = Neutral	4 = Agree	5 = Totally agree
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1.	I feel free to express my ideas and opinions in this job.	1	2	3	4	5
2.	I don't really feel competent in my job.	1	2	3	4	5
3.	I don't really feel connected with other people at my job.	1	2	3	4	5
4.	I feel like I can be myself at my job.	1	2	3	4	5
5.	I really master my tasks at my job.	1	2	3	4	5
6.	At work, I feel part of a group.	1	2	3	4	5
7.	At work, I often feel like I have to follow other people's commands.	1	2	3	4	5
8.	I feel competent at my job.	1	2	3	4	5
9.	I don't really mix with other people at my job.	1	2	3	4	5
10.	If I could choose, I would do things at work differently.	1	2	3	4	5
11.	I doubt whether I am able to execute my job properly.	1	2	3	4	5
12.	At work, I can talk with people about things that really matter to me.	1	2	3	4	5
13.	The tasks I have to do at work are in line with what I really want to do.	1	2	3	4	5
14.	I am good at the things I do in my job.	1	2	3	4	5
15.	I often feel alone when I am with my colleagues.	1	2	3	4	5
16.	I feel free to do my job the way I think it could best be done.	1	2	3	4	5
17.	I have the feelings that I can even accomplish the most difficult tasks at work.	1	2	3	4	5
18.	At work, people involve me in social activities.	1	2	3	4	5
19.	In my job, I feel forced to do things I do not want to do.	1	2	3	4	5
20.	At work, there are people who really understand me.	1	2	3	4	5
21.	Some people I work with are close friends of mine	1	2	3	4	5
22.	At work, no one cares about me.	1	2	3	4	5
23.	There is nobody I can share my thoughts with if I would want to do so.	1	2	3	4	5

SECTION D:

Using the scale below, please indicate to what extent each of the following items corresponds to the reasons why you are presently involved in your work.

1 = Strongly Disagree	2 = Disagree	3 = Mildly Disagree	4 = Neither Agree nor Disagree	5 = Mildly Agree	6 = Agree	7 = Strongly Agree
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1.	Because this is the type of work I chose to do to attain a certain lifestyle	1	2	3	4	5	6	7
2.	For the income it provides me	1	2	3	4	5	6	7
3.	I ask myself this question, I don't seem to be able to manage the important tasks related to this work	1	2	3	4	5	6	7
4.	Because I derive much pleasure from learning new things	1	2	3	4	5	6	7
5.	Because it has become a fundamental part of who I am	1	2	3	4	5	6	7
6.	Because I want to succeed at this job, if not I would be very ashamed of myself	1	2	3	4	5	6	7
7.	Because I chose this type of work to attain my career goals	1	2	3	4	5	6	7
8.	For the satisfaction I experience from taking on interesting challenges	1	2	3	4	5	6	7
9.	Because it allows me to earn money	1	2	3	4	5	6	7
10.	Because it is part of the way in which I have chosen to live my life	1	2	3	4	5	6	7
11.	Because I want to be very good at this work, otherwise I would be very disappointed	1	2	3	4	5	6	7
12.	I don't know why, we are provided with unrealistic working conditions	1	2	3	4	5	6	7
13.	Because I want to be a "winner" in life	1	2	3	4	5	6	7
14.	Because it is the type of work I have chosen to attain certain important objectives	1	2	3	4	5	6	7
15.	For the satisfaction I experience when I am successful at doing difficult tasks	1	2	3	4	5	6	7
16.	Because this type of work provides me with security	1	2	3	4	5	6	7
17.	I don't know, too much is expected of us	1	2	3	4	5	6	7
18.	Because this job is a part of my life	1	2	3	4	5	6	7

APPENDIX 3 – RESULTS OF THE QUESTIONNAIRES

Table 35 Results of the Work Engagement Scale (WES)

Answer Selection		Never	Very Infrequently	Quite Infrequently	Sometimes	Quite Frequently	Very Frequently	Almost Always	Missing	Total	Mean	Standard Deviation
B1	I get so into my job that I lose track of time.	20	6	10	62	26	22	12	6	164	4.15	1.66
B2	I am very absorbed in my work.	6	7	10	36	42	36	21	6	164	4.85	1.50
B3	I feel I am able to contribute new ideas.	18	8	6	36	32	37	20	7	164	4.57	1.81
B4	When I'm working, I often lose track of time.	24	11	12	56	18	22	17	4	164	4.04	1.83
B5	I am passionate about my job	7	4	7	17	22	40	61	6	164	5.58	1.65
B6	I feel energised when I work.	7	5	9	26	31	48	32	6	164	5.16	1.58
B7	I am enthusiastic about my job.	8	2	8	24	25	49	44	4	164	5.37	1.60
B8	I get excited when I perform well on my job.	6	2	4	18	16	32	83	3	164	5.88	1.56
B9	I feel a lot of energy when I am performing my job.	5	6	5	30	22	54	41	1	164	5.36	1.53
B10	I am full of energy in my work.	4	4	9	26	33	43	43	2	164	5.35	1.49
B11	I feel alive and vital at work.	6	5	7	34	33	40	38	1	164	5.18	1.55
B12	I feel physically strong at work.	6	1	8	29	28	43	48	1	164	5.41	1.52

Table 36 Survey Results of the Work-Related Basic Needs Satisfaction Scale (WBNSS)

Answer Selection		Totally Disagree	Disagree	Neutral	Agree	Totally Agree	Missing	Total	Mean	Standard Deviation
C1	I feel free to express my ideas and opinions in this job.	15	19	36	53	35	6	164	3.47	1.23
C2	I don't really feel competent in my job.	69	37	19	13	19	7	164	2.21	1.40
C3	I don't really feel connected with other people at my job.	50	42	33	17	17	5	164	2.43	1.32
C4	I feel like I can be myself at my job.	18	17	28	53	41	7	164	3.52	1.30
C5	I really master my tasks at my job.	4	4	14	72	61	9	164	4.17	0.89
C6	At work, I feel part of a group.	9	10	25	65	46	9	164	3.83	1.10
C7	At work, I often feel like I have to follow other people's commands.	20	30	41	43	20	10	164	3.08	1.23
C8	I feel competent at my job.	5	8	14	63	67	7	164	4.14	1.00
C9	I don't really mix with other people at my job.	68	40	23	15	11	7	164	2.11	1.26
C10	If I could choose, I would do things at work differently.	18	18	48	43	33	4	164	3.34	1.24
C11	I doubt whether I am able to execute my job properly.	61	42	30	15	7	9	164	2.13	1.17
C12	At work, I can talk with people about things that really matter to me.	20	16	40	56	26	6	164	3.33	1.23
C13	The tasks I have to do at work are in line with what I really want to do.	20	14	25	56	42	7	164	3.55	1.32
C14	I am good at the things I do in my job.	6	6	11	58	77	6	164	4.23	1.00
C15	I often feel alone when I am with my colleagues.	59	39	23	20	14	9	164	2.30	1.34
C16	I feel free to do my job the way I think it could best be done.	21	13	17	53	52	8	164	3.65	1.37
C17	I have the feelings that I can even accomplish the most difficult tasks at work.	7	4	27	64	54	8	164	3.99	1.02
C18	At work, people involve me in social activities.	11	14	40	62	30	7	164	3.55	1.11
C19	In my job, I feel forced to do things I do not want to do.	34	42	34	29	17	8	164	2.70	1.30
C20	At work, there are people who really understand me.	10	6	34	62	43	9	164	3.79	1.09
C21	Some people I work with are close friends of mine	19	23	41	47	26	8	164	3.24	1.25
C22	At work, no one cares about me.	58	46	29	14	9	8	164	2.17	1.19
C23	There is nobody I can share my thoughts with if I would want to do so.	48	43	36	20	11	6	164	2.39	1.24

Table 37 Survey Responses for the WEIMS

Answer Selection		Strongly Disagree	Disagree	Mildly Disagree	Neither agree nor disagree	Mildly Agree	Agree	Strongly Agree	Missing	Total	Mean	Standard Deviation
D1	Because this is the type of work I chose to do to attain a certain lifestyle	8	17	19	27	26	44	16	7	164	4.54	1.72
D2	For the income it provides me	16	14	15	29	26	45	11	8	164	4.37	1.79
D3	I ask myself this question, I don't seem to be able to manage the important tasks related to this work	43	43	19	27	12	7	2	11	164	2.68	1.56
D4	Because I derive much pleasure from learning new things	7	8	14	20	30	52	26	7	164	5.03	1.63
D5	Because it has become a fundamental part of who I am	7	4	14	27	28	51	20	13	164	4.97	1.55
D6	Because I want to succeed at this job, if not I would be very ashamed of myself	7	6	8	24	32	42	38	7	164	5.20	1.62
D7	Because I chose this type of work to attain my career goals	10	4	11	25	23	45	40	6	164	5.16	1.72
D8	For the satisfaction I experience from taking on interesting challenges	3	4	14	25	30	51	26	11	164	5.17	1.44
D9	Because it allows me to earn money	7	7	11	30	30	47	25	7	164	4.97	1.59
D10	Because it is part of the way in which I have chosen to live my life	10	5	15	29	31	54	12	8	164	4.77	1.58
D11	Because I want to be very good at this work, otherwise I would be very disappointed	8	3	9	21	25	54	38	6	164	5.32	1.60
D12	I don't know why, we are provided with unrealistic working conditions	28	22	25	30	19	22	11	7	164	3.64	1.88
D13	Because I want to be a "winner" in life	3	1	6	19	21	48	59	7	164	5.76	1.37
D14	Because it is the type of work I have chosen to attain certain important objectives	5	4	9	23	40	44	31	8	164	5.21	1.47
D15	For the satisfaction I experience when I am successful at doing difficult tasks	4	3	8	18	38	66	22	5	164	5.32	1.33
D16	Because this type of work provides me with security	8	3	10	26	28	58	24	7	164	5.12	1.55
D17	I don't know, too much is expected of us	31	28	16	30	24	17	11	7	164	3.53	1.90
D18	Because this job is a part of my life	3	3	10	25	22	52	43	6	164	5.46	1.45

APPENDIX 4 – ETHICAL CLEARANCE



ETHICAL CLEARANCE

This letter serves to confirm that the research project of KERR, MD has undergone ethical review. The proposal was presented at a Faculty Research Meeting and accepted. The Faculty Research Meeting assigned the project number EMS15/03/31-1/11. This acceptance deems the proposed research as being of minimal risk, granted that all requirements of anonymity, confidentiality and informed consent are met.

Yours sincerely

Me MM Heyns

Manager: Research - NWU Potchefstroom Business School