

**THE RELATIONSHIP BETWEEN GRADUATE  
EMPLOYABILITY AND WORK PERFORMANCE IN THE  
MINING INDUSTRY IN SOUTH AFRICA**

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## DECLARATION

Student number: **30687217**

I, MELANIE BREEDT, declare that this dissertation, entitled “**The relationship between graduate employability and work performance in the mining industry in South Africa**” is my own work, and that all the sources that I have used or quoted have been indicated and acknowledged by means of complete references.

A handwritten signature in black ink, appearing to read 'M. Breedt', with a long horizontal line extending to the right.

**SIGNATURE**

15 June 2018

**DATE**

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# **THE RELATIONSHIP BETWEEN GRADUATE EMPLOYABILITY AND WORK PERFORMANCE IN THE MINING INDUSTRY IN SOUTH AFRICA**

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## **ABSTRACT**

In a rapid changing environment mining companies have to change the way in which they do business, while employees have to manage their careers and ensure they are multi-skilled. Organisations are looking to employ individuals who are career driven, highly adaptable and flexible and display the necessary employability skills.

The main purpose of this study was to determine if any relationship exists between the different factors of graduate employability and work performance in the mining industry in South Africa. A cross-sectional quantitative research approach was followed. A simple random sample was drawn from graduate male and female employees between the ages of 18 – 30 years with any post-matric qualification employed in the mining industry in South Africa. Through the process of exploratory factor analysis, six graduate employability factors and four work performance factors were identified. The graduate employability factors included career self-management drive, cultural competence, career resilience, emotional literacy, career literacy and self-efficacy. The work performance factors included the supervisor role, employee role, recognition and organisation support. Correlation and regression analyses were conducted.

The results indicated a relationship between graduate employability and work performance. Strong, positive correlations were found between graduate employability and work performance with career self-management drive being the strongest predictor of work performance. Recommendations for the mining industry focused on how employability could be enhanced to improve work performance.

### **Key terms**

Graduate employability, work performance, career self-management drive, cultural competence, career resilience, emotional literacy, career literacy, self-efficacy, supervisor role, employee role, recognition, organisation support.

# TABLE OF CONTENTS

DECLARATION	ii
ACKNOWLEDGEMENTS	iii
ABSTRACT	iv
LIST OF FIGURES	ix
LIST OF TABLES	ix

## CHAPTER 1: ORIENTATION AND BACKGROUND

1.1	INTRODUCTION	1
1.2	BACKGROUND TO AND RATIONALE FOR THE STUDY	1
1.3	RESEARCH PROBLEM	9
1.3.1	Research questions: literature review	11
1.3.2	Research questions: empirical study	11
1.4	RESEARCH AIM	11
1.4.1	General objective	11
1.4.2	Specific objectives	11
1.5	RESEARCH DESIGN	12
1.5.1	Research variables	13
1.5.2	Type of research	13
1.5.3	Methods used to ensure reliability and validity	13
1.5.4	Unit of analysis	15
1.5.5	Methods to ensure adherence to ethical research	15
1.6	RESEARCH METHODOLOGY	16
1.7	ETHICAL CONSIDERATIONS	21
1.8	CHAPTER LAYOUT	21
1.9	SUMMARY	22

## **CHAPTER 2: GRADUATE EMPLOYABILITY**

2.1	THE NEW WORLD OF WORK	24
2.1.1	Globalisation	24
2.1.2	Changing nature of work	25
2.1.3	Technological advances	25
2.1.4	Job loss	26
2.1.5	Changing workforce	28
2.1.6	Work-life balance	29
2.2	CONCEPTUALISATION OF GRADUATE EMPLOYABILITY	30
2.2.1	Employability	30
2.2.2	Employability skills	32
2.2.3	Graduate employability	33
2.2.4	Employability in the mining industry	41
2.3	EMPLOYABILITY MODELS	42
2.3.1	Fugate, Kinicki and Ashforth: Conceptual model of employability	42
2.3.2	Van der Heijde and Van der Heijden: Competence-based approach	44
2.3.3	Pool and Sewell: Key to employability model	45
2.3.4	Fugate and Kinicki: Dispositional model of employability	46
2.3.5	Bridgstock: Conceptual model of graduate attributes for employability	48
2.3.6	Coetsee: Psychological career resources model	50
2.3.7	Bezuidenhout: Graduate Employability Model	51
2.4	INTEGRATION: NEW WORLD OF WORK AND THE NECESSITY OF EMPLOYABILITY	55
2.5	SUMMARY	56

## **CHAPTER 3: PERFORMANCE MANAGEMENT**

3.1	CONCEPTUALISATION OF PERFORMANCE MANAGEMENT	59
3.2	PURPOSE OF PERFORMANCE MANAGEMENT	61
3.3	THE PERFORMANCE MANAGEMENT PROCESS	63
3.3.1	Planning performance	66
3.3.2	Developing performance	67
3.3.3	Reviewing performance	68
3.3.4	Providing feedback	71
3.3.5	Rewarding performance	72

3.3.6	Supporting poor performance	73
3.4	DESIGN OF A PERFORMANCE MANAGEMENT SYSTEM	74
3.5	ORGANISATIONAL CITIZENSHIP BEHAVIOUR (OCB)	78
3.6	CHALLENGES OF PERFORMANCE MANAGEMENT SYSTEMS	80
3.7	INFLUENCE OF TRADE UNIONS ON PERFORMANCE MANAGEMENT	82
3.8	PERFORMANCE MANAGEMENT IN THE MINING INDUSTRY	83
3.9	NEW PERSPECTIVES ON PERFORMANCE MANAGEMENT	84
3.10	SUMMARY	87

#### **CHAPTER 4: AN OVERVIEW OF THE MINING INDUSTRY**

4.1	HISTORY	89
4.2	THE ROLE OF MINING IN SOUTH AFRICA	92
4.3	MINING AS AN EMPLOYER	94
4.4	CHALLENGES FACED BY THE MINING INDUSTRY	96
4.5	FUTURE ROLE OF MINING IN SOUTH AFRICA	99
4.6	SUMMARY	100

#### **CHAPTER 5: RESEARCH METHODOLOGY**

5.1	INTRODUCTION	101
5.2	FORMULATION OF RESEARCH AIMS	102
5.3	DETERMINATION AND DESCRIPTION OF THE SAMPLE AND POPULATION	103
5.3.1	Sampling strategy used	103
5.3.2	Representation of the sample	104
5.3.3	Demographic characteristics of the sample	105
5.4	DESIGN OF THE MEASURING INSTRUMENT	115
5.4.1	Overall research design	115
5.4.2	Type of measuring instrument chosen: web-based questionnaire	116
5.4.3	Development and design of the questionnaire	117
5.4.4	Reliability and validity of the measuring instrument	119
5.5	ADMINISTRATION OF THE MEASURING INSTRUMENT	121
5.6	SCORING AND CAPTURING OF THE DATA	122
5.7	STATISTICAL ANALYSIS OF THE DATA	123
5.7.1	Exploratory Factor Analysis	124
5.7.2	Descriptive Statistics	126

5.7.3	Correlation Statistics	128
5.7.4	Inferential Statistics	129
5.7.5	Level of significance	130
5.8	ETHICAL CONSIDERATIONS	131
5.9	SUMMARY	132

## **CHAPTER 6: RESULTS**

6.1	INTRODUCTION	133
6.2	EXPLORATORY FACTOR ANALYSIS	133
6.2.1	Diagnostic statistics for factor analysis	134
6.2.2	Summary: factor analysis	139
6.3	RELIABILITY	141
6.4	DESCRIPTIVE STATISTICS	142
6.5	CORRELATIONAL STATISTICS	143
6.6	INFERENCEAL STATISTICS	144
6.6.1	Graduate employability and work performance	144
6.6.2	Biographical information and graduate employability/work performance	152
6.7	INTEGRATION AND INTERPRETATION OF RESULTS	159
6.7.1	Research aim 1	160
6.7.2	Research aim 2	162
6.7.3	Research aim 3	164
6.7.4	Research aim 4	165
6.7.5	Research aim 5	166
6.8	SUMMARY	166

## **CHAPTER 7: FINDINGS AND RECOMMENDATIONS**

7.1	INTRODUCTION	167
7.2	REASONS FOR UNDERTAKING THE RESEARCH	167
7.3	CONCLUSIONS BASED ON RESEARCH FINDINGS	169
7.3.1	Conclusions drawn from Research Aim 1	169
7.3.2	Conclusions drawn from Research Aim 2	171
7.3.3	Conclusions drawn from Research Aim 3	172
7.3.4	Conclusions drawn from Research Aim 4	173
7.3.5	Conclusions drawn from Research Aim 5	174



7.4	RECOMMENDATIONS FOR FUTURE RESEARCH	175
7.5	CONTRIBUTION	175
7.6	LIMITATIONS	176
7.7	SUMMARY	176

<b>REFERENCES</b>		178
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<b>APPENDIX A: QUESTIONNAIRE</b>		200
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## **LIST OF FIGURES**

Figure 1.1: Overview of Research Methodology .....	16
Figure 2.1: Bridgstock's (2009) conceptual model of graduate attributes for employability ..	48
Figure 2.2: The Graduate Employability Model.....	52
Figure 3.1: The RQIA Performance Management Framework.....	65
Figure 5.1: Steps in the research process .....	102
Figure 5.2: Ethnic group distribution .....	106
Figure 5.3: Gender distribution .....	107
Figure 5.4: Number of children (<18).....	109
Figure 5.5: Years of service .....	111
Figure 5.6: Staff level .....	112
Figure 5.7: Highest educational qualification .....	113
Figure 5.8: Monthly gross salary .....	114
Figure 5.9: Performance rating during most recent performance review.....	115
Figure 5.10: Layout of questionnaire .....	119
Figure 5.11: Statistical Processes .....	124

## **LIST OF TABLES**

Table 2.1: Dimensions of dispositional employability and their definitions .....	47
Table 5.1: Age distribution of sample .....	105
Table 5.2: Ethnic group distribution of sample.....	106
Table 5.3: Gender distribution of sample.....	107
Table 5.4: Marital status distribution of sample.....	108
Table 5.5: Number of Children (<18).....	109
Table 5.6: Number of elderly taken care of.....	110
Table 5.7: Staff level .....	112
Table 5.8: Highest educational qualification .....	113

Table 5.9: Monthly gross salary .....	114
Table 5.10: Data collection.....	122
Table 5.11: Research Aims and Statistical Procedures Used.....	123
Table 6.1: KMO and Bartlett's Test: Graduate employability and work performance .....	133
Table 6.2: Graduate employability: Total Variance Explained.....	134
Table 6.3: Factor loadings: graduate employability .....	135
Table 6.4: Work performance: Total Variance Explained.....	137
Table 6.5: Factor loadings: work performance.....	138
Table 6.6: Summary of Factor Analysis.....	140
Table 6.7: Internal Consistency Reliability of the questionnaire.....	141
Table 6.8: Means, Standards Deviations, Skewness and Kurtosis .....	143
Table 6.9: Correlation analysis: graduate employability and work performance.....	143
Table 6.10: T-test values for career self-management drive and work performance.....	144
Table 6.11: Relationship between cultural competence and work performance .....	145
Table 6.12: Relationship between career resilience and work performance .....	146
Table 6.13: Relationship between emotional literacy and work performance.....	146
Table 6.14: Relationship between career literacy and work performance .....	147
Table 6.15: Relationship between self-efficacy and work performance .....	148
Table 6.16: Regression analysis: supervisor role and graduate employability .....	148
Table 6.17: ANOVA Coefficients for supervisor role and graduate employability.....	148
Table 6.18: Regression analysis: employee role and graduate employability .....	149
Table 6.19: ANOVA Coefficients for employee role and graduate employability.....	149
Table 6.20: Regression analysis: recognition and graduate employability .....	150
Table 6.21: ANOVA Coefficients for recognition and graduate employability.....	150
Table 6.22: Regression analysis: organisation support and graduate employability .....	151
Table 6.23: ANOVA Coefficients for organisation support and graduate employability .....	151
Table 6.24: Gender differences as regards to graduate employability and work performance.....	153
Table 6.25: Work performance and staff level .....	155
Table 6.26: Graduate employability and educational qualification .....	156
Table 6.27: Performance rating as regards to graduate employability and work performance.....	157
Table 6.28: Summary of research aims and statistical procedures.....	159

# **CHAPTER 1: ORIENTATION AND BACKGROUND**

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This research focuses on the relationship between graduate employability and work performance in the mining industry in South Africa. With the new world of work and all the changing viewpoints of performance management this is a very current topic and there is a great need for such research, as will be explained in the background to and rationale of the study. This chapter discusses the background and rationale for the study, the problem statement, aims of the study, research design and methodology and the chapter layout of the rest of the work.

## **1.1 INTRODUCTION**

By determining the relationship between graduate employability and work performance, the mining industry will be able to employ individuals with the required skills that can be developed to become fully competent in the work situation. This will help to improve the performance of mining companies in the interest of its workforce and other stakeholders, sustain its current production and position itself for future growth.

## **1.2 BACKGROUND TO AND RATIONALE FOR THE STUDY**

Graduate employability has become the new “buzz” word with organisations worldwide looking for graduates with discipline specific knowledge, skills and attributes (specific distinctive graduate qualities) which will equip them to be more effective in the workplace. Graduates need to have an understanding of the world of work. They have to be knowledgeable on how an organisation functions, what their objectives are and how employees in an organisation conduct their work (Mason, Williams & Cranmer, 2009).

Companies have to keep up with changes in the world of work and stay abreast with the evolving needs of an organisation within the rapid changing, insecure and unpredictable environment in South Africa. Considering that one of an organisation’s most important assets is its employees, companies have to recruit and select employees who can function at their optimal level and are high performers. Taking the company’s competitiveness into account, employees need to be able to adapt to continuous changes and the evolving needs of the organisation (Nilsson & Ellström, 2012).

Hinchliffe and Jolly (2011) stated that the concept of graduate identity is subject to interpretation, depending on employer, sector and size (at least). Taking this into account, a graduate within the context of this study can be defined as an individual with a formal education like a degree, diploma or certificate obtained at an accredited training institution. Employees in possession of technical qualifications e.g. artisan and technician will also be included in the study.

Employers are looking for graduates that can instantly become involved in delivering value to the company, without having to make use of extended induction programmes (Barthope & Hall, 2000). Universities are experiencing more pressure to produce employable graduates which can contribute significantly to a knowledge-driven economy. This is however not without challenges (Coetzee, Botha, Eccles, Holtzhausen & Nienaber, 2012).

A misunderstanding exists between higher education institutions (HEI) and employers regarding graduateness. From an employer's perspective, employability is perceived as "work readiness". In other words, new graduates need to have the required skills and knowledge to make a contribution within an organisation in their new job. Employers argue that HEI's do not equip students with the necessary qualities and attributes that graduates need to possess in order to be employable and immediately productive within the workplace after completing their studies successfully. University responses include a broader employer involvement in course design and delivery, and also an expanded provision of opportunities for work experience (Mason *et al*, 2009).

Harvey (1999:4) defines graduate employability as "*... the propensity of the graduate to exhibit attributes that employers anticipate will be necessary for the future effective functioning of the organisation*". From this definition it is clear that employability is not the same as employment. Higher employability increases the chance of obtaining employment (Bezuidenhout, 2011). Yorke (2006) defines employability as the skills, understandings and personal attributes that make graduates more apt to obtain employment and be successful in their occupations to their own advantage, but also to the advantage of the labour force, the community and the economy.

Many people view higher education as a means of preparing students for future employment. A study undertaken by the Council for Higher Education on behalf of four universities of the Western Cape (University of Cape Town, Stellenbosch University, University of the Western Cape and the Cape Peninsula University of Technology), confirmed high levels of graduate employment. The employment status of the entire graduating cohort of 2010 was traced in

one of the most thorough investigations into the pathway between university and work. The myth of large scale graduate unemployment was proven false with results indicating 84% graduate employment. The study also found that other factors such as race, the institution attended and home backgrounds were strong predictors of whether a person would find employment. Unemployment was highest for African (19%) and also highest for those who came from rural provinces (Limpopo 19%, Eastern Cape and Mpumalanga 15%, townships 19% and village schools 14%). Whites and Indians were most likely to be employed with an unemployment rate of 5% and 3% respectively. A large difference in employment chances also exists according to the institution (Daily Labour News, 2 September 2013).

Findings by Kraak (2010) are in contradiction with the research of the Council for Higher Education. By analysing the employment data by race a total different picture started to emerge, showing an increase in graduate unemployment. A disturbing finding is the high level of unemployment among African graduates with certificates and diplomas (a 10% increase from 1995 to 2005). Other ethnic groups (Coloured, Indian and White) showed a decline over this time period. One of the contributing factors, according to a report by the Development Policy Research Unit in 2006 (Jonas, 2006), is the absence of opportunities for work placement. The huge increase in the numbers of graduates could also have led to a situation where more graduates complete courses that are not necessarily in demand in the labour market.

An article by Chan (2012) shows that since 2003 students from Chinese universities face high levels of unemployment after graduation. The competition for jobs amongst graduates from different types of institutions is contributing to the employment difficulties. China has many inequities in their education system, with students coming from families with higher social class being able to attend elite schools. Social background cannot be ignored when comparing Chinese university students with their peers from other regions of the world. Employability, together with other external factors outside the scope of a graduate's personal control such as where they come from and the type and location of institutions they attend are thus contributing factors in determining the ability of the graduate to compete in the labour market.

While gradueness is seen as specific skills and knowledge that graduates possess after completing their studies, employability is concerned with a graduate's ability and capability to enter the national or international workplace, according to Glover, Law and Youngman, (2002).

Employability is seen as *"a psycho-social construct representing a combination of attributes (dispositions, values, attitudes and skills) that promote proactive adaptability in changing*

*environments and enhance an individual's suitability for employment and the likelihood of obtaining career success" (Bezuidenhout, 2011:14).*

According to Bridgstock (2009:32) "... *generic skill development is an inadequate answer to the question of graduate employability...*" Graduate employability skills include far more than just a set of generic skills listed by employers to be preferable and attractive. For employees to be both immediately and sustainably employable, they have to develop skills that are specific to their own discipline and also "generic" skills that are transferable to other occupational areas as well. According to Mayer (1992) in Bridgstock, those generic skills are also known as "core skills", "key competencies", "transferable skills" or "underpinning skills". Bowden, Hart, King, Trigwell and Watts (2000) distinguished between two sets of graduate attributes in Bridgstock: the ability to contribute to a well-functioning society and also to contribute to economic productivity. Bridgstock presents a model, indicating skills necessary to enhance graduate employability, suggesting career management playing an integral part in the world of work. Self-management skills relate to the individual's knowledge of oneself in terms of values, interests and abilities while career building skills are skills that one uses to look for information and careers on the labour market.

According to Coetzee (2012:120) students' gradueness refers to "...*the quality of the graduate produced by the higher education institution, and the relevance of the skills and attributes graduates bring to the workplace as perceived by employers, educators and students*". Gradueness implies that graduates should be able to demonstrate a set of generic transferable meta-skills and personal attributes apart from their discipline-specific knowledge (Coetzee, 2009). In Coetzee (2012:121) the Unisa College of Economic and Management Sciences (CEMS) defines gradueness as "*the inherent characteristics (transferable meta-skills and personal attributes) of graduates in the economic and management sciences that differentiate them as responsible, accountable, relevant, ethical (RARE) and enterprising citizens, and employees of choice in the workplace*". Personal attributes refer to values, attitudes and behaviours. By using a composition of transferable meta-skills and personal attributes, the gradueness of students can be developed to assist them to become competent and professional graduates with the potential to make sustained positive contributions to society and their work environment (Coetzee, 2012).

Within the South African environment few attempts have been made to measure the employability of graduates. A measure of graduate employability within the South African context was therefore developed by Mareli Bezuidenhout. The Graduate Employability Measure (GEM) was specifically designed to measure the underlying construct of

employability, and specifically graduate employability. A conceptual model was constructed and the variables that employability consists of were determined. The different dimensions identified as contributing to employability are: career self-management drive, cultural competence and career resilience (Bezuidenhout, 2011). These three GEM dimensions provided a new perspective on what should be included in a measure of career self-management drive and career resilience in particular. The research conducted by Bezuidenhout provided valuable insight into the attributes that individuals need in order to survive in a changing work environment. Findings of the study also ensured that universities become and remain high quality institutions by including the attributes of career self-management drive, cultural competence and career resilience in the qualifications offered (Bezuidenhout, 2011).

A study conducted by Coetzee *et al* (2012) discussed the two constructs, gradueness and employability, in depth. For employees to be marketable and employable in today's work environment, individuals need to be flexible, adaptable and also resilient. A measure of employability for graduates in the new world of work was developed by Bezuidenhout (2010) in collaboration with Coetzee (2010). Eight core career related attributes regarded as essential to secure and enhance employability were identified: career self-management, cultural competence, career resilience, self-efficiency, sociability, proactivity, entrepreneurial orientation and emotional literacy (Coetzee *et al*, 2012).

Certain characteristics or traits are linked to each of the specific attributes. (1) *Career self-management* refers to one's ability to manage your own career. (2) *Cultural competence* is the understanding and respect of other cultures and the ability to function in collaboration with people across different cultures. (3) *Career resilience* is when one has a high self-esteem and is open to feedback from others (both positive and negative). Such employees usually have very good resilience to adapt to a changing environment. Independence from others and the ability to make own decisions refers to (4) *self-efficiency*. (5) *Sociability* refers to building networks of friendships with people who can assist in advancing one's career (and using these networks if and when, necessary). (6) *Proactivity* is when you accept responsibility for your own decisions. (7) *Entrepreneurial orientation* entails a healthy appetite for risk taking (you are open to new ideas). By understanding your own emotions and feelings and being able to manage your mood, you show (8) *emotional literacy*. These eight dimensions of employability are seen as core attributes that will improve an individual's chances of finding suitable employment and achieving career success.

Mason *et al* (2009) identified the following generic skills (within higher education) needed to enhance employability: literacy, problem solving skills, team working, communication, IT, numeracy and learning how to learn. The last four skills stipulating key skills relevant throughout one's life. Detailed information gathered by Mason *et al* (2009) identified three different mechanisms by which employability could be improved: (1) the teaching of employability skills by higher education departments, (2) employer involvement in developing course material and (3) appropriate student work experience.

Maxwell, Scott, Macfarlane and Williamson (2009) also stress the role of employers when it concerns the development of employability skills. Postgraduate employability skills could be enhanced by employers in two ways: working in partnership with universities on the specific skills they seek from postgraduates and assuming their share of responsibility for developing these skills.

According to Randall Jonas of the Eastern Cape Training Centre, employability skills refer to much more than just the job. Employability skills were defined in Australia by two national bodies in collaboration with the industry and commerce, as skills required not only to gain employment but also to allow employees to achieve their full potential. Eight skills groups were identified by the employability skills framework: communication, teamwork, problem solving, initiate, planning and organising, self-management, learning and technology. A person develops these skills over time by means of life experiences, employment and the education system. The benefit could be much more substantial for both employee and employer if the performance potential is fully realized in an organisation (Jonas, 2006).

In a turbulent economic climate, characterised by pressures to improve productivity and reduce costs, performance management plays a central role in providing the organisation with a competitive advantage (Chartered Institute of Personnel and Development, November 2009). Many globally competitive organisations depend on the uniqueness of their human resources systems for managing human resources effectively. Organisations manage their performance successfully by applying a vision and encourage their employees to live the values of the company. Employees need clear objectives to enable them to work together as a team to improve organisational performance and achieve organisational goals. Effective performance evaluation systems relate directly to employee motivation and productivity (Ahmed *et al*, 2013) and are aligned with the vision and mission of the company.

Performance ratings remain the most commonly used job performance criteria in industrial and organizational psychology (Borman, Buck, Hanson, Motowidlo, Stark & Drasgow, 2001).



Due to the important role performance ratings play in organisations, researchers have been concentrating on increasing the quality thereof. A frequent complaint is that performance ratings are being inflated. According to Roch and McNall (2007) rating inflation impacts on human resource practices that rely on performance ratings such as 360 degree feedback. Accountability needs to be taken into consideration during performance appraisals as there are consequences that depend on some aspect of the ratings or judgments given (Palmer & Feldman, 2005). Knowledge about an employee's previous performance influences the accuracy of rater accountability. More accurate ratings were provided by accountable raters when they were not given information regarding the employee's previous performance feedback (Roch & McNall, 2007).

Performance management is linked to consequence management which can result in increased pay and other rewards such as promotion and career opportunities or actions to remedy disciplinary or capability issues, perhaps resulting in dismissal. According to a report by WorldatWork (2012) virtually all organizations (99%) assess employee performance. The most common criterion for determining pay increases continues to be based on individual performance against job standards, although its use has dropped since 2010 (66% in 2012 compared with 73% in 2010). Companies using a rating system with a performance score that is tied to salary increases showed a 6% increase for 2012 compared to 2010 data. 57% of participants having a rating system use a 5-point rating scale with a 54% distribution rate around the middle (a bell-shaped distribution rate with most people falling in the middle) (WorldatWork, 2012).

The growth in the importance of performance management has resulted in an increased awareness of employees' perception surrounding the construct of justice. Processes perceived as unfair by employees will result in a workforce whose contribution through enthusiasm and "going the extra mile" is not fully achieved (Rowland, 2013). A lack of engagement results when employees perceive performance management as being unfair.

A study by Porophat (2011) implied that, although employability is a major educational goal, employability skills should be dealt with in conjunction with organisational citizenship behaviour (OCB) and not as a separate entity. Performance is more than just a one-dimensional construct. OCB is non-task related work behaviour and requires behaviour that is not enforceable, but discretionary. It is work behaviour that goes beyond the call of duty. Employable graduates are prepared to engage in citizenship behaviour and thus enable organisations to increase efficiency. It is for this reason that organisations value employability and compete in the market for people that have employability skills.

Organ (1990) as cited in Zheng, Zhang and Li (2012:3) defines organisational citizenship behaviour (OCB) as “*performance that supports the social and psychological environment in which task performance takes place*”. OCB includes behaviour that is important to the overall performance of an organisation; it is a function of the employees’ ability, motivation and opportunity.

A study conducted by Zheng *et al* (2012) examined the relationship between performance management and organisational citizenship behaviour, under the light of social exchange theory and impression management theory. Conway (Zheng *et al*, 2012) views organisational citizenship behaviour (OCB) as shaping the social and psychological context where core job responsibilities are accomplished and uniquely contributes to overall performance of a company. The social exchange theory assigns employees’ decisions about the amount of effort they are willing to expend for their organisations to how much the organisations contribute to their well-being. Employees will thus perform OCB based on their perception of organisational fairness. Impression management theory refers to employees influencing the perceptions that others have of them. Employees realising that taking initiatives would help them getting promoted, demonstrate high levels of OCB. An employee has thus the opportunity to manipulate their supervisors’ impression of them (Zheng *et al*, 2012).

According to Inkeles (1969) as cited in Van Dyne, Graham and Dienesch (1994) the organisational citizenship behaviour construct consists of three categories, namely obedience, loyalty and participation. (1) *Obedience* involves respect for orderly structures and processes. It reflects employees’ acceptance of the necessity for and desirability of rational rules and regulations governing organisational structure, job descriptions and personnel policies. (2) *Loyalty* involves serving the interests of the community as a whole and the values it embodies. In an organisation, loyalty is identification with and allegiance to the organisation’s leaders and the organisation as a whole, transcending the interests of individuals, work groups and departments. It also includes defending the organisation against threats, contributing to its good reputation and cooperating with others to serve the interests of the whole. (3) *Participation* entails active and responsible involvement in community self-governance and keeping oneself well informed about issues affecting the community as well as exchanging information and ideas with other people. In an organisational context, it refers to interest in organisational affairs and taking responsibility for organisational governance. It also includes attending nonobligatory meetings, sharing informed opinions and new ideas with others and being willing to combat groupthink.

When employees engage in obedience, loyalty and participation activities as outlined above, they display commitment to the organisation. Not only do they do more than what is expected of them, but they do not expect to be rewarded for it. Extra-role behaviours are vital for performance because organisations cannot forecast through stated job descriptions the entire spectrum of subordinate behaviours needed for achieving goals. In order to achieve a sustainable competitive advantage, an organisation is dependent on employees' willingness to do more than what their official job descriptions outline (Javadi & Yavaran, 2011). All of these qualities are related to employability skills.

The study aims to determine the relationship between graduate employability and work performance. The research will add value to the mining industry in South Africa by developing a measurement that can link graduate employability to work performance and thus assist with the recruitment, development and remuneration of staff members. It will further enable employers in the mining industry to identify the differences with regard to work performance between graduates with high levels of employability and those with low levels of employability.

### **1.3 RESEARCH PROBLEM**

Although production in the mining industry improved by approximately 5% between 2010 and 2011, the situation made a turn for the worse in 2012 and 2013 when the industry experienced one of the worst labour unrests in many decades. This led to huge losses in production as the industry came to a virtual standstill. The problems for the industry did not end there as it also experienced huge increases in labour costs. PwC, in its publication SA Mine 2012, reported that the average increase in total employee costs in 2012 was 9.8%. Huge increases as a result of Eskom's tariff increases have led to utility expenses increasing by 21% (SA Mine: Highlighting trends in the South African mining industry PwC, November 2012). The lower overall production, together with the increase in production costs, have led to a situation where the mining industry faces huge challenges with regard to skills shortages, absenteeism and occupational injuries. A better qualified and trained workforce can therefore contribute to higher productivity and lower labour cost.

According to Michael Rendell, Global Head of PwC's Human Resource Services, a widening mismatch between the skills of a business's workforce and the skills they need to achieve strong growth, is becoming a challenge (Skills gap is hindering growth for businesses PwC May 2013). The availability of key skills are seen by business leaders as the second biggest threat to business growth according to a global survey conducted by 1,300 CEO's (Skills gap

is hindering growth for businesses PwC May 2013). Addressing the talent challenge is also high on the agenda, with 61% of CEO's planning to increase investment in their workforce over the next three years (Skills gap is hindering growth for businesses PwC, May 2013).

According to a report in Fin24 (2012), high levels of absenteeism and sick leave are costing the South African economy about R3,9bn a year in lost production with the average output per worker just R574,92 a day. A report released by software company CAM Solutions indicates that the mining industry records the highest absenteeism rate (3.1%) (CAM Solutions, 2010).

Fatalities in the mining industry in South Africa showed a slight drop in numbers to 123 in 2011 from 127 in 2010 and 168 in 2009 (Phakathi, 2013). During 2012 fatalities in the mining industry are higher than the previous reporting period with gold mining suffering 27 of the 69 deaths by August 2012 and platinum mining 21 fatalities. Seven deaths had been recorded in coal mining and eight (in total) in diamond, chrome, copper and iron-ore mining. It was found that during 2009 a number of section 28 artisans were involved in accidents due to a lack of experience and knowledge. A section 28 artisan refers to someone who has been working for some years in a particular trade, but has no formal qualification as an artisan, and is therefore not recognised as a qualified artisan. Only artisans who have completed a full trade test (section 13) were acceptable to the Chamber of Mines but the shortage of mining industry artisans resulted in many section 28 artisans being employed (Mining Weekly, March 2009).

AngloGold Ashanti's Mponeng mine reported a fatality where an electrician was electrocuted while conducting a quarterly inspection and testing a mini substation (Business Report, August 2012). One employee died and another one was injured following a blasting accident at Harmony Gold Kusasalethu mine near Carletonville (Daily Labour News, 13 November 2012). All trackless vehicle operations were halted at Harmony Gold Tshepong mine near Welkom in the Free State after the death of an employee (Daily Labour News, 11 December 2012). An employee was killed at Village Main Reef Tau Lekoa mine in Orkney, North West, after a suspected electric shock incident that occurred during the night shift operation (Daily Labour News, 4 February 2013). All these occupational injuries and fatalities could most probably have been avoided if work performance was more directly related to employees' employability.

By determining the relationship between graduate employability and work performance the mining industry would be able to make use of a graduate employability instrument for future appointments, promotions and transfers knowing that work performance is also being addressed.

The specific questions for the study are formulated as follows:

### **1.3.1 Research questions: literature review**

In terms of the literature study, the following specific research questions will be addressed in this study:

- How is graduate employability conceptualised in the mining industry in South Africa?
- How is work performance conceptualised in the mining industry in South Africa?

### **1.3.2 Research questions: empirical study**

In terms of the empirical study, the following specific research questions will be addressed:

- What constitutes graduate employability in the mining industry in South Africa?
- What constitutes work performance in the mining industry in South Africa?
- What is the relationship between graduate employability and work performance?
- What is the relationship between biographical characteristics and graduate employability/work performance?
- What recommendations can be formulated with regard to graduate employability and work performance for the mining industry in South Africa based on the findings of this study?

## **1.4 RESEARCH AIM**

Based on the particular problem to be studied, the aims of the research are as follows:

### **1.4.1 General objective**

The main objective of the research will be to determine the relationship between graduate employability and work performance in the mining industry in South Africa.

### **1.4.2 Specific objectives**

This section outlines the specific objectives of both the literature review and empirical study.

#### **Literature review**

The specific objectives in terms of the literature review are to:

- Conceptualise employability in the context of the mining industry in South Africa.
- Conceptualise work performance in the context of the mining industry in South Africa.

#### **Empirical study**

The specific objectives of the empirical study are:

- To confirm/determine the constructs of graduate employability in the mining industry in South Africa.
- To confirm/determine the constructs of work performance in the mining industry in South Africa.
- To determine the relationship between graduate employability and work performance.
- To determine the relationship between biographical characteristics and graduate employability/work performance.
- To make recommendations regarding employability and work performance in the mining industry in South Africa and identify issues for future research.

## **1.5 RESEARCH DESIGN**

A research design refers to a plan of how research is planned to be conducted by a researcher and is regarded as the strategic framework for the study. It underlines the kind of study that is being planned and what type of results will be obtained (Babbie & Mouton, 2001).

A quantitative survey design was chosen for the purpose of this study. The research will be approached from an empirical perspective and the study will be cross-sectional. Survey questionnaires, as a quantitative method, will be used to collect data from a random sample of graduate employees employed by some of the following mining companies in South Africa: Anglo Platinum, Kumba Iron Ore, Exxaro, Rio Tinto, African Rainbow Minerals, Lonmin and South32. For each of the employees in the sample a performance evaluation will also be obtained. The focus of the research was on descriptive, correlation and inferential statistical analysis.

The study aims to determine the relationship between graduate employability and work performance. Should the study be able to establish a link between graduate employability and work performance, employers in the mining industry would be able to make use of the Graduate Employability Measure for various HR management activities such as HR planning, recruitment, selection, training, performance management and remuneration. Employees with low levels of employability and low levels of performance could also be identified and where possible, developed in order to function at their optimal level and thus perform better to the benefit of the company.

### **1.5.1 Research variables**

The context of the research is graduate employees employed by mining companies who have a performance management process in place and applying sound performance management methodologies and principles. This study focused mainly on two variables namely graduate employability and work performance.

### **1.5.2 Type of research**

The research is descriptive and exploratory. According to Leedy and Ormrod (2010) descriptive and explanatory research focuses on describing, summarising and explaining an existing situation, without intending to change it. This study will make use of a quantitative research method that aims to identify the features of an observable fact or to explore the possible relationships between one or more than one phenomena (Leedy & Ormrod, 2010). The data will be processed by means of descriptive, correlational and inferential statistics. Descriptive statistics describe and summarise the information received from the sample (Welman, Kruger & Mitchell, 2005). Correlational statistics will be used to determine and/or explain the association between two variables as well as the strength of an association, while inferential statistics will be used in this study to analyse statistically based hypotheses by drawing inferences from the data obtained from the sample and, based on probabilities, generalising it for a specific population (Leedy & Ormrod, 2010). For this study a cross-sectional, descriptive research design will be used in order to investigate the possible correlation between graduate employability and work performance.

### **1.5.3 Methods used to ensure reliability and validity**

Measurements will be in place to ensure a valid and reliable research process:

#### **Validity**

The validity of a measuring instrument indicates how well the instrument measures the constructs it purports to measure (Leedy & Ormrod, 2005). Both internal and external validity are important and desirable for a research design. Ensuring validity requires making a series of informed decisions about the purpose of the research, theoretical paradigms that will be used in the research, the context within which the research will take place and the research techniques that will be used to collect and analyse data (Terre Blanche, Durrheim & Painter, 2006). In this research the internal validity will be ensured through:

- Models and theories chosen that are relevant to the research topic, problem statement and aims.

- Measuring instruments chosen in a responsible and representative way and presented in a standardised manner.

The external validity was ensured in the following ways:

- The selection of the sample was representative of the total population.
- The findings of the research were generalised to include the total population.

The validity of the data gathering instrument was ensured as follows:

- Exploratory factor analysis and Cronbach's alpha coefficients were used to ascertain the construct validity and internal consistency reliability of the measuring instrument.
- In order to ensure content validity, an effort was made to ensure that the data collection was carried out meticulously, that the data was coded accurately and analysed correctly, and that the findings were based on the analysed data.
- The processing of statistics was carried out by a statistician, using SPSS.
- The reporting and interpreting of results was accomplished using standardised procedures.
- The researcher ensured that the final conclusions, implications and recommendations were based on the findings of the research.

### **Reliability**

Reliability indicates how consistently a measuring instrument, when repeatedly used on the same group, yields the same result when the constructs being measured remain the same (Leedy & Ormrod, 2005). The results of a study should be both generalisable and reliable (Welman & Kruger, 2001) and therefore it is essential to obtain more than one comparable measurement for a sample to ensure that results are generalisable and thus reliable (Welman & Kruger, 2001). Generalisable results are consistent irrespective of the time frame involved in the use of an instrument, by whom it was administered or the form in which it was used (Welman & Kruger, 2001). To ensure reliability of the measuring instruments Cronbach Alpha coefficients and inter-item correlation coefficients will be used (Kerlinger & Lee, 2000). Correlation coefficients measure the extent to which association exists between two variables (Welman & Kruger, 2001). Rasch analysis will be utilised to assess the construct validity and measurement reliability of the Performance Management Scale which will be a newly constructed questionnaire for the purposes of the present study.

With regards to graduate employability in the mining industry in South Africa, the existing Graduate Employability Measure (GEM) will be used in the survey and confirmatory or



exploratory factor analyses will be conducted to determine the factor structure of graduate employability.

#### **1.5.4 Unit of analysis**

Data will be collected from a random sample of the population being studied. Sampling is a systematic decision-making process aimed at selecting a sub-set of units of study who will be surveyed in order to collect data that will be representative of the entire population (Leedy & Ormrod, 2010). The sample will consist of young graduates of all ethnic groups between the ages of 18 and 30. This study focused on the younger generation who had recently completed a post-matric qualification. A graduate within the context of this study will be an individual with a formal education like a degree, diploma or certificate obtained at an accredited training institution. Employees in possession of technical qualifications e.g. artisans and technicians will also be included in the study to ensure the equal distribution of different positions and qualification groups.

It is considered good research practice to select a sample greater than 25 units of analysis and when random sampling is used, a sample of 400 to 500 units of analysis is deemed sufficient, irrespective of the size of the population (Leedy & Ormrod, 2010). For this study major industry players in South Africa are included in the sample. This will allow for the possibility of selecting a random sample of 500 participants in order to obtain sufficient data-sets.

Probability and non-probability sampling are the two main sampling methods used (Welman, *et al*, 2005). When probability samples are used, the probability of any population member being included in the sample can be calculated while the method also allows for the estimation of sampling error (Leedy & Ormrod, 2010; Welman *et al*, 2005).

Quantitative data analysis will be used in the study. Data will be analysed by means of descriptive and inferential statistics using statistical software and statistical packages (eg. IBM SPSS Statistics). This detailed analysis will look deeper into the data and determine trends. Exploratory factor analysis will be used to explore the interrelationship between graduate employability and work performance.

#### **1.5.5 Methods to ensure adherence to ethical research**

The ethical guidelines and standards will form the basis on which the research will be conducted. The research will be conducted within the ambit of the ethical requirements and procedures of Unisa and the research ethics procedures of the institution will be followed at

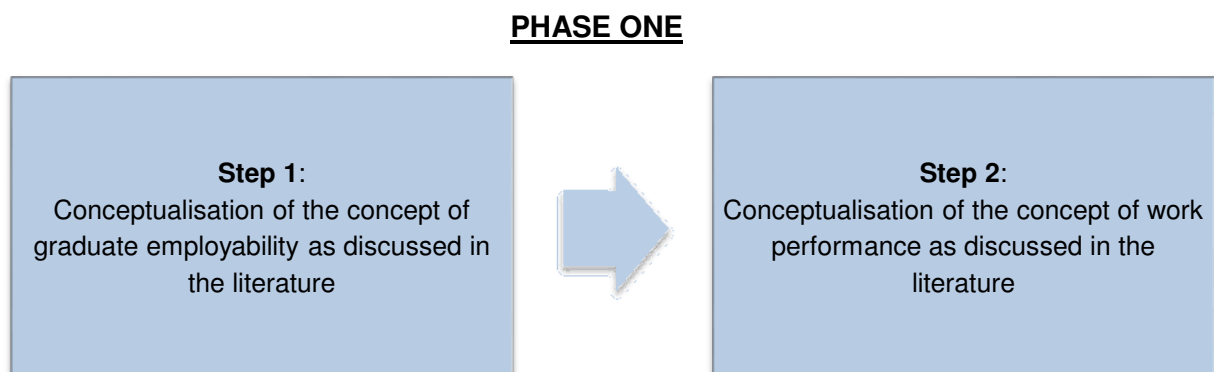
all times. These considerations will form part of every step of the research process to ensure that it guides the researcher and the study. Informed and voluntary consent will be obtained from all the relevant participants. All information, data and results will be handled with confidentiality. Consent will be obtained from participants to study their performance records. Research will be designed in such a way that individuals, organisations and the community will benefit from it and there will be no harm done to anyone involved in the research process (Lefkowitz, 2008). The researcher will strive to remain objective and to conduct the research with integrity.

## 1.6 RESEARCH METHODOLOGY

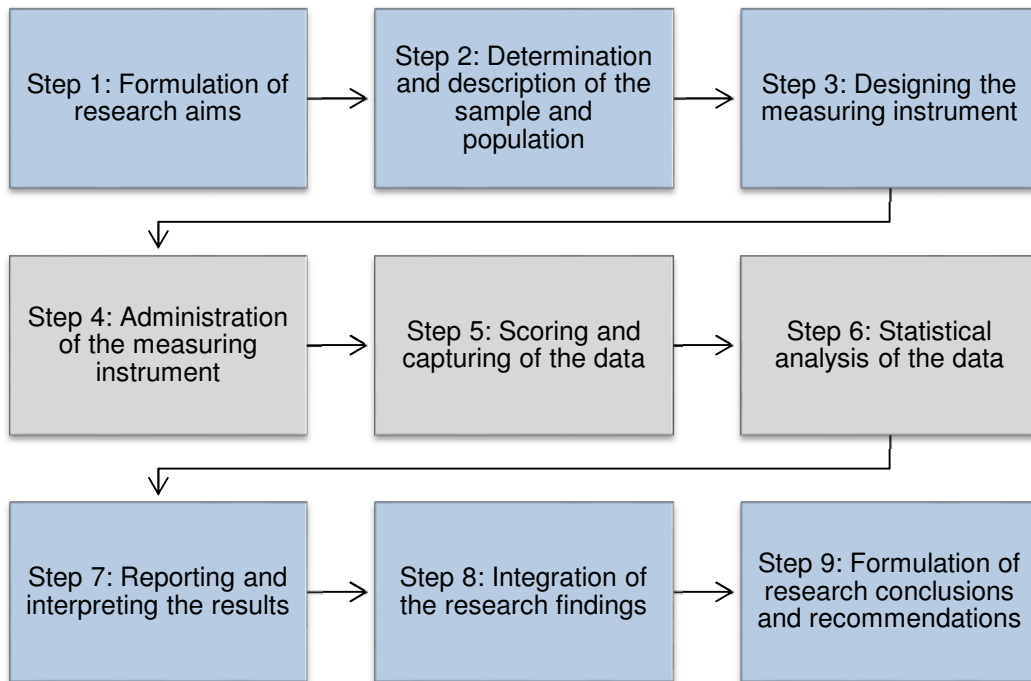
As previously stated, the plan with this specific research was to follow a quantitative design approach. According to Kumar (2014), some of the characteristics of quantitative designs are that they are well-structured, specific, valid and reliable. Quantitative designs are used as a deductive process of investigating objectives that have already been set (Weathington, Cunningham & Pittenger, 2010).

The research method included both the literature review as well as the empirical study. The literature review was used to obtain in-depth information on the theoretical background of the research, and the empirical study was used for the practical application of the theory in order to investigate objectives. These two phases of the research process are discussed in greater detail in the paragraphs to follow. Figure 1.1 provides an overview of the research methodology applied in this study.

**Figure 1.1: Overview of Research Methodology**



## **PHASE TWO**



### **Phase One: Literature Review**

The literature review provides the theoretical background, findings of previous studies, how the theory relates to the research and lastly, how the research adds to the existing body of knowledge (Kumar, 2014). In this instance, the literature review served to conceptualise graduate employability and work performance.

The steps that were followed in this phase of the research are shown in Figure 1.1.

### **Phase Two: Empirical Study**

This phase included the following steps:

Step 1: Formulation of research aims

The research aims were formulated in order to determine the appropriate statistical analyses.

Step 2: Determination and description of the sample

The population was identified and the sample was determined by means of simple random sampling, which is a probability sampling technique. A breakdown of this process and the description of the sample can be found in Chapter 5.

The population from which the sample was chosen, consists of employees within the mining industry in South Africa. The study took place amongst young graduate male and female employees between the ages of 18 – 30 years who are employed in the mining industry in South Africa. A graduate within the context of this study is an individual with a formal post-matric qualification (i.e. degree, diploma, certificate, N6). At the time of data collection, the total population constituted of approximately  $N = 1570$  graduate employees employed by mining companies in South Africa. Data about the population was obtained from HR records of the various mining companies.

Major industry players in the South African mining industry were included in the sample. This allowed for the possibility of selecting a sizable random sample in order to obtain sufficient data-sets.

### Step 3: Designing the measuring instrument

Measuring instruments assess aspects of human thought or behaviour, must be valid and reliable and are very important, as they provide the basis on which the complete study effort rests (Leedy & Ormrod, 2005).

After a review of the literature, a suitable questionnaire comprising of 56 items with regard to graduate employability, had been identified. A questionnaire on work performance had to be compiled specifically suited to this study consisting out of 33 items. A group of HR experts and a statistician were approached to do a pre-test on the questionnaire.

When compiling the questionnaire on work performance the following guidelines were taken into account: 1) keep the questionnaire short, 2) keep the respondent's task simple, 3) provide clear instructions, 4) use simple and clear language, 5) give a rationale for any items whose purpose may be unclear, 6) check for unwarranted assumptions, 7) ensure the wording of questions do not give clues about preferred responses, 8) determine in advance how responses will be coded, 9) ensure consistency, 10) conduct pilot tests to determine the validity of the questionnaire, 11) analyse the final product one more time to ensure all needs are addressed and finally ensure a professional looking questionnaire. Another advantage of using closed-ended questions was the minimisation of coding errors in the data set. Coding errors refer to open-ended responses that are misinterpreted by the researcher. Closed-format

items can be answered quickly, making responding more attractive and efficient in terms of administration (Breakwell, Hammond & Fife-Schaw, 1995).

The questionnaire comprises three sections (A, B and C); the first asks for the biographical details of the participants, the second assesses graduate employability, and the third section assesses general factors that could impact on the management of performance. The questionnaire is attached as Appendix A.

#### Step 4: Administration of the measuring instrument

The researcher approached the tertiary institution's Departmental Research and Ethics Committee to obtain permission to conduct the study. Once permission was granted, an email was sent to graduate employees in the sample with a link to the web-based questionnaire. A cover letter also accompanied the email whereby the aim of the study, voluntary participation and withdrawal was explained. The contact details of the researcher were also provided for further queries. Confidentiality was ensured at all times. Participants provided voluntary consent to participate in the study by clicking the "I agree" button before participating in the survey.

The simplicity, low costs and versatility of the questionnaires made it the most preferable method of data gathering. Questionnaires are a relatively well-understood technology. For this reason it enabled participants to easily understand and complete the questionnaire (Breakwell *et al*, 1995). However, the researcher was aware of the possibility of a low return rate as the majority of people who receive questionnaires opt to not participate in a survey (Leedy & Ormrod, 2010). This risk was being eliminated by including major industry players in the mining industry in South Africa to ensure a sizable random sample.

#### Step 5: Scoring and capturing of the data

The responses of all the participants were captured in an electronic spreadsheet. All data was analysed through statistical analysis. This was done by using a statistical package, SPSS, which is meant specifically for the field of Social Sciences.

#### Step 6: Statistical analysis of the data

The statistical analysis was conducted in various stages. As stated previously, the statistical computer program SPSS was used to analyse the data. The stages are briefly discussed below:

- Stage 1:  
An exploratory factor analysis of the questionnaire was conducted. According to Field (2013), this technique serves three purposes: (1) to understand the structure of a group of variables, (2) to construct a questionnaire to measure an underlying variable; and (3) to reduce a data set while at the same time to retain original information. In this study, all three of these purposes were served.
- Stage 2: In order to apply the appropriate statistical procedures, categorical and frequency data (means and standard deviations) were determined for the total sample. This helped in the assessment of the internal consistency reliability of the measuring instrument. Descriptive statistics such as the Cronbach's alpha were utilised.
- Stage 3: Correlation statistics using the Pearson product-moment correlation coefficient were used to determine the direction and strength of the relationship between the graduate employability and performance management variables.
- Stage 4: Inferential statistics were used to further examine the relationship between the variables. Inferential statistics is concerned with inferences about the data. The proportion of variance in the dependent variable (performance) that is explained by the independent variable (graduate employability) was calculated and investigated.
- Stage 5: ANOVA, independent sample t-tests and the non-parametric Kruskal Wallis test were employed to test for significant mean differences between the various biographical characteristics concerning the variables.

The level of statistical significance was set at  $p \leq 0.05$ ; when applied in research contexts, this provides 95% confidence in the results being accepted.

#### Step 7: Reporting and interpreting the results

Once the results had been analysed, they were presented in tables, diagrams and/or graphs. This included a description of the sample and its representation in terms of the total population. The discussion of the findings is presented in a systematic manner that is clearly understandable. This ensures that the interpretations of the findings are conveyed in a coherent fashion in order to limit ambiguity and confusion.

#### Step 8: Integration of the research findings

The results of the empirical research were integrated into the findings of the literature review.

### Step 9: Formulation of research conclusions and recommendations

In this step, conclusions were drawn from the results obtained and from the integration of the results with the theory. This step provided an outline of the research findings, which are the answers to the research questions posed at the outset of the research project. Recommendations were made in terms of retention strategies for organisations with reference to leadership and work-life balance initiatives. The overall contribution of the study was shown and the limitations of the research were then discussed.

## **1.7 ETHICAL CONSIDERATIONS**

The research was conducted by adhering to strict ethical guidelines and standards. The ethical procedures and requirements of the institution with regard to research projects were taken into account. The research ethics procedures of the higher education institution were abided by. Ethical considerations informed every step of the research process. Ethical clearance was obtained from the institution where the research was carried out. The informed and voluntary consent of every participant was required and documented. Confidentiality was ensured throughout the process. No harm or victimisation fell on any person who took part in the research. The researcher remained as objective as possible and used her integrity to guide this research project.

## **1.8 CHAPTER LAYOUT**

The chapters in the dissertation will be set out as follows:

### **CHAPTER 1: INTRODUCTION AND RATIONALE FOR THE STUDY**

This study will focus on explaining the purpose and rationale of the research.

### **CHAPTER 2: GRADUATE EMPLOYABILITY**

Chapter two will describe the construct of employability and the new world of work that graduates and employees need to face within the mining sector in South Africa. The construct of employability will be conceptualised with the focus on graduate employability. The chapter will be concluded by a discussion of various employability models.

### **CHAPTER 3: PERFORMANCE MANAGEMENT**

The performance of employees plays a critical role in the competitiveness and profitability of an organisation. In this chapter the role and importance of performance management will be

discussed. Recent studies will give an overview on the challenges experienced with the management of performance.

#### **CHAPTER 4: AN OVERVIEW OF THE MINING INDUSTRY**

The chapter will provide an overview on the rapid changes in the mining industry over recent years. The implication of changes such as the increase in job losses, globalisation, technological advances, changing organisational structures and designs, the changing nature of work, the changing workforce, and a higher focus on work-life balance on individuals' careers will be discussed. Attributes needed in order to be successful and economically productive with the potential to make sustained positive contributions to society and the work environment will be discussed.

#### **CHAPTER 5: RESEARCH METHODOLOGY**

This chapter discusses the research design and the research methodology used in this study. An overview of the population and sample of the study will be presented. The measuring instruments will be discussed and the choice of each justified. This will be followed by a description of the data collection procedure and the data analysis techniques used.

#### **CHAPTER 6: RESEARCH RESULTS**

The statistical results of this study will be reported, integrated and interpreted. Empirical research findings will be integrated with the literature review. The statistical results will be reported in terms of descriptive and inferential statistics. Exploratory factor analysis will be used to explore the interrelationship between graduate employability and work performance. The chapter will conclude with a summary and integration of research results.

#### **CHAPTER 7: FINDINGS AND RECOMMENDATIONS**

The closing chapter will integrate results and draw final conclusions regarding the achievement of the objectives of the research. Limitations of the study will be explained and recommendations will be made for the mining industry in South Africa with regards to differences in work performance between graduates with high levels of employability and those with low levels of employability, both applied and in terms of future research. The chapter ends with a final conclusion regarding the results of the study.

### **1.9 SUMMARY**

The background to and motivation for the research, the problem statement, the objectives of the study, the theoretical framework, research design and research methodology of the study



were discussed. The motivation for this study is based on identifying the differences in work performance between graduates with high levels of employability and those with low levels of employability. By establishing a link between graduate employability and work performance, the Graduate Employability Model could be used within the mining industry for recruitment, selection, placement and talent management initiatives. Employees with low levels of employability and low levels of performance could also be identified and developed in order to improve their performance levels to the benefit of the company.

## **CHAPTER 2: GRADUATE EMPLOYABILITY**

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This chapter discusses the employability construct with specific focus on graduate employability. Changes taking place in the new world of work and the subsequent implications on the careers of employees will be discussed. A discussion of various employability models will follow with specific reference to the Graduate Employability Measure. Employability within the mining industry in South Africa will be discussed in short. The chapter will conclude with a final integration of the attributes that individuals need to survive in the turbulent new world of work and how it relates to employability.

### **2.1 THE NEW WORLD OF WORK**

Since the coining of the term “The new world of work” in the 21<sup>st</sup> century, this topic keeps attracting a lot of focus. It is critical for employees to maintain their employability in a highly competitive and turbulent world of work.

#### **2.1.1 Globalisation**

Globalisation is part of the twenty-first century and is characterised by fierce competition and delocalisation of businesses. Global competition amongst companies has resulted in organisations striving to improve productivity and reduce costs, creating the need for a more flexible workforce. Employees are more flexible, thus in a position to identify new opportunities and adjust strategies and structures to exploit them (Richardson, 2009). Organisations have to adapt and therefore change the manner in which they do business, indirectly influencing the way employees do their work. For employees globalisation means ongoing training and learning to adapt and improve in order to increase productivity and the efficiency of the organisation.

According to the Deloitte Global Human Capital Trends survey (2014) one of the biggest challenges for the majority of global organisations is that they are not prepared to deal with the major trends that are reshaping today’s workforce. The 21<sup>st</sup> century organisation is global, highly connected, and demanding.

Globalisation refers to “commerce without borders, along with the interdependence of business operations in different location” (Cascio & Aguinis, 2005). Mining companies in South Africa with global roots are: Anglo American, BHP, South 32 and Rio Tinto with operations in South America, London, Spain, Canada, Australia and New Zealand. African Rainbow

Minerals has also expanded their operations to Zambia with the Konkola copper mine. But most mining companies have to compete with other local and/or global companies.

### **2.1.2 Changing nature of work**

According to Edgelow (2011) organisations need to change the way employees do the work to be more effective and efficient. Sometimes organisations not only change the way they do the work, but in the process also change the work they are doing.

*Change the way you change the way you do the work*, has become a major challenge for organisations over the past decades. An informal survey by Edgelow (2011) shows a very low success rate (30% to just over 50%) on successful implementation of change. This results in very high costs for organisations. Senior executives, together with the assistance of HR, should take responsibility for changing the way organisations change. Organisations will then be able to meet their strategic promise to change more effectively.

High demands for a functional flexible and multi-skilled workforce have become the focus of most mining companies. The changing nature of the mining industry and the high levels of job insecurity have led to multi-skilling under miners in a way to secure their future. Despite new technology in the mining industry (intensified workplace monitoring and surveillance) complete management control over the labour process has not been possible and the miners remain autonomous workers with tacit knowledge and skills in order to mediate the impact of technology on their working practices (Allsop & Calveley, 2009).

### **2.1.3 Technological advances**

Technology has transformed the workplace into a 24/7 work environment – people are able to work any time, any place and anywhere by making use of different communication tools such as internet, teleconferencing, modem, email, etc. Due to all the technological advances, the skills employees need today are dramatically different from what they were only five years ago.

Google, Skype, LinkedIn, WhatsApp, Facebook, Twitter and e-HR platforms enable virtual employees to resolve queries themselves without having to contact human resources (HR) departments. Facebook had a million users in 2004, 100 million users in 2008 and an estimated 1.23 billion registered users today (Deloitte Global Human Capital Trends survey, 2014).

Teleworking allows employees to perform their duties from a remote location. Increased productivity, decreased stress, fewer monthly expenses and less sick leave days taken were some of the advantages identified by the findings of a study by Baard and Thomas (2010) on teleworking. Absence of training for teleworkers and long hours worked are challenges that should be addressed. Disadvantages of teleworking include limited face-to-face time and with social relationships under pressure – no emotion can be communicated. Although teleworking arrangements are increasing globally, South African organisations still need to realize the advanced competitiveness of this work arrangement.

More than two-thirds (70%) of executives see new learning methods, such as free online and mobile learning platforms as urgent or important, yet only 6% say they have mastered the content and technology capabilities needed to make online learning accessible and compelling for their employees (Deloitte Global Human Capital Trends survey, 2014). A study by Deloitte indicated that 47% of respondents consider HR technology as important, but quite a large number of respondents (45%) are not ready for HR technology.

Due to technology which has changed the way employees live, work and communicate, employees of global mining companies are able to connect with each other anywhere and anytime. There is no need for employees to travel around the world to meet with each other. Through a simple teleconference, different mining operations across the world (and across different timelines) could meet with each other in seconds. Technology has also become a part of human resources and transformed the way recruitment and training are being conducted in mining companies.

#### **2.1.4 Job loss**

Six years after the start of the global financial crisis job creation still remains weak in many G20 countries. G20 countries consist of a forum from 20 major economies - 19 countries plus the European Union that consult on matters pertaining the international financial system.

According to the World Economic Forum (WEF) Global Risk 2014 report South Africa has the third highest unemployment rate in the world for people between the ages of 15 to 24. Fifty percent of young South Africans between 15 and 24 are unemployed, with only Greece and Spain having higher unemployment in this age range. The report calls the more than 73 million unemployed people between 15 and 24 in the world the "lost generation" (Daily Labour News, 20 January 2014).

Data from Statistics SA showed that the unemployment rate of 25.6% in the second quarter of 2013, fell to 24.7% in the third quarter. The reason being that 114,000 people stopped actively looking for work and employment increased by 308,000 jobs – the largest since the recession in 2008. The additional jobs were mainly created in the trade, community, finance and services sectors. Manufacturing and agriculture shed jobs. According to the Adcorp employment index (February, 2014), the South African economy shed 118,397 jobs during the second month of 2014. The biggest losses occurred in permanent jobs (104,593 jobs), followed by 26,832 temporary jobs, with significant job losses in the mining industry. Findings of the Annual Labour Market Bulletin for the financial year of 2012/2013 indicate deterioration in the quality of jobs, with the type of jobs created by the economy being mainly temporary and not sustainable. The report further shows that the SA labour market situation may not improve soon to the level of before the economic crisis of 2008 (Daily Labour News, 4 October 2013). Today, South Africa has an unemployment rate of 27.7%. A staggering 75% is jobless young people (Daily Labour News, 18 April 2018).

Statistics released by the International Monetary Fund (IMF) indicates that employment in the manufacturing sector is at its lowest level in 42 years (Daily Labour News, 23 September 2013). An astronomical 68,000 jobs were shed in the third quarter of 2013 with the trend likely to continue. 29% of manufacturers expect to decrease employment over the next 12 months, with 7% saying they expect to cut jobs by more than 15%. The industries most likely to suffer are those that supply the strike-afflicted mining sector, such as heavy machinery and equipment (Daily Labour News, 21 January 2014). According to well-known economist Mike Schuessler, who has been analyzing the IMF data on employment in mining and manufacturing, South Africa needs to do more in terms of support and subsidies to support their primary industries. The rate of unemployment is likely to increase with many job cuts in the retail sector. Pioneer Foods is to axe 1,200 employees, Pick n Pay 400 employees, while furniture retailer JD Group is in its third round of retrenchments for 2013 and this could probably slide South Africa into recession (Daily Labour News, 21 October 2013).

The South African mining industry experienced disruptive labour unrest since the last quarter of 2012 which originated from the platinum mining sector before spreading to other mining sectors and subsequently to other sectors of the economy. Despite the challenging operating conditions the mining industry grew by 12% in 2012 representing the creation of 11,754 jobs (Annual Labour Market Bulletin, 3 October 2013).

The Human Capital Index which measures how good countries are at leveraging their human capital, that is, at training and building a workforce equipped to face the competitive global

environment, rated South Africa fourth in Africa and 86<sup>th</sup> globally out of 122 countries. Labour was highlighted as the major weakness in the South African economy. Draconian labour laws together with ineffectiveness in educating its citizens and preparing them for gainful employment in a modern economy are reasons for South Africa not doing well at all on this index (Daily Labour News, 9 October 2013).

With the economy growing at a slowed rate of 2%, it is not conducive to create jobs as a growth rate of above 6% is required in order to create jobs. Youth unemployment, especially if of long duration, has a scarring effect, increasing the likelihood of unemployment later in life and reducing the potential of lifetime earnings (World Economic Forum, 2014). Taking into account the high unemployment rate of South Africa, workers should equip themselves with skills that are specific to their own discipline and also “generic” skills that are transferable to other occupational areas as lifetime employment with one organisation can no longer be expected. They have to make themselves more in demand to other organisations and industries and ensure they maintain their employability.

### **2.1.5 Changing workforce**

Free labour movement due to globalisation, the struggle for human rights by minority groups to be included in the employment sector and the availability of equal opportunities in the workplace has led to a diverse workforce (Ongori & Agolla, 2007). The implementation of employment equity and affirmative action in South Africa has changed the demographics of the South African workforce with an increase of previously disadvantaged individuals employed across all occupational categories and levels (Bezuidenhout, 2011).

Generational differences could result due to four different generations working in the same environment. Employees in different age groups have different expectations of their working environment. *Veterans* (born between 1922 and 1945) grew up with a strong sense for duty. They portray an individual work style, good work ethics and prefer an element of discipline in the workplace. In common with Veterans, *Baby Boomers* (born between 1946 and 1964) also have a strong sense of duty. Baby Boomers differ from Veterans as they prefer to work in teams. *Generation X* (born between 1965 and 1980) prefer to do things in their own way and prefer to question and challenge other people. The most recent demographic group to have entered higher education and the workforce is named *Generation Y (or Millennials)*. They are technically literate and connected, goal- and team orientated, entrepreneurial and independent with a good work-life balance. They are challenging as they do things differently (Haynes, 2011). Although some Baby Boomers are retiring, they refuse to leave their field and want to extend their working lives due to financial reasons and reasons of professional

satisfaction. The result is a multi-generational workforce – a highly diverse workforce with totally different needs – which will force organisations to change their strategy in order to accommodate the different generations (Deloitte Global Human Capital Trends survey, 2014).

A total of 58% of executives indicate that their companies are not ready to attract and retain Millennials (generation Y). They report weak capabilities when it comes to providing programs for younger, older, and multi-generation workforces. This is disturbing taking into consideration that Millennials will make up 75% of the workforce by 2025.

Changes in the work status of employees (part time vs full time) also contribute to a changing workforce. Pending changes in the Labour Relations Act make provision for the regulation of labour brokers. The bill provides for the equalisation of the pay and working conditions of temporary workers with those of permanent employees after three months on the job (Daily Labour News, 21 August 2013). This change to the act will have a significant impact on mining companies as some of them use labour brokers extensively.

#### **2.1.6 Work-life balance**

Work-life balance (WLB) has become a critical and important issue in the 21st century and remains part of the strategic agenda of most companies. A challenging and competitive work environment and an on-going drive for high performance in organisations typically result in employees struggling to balance their different roles in their work and personal lives. A study by the Roffey Park Institute (2004) found that 38% of a sample of employees would consider leaving their current employer to gain better work-life balance, even if it meant reduced pay.

Not only is WLB a frequent topic of discussion during interviews and also used as a retention tool, but organisations investing in WLB show a lower turnover rate and reduced absenteeism. A study done by Morgan in 2008 at Johnson and Johnson showed a significant decrease in sick leave by employees who could make use of WLB opportunities (Downes & Koekemoer, 2011). They took only half as much sick leave as those who did not use WLB policies.

Whittard and Burgges (2007) as well as Brunton (2006) argued, as cited in Morgan (2009), that effective WLB programs benefit both the employer and employee. Such WLB programs include: flexible work schedules, compressed work weeks, telecommuting, job sharing, employee assistance programs and onsite childcare facilities.

Flexibility is one aspect of WLB provided by employers. According to Downes and Koekemoer (2011:3) flexitime is “*a variety of flexible work schedules*”. These flexible work schedules offer

employees a choice on the start and end time of working hours – when and where they want to work. Research conducted by Downes and Koekemoer (2011) indicates various challenges for organisations when implementing flexitime. Participants experience flexitime as challenging in the sense that they battle to maintain their productivity, managing their time and struggling to find a balance between work and personal life which could result in work-life conflict. Organisations implement flexitime to help employees achieve and sustain the balance.

In an article by WorldatWork (August 2014), the Total Rewards Association, a survey by Virgin Pulse revealed that 34% of employees feel that the kind of recognition that they want to receive from their organisation is for the organisation to support a work-life balance and overall quality of life. By doing this, organisations will show that they care about their employees, resulting in lower absenteeism rates, better performing employees and higher productivity levels.

There is unfortunately no “one size fits all” work-life balance that will be suitable for all companies. Each organisation must embark on its own journey to find the right fit for them.

## **2.2 CONCEPTUALISATION OF GRADUATE EMPLOYABILITY**

The construct of employability will be described and conceptualised with specific focus on graduate employability. Various employability models will be discussed and compared, focusing on the Graduate Employability Measure as a measure of graduate employability.

### **2.2.1 Employability**

In today’s new world of work employees can no longer only rely on their qualification anymore, nor can they expect lifelong employment with one employer. Employees can also no longer be sure of guaranteed employment, but they can maintain their employability.

According to Gazier (2001) as cited in Bezuidenhout (2011), employability has moved through seven stages over the past century. *Dichotomic employability* appeared in the United Kingdom and United States with the start of the 1900’s until the early 1950’s. Individuals were classified in one of two categories: those that could not be employed (i.e. those entitled to relief such as the elderly and handicapped) and those that could be employed. *Socio-medico employability* during the 1950’s was developed in the United States, United Kingdom, Germany and a number of other countries with the focus on the handicapped due to a lack of skilled workers in the post-war period. The potential of individuals to become employed was seen as *Manpower policy employability*. This version developed mainly in the United States during the



1950's and 1960's and was an extension of Socio-medico employability - only applying to a broader population of the unemployed. During the development of *Flow employability* mainly in France during the 1960's, the emphasis was on how easily the jobless could access employment. With the focus on measurable labour market results (i.e. the probability of obtaining employment and probable duration of job), *Labour market performance employability* developed towards the end of 1970. Rapid changes in the career and job landscape during the 1980's resulted in *Initiative employability*. Individuals need to take own initiative to develop skills necessary for career success. *Interactive employability* includes a broader perspective - employees and employers are viewed as shared stakeholders in employability.

An earlier study by Clarke (2008) stated that employees were the instigators to push for greater self-control over their careers and that they should not rely on the company for career planning but should embrace career self-management themselves. According to Baruch (2001) as cited in Clarke (2008), employees are responsible for their ongoing employability and have to manage their careers across jobs while employers provide development opportunities and offer a job. Organisations with a pool of employees with more generic skills are in a better position to compete more successfully than those that focus on employees with firm-specific skills. Clarke (2008:262) defines employability as “*an individual's relative potential to obtain and retain suitable employment within the current labour market context*” with the right set of skills & abilities and attitudes & behaviours.

With an increasing knowledge driven economy, the employability concept has become more holistic, resulting in various definitions of employability. Yorke (2006) defines employability as the skills, understandings and personal attributes that make graduates more apt to obtain employment and be successful in their occupations to their own advantage, but also to the advantage of the labour force, the community and the economy. This set of attributes is thus necessary but not a sufficient condition for an individual to gain employment as defined by Yorke (Coetzee, Botha, Eccles, Holtzhausen & Nienaber, 2012). According to Potgieter (2012) employability refers to a person's ability to enter, adjust to and be dynamic in the workplace. Employability is thus the potential for employment and not employment per se (Clarke, 2008).

Brown, Hesketh and Williams (2013:111) define employability as “... *the relative chances of acquiring and maintaining different kinds of employment.*” This definition states that it is possible to be employable but not in employment. One must therefore be cautious not to “blame the victim” as the labour market primarily determines employability rather than the capabilities of the individual. When there are only 10 vacancies and 30 suitably qualified

engineers apply for the vacancies, 20 will not get the job. This does not mean that the remaining 20 are not employable. As economic conditions change, employability will vary accordingly. This happens when the long-term unemployed become “employable” during labour shortages in the economy; they become “unemployable” when better qualified job seekers take the available positions when jobs are in short supply. Employability should thus not be seen as an “institutional achievement”, but rather as the likelihood of the individual student to find prospective employment (Crossman & Clarke, 2010).

### **2.2.2 Employability skills**

A study conducted by Deeley (2014) examined the effect on employability skills and attributes by using co-assessment with students. Students had to reflect on the employability skills and attributes they developed during their course. The student and teacher need to mutually agree on the final score. By following this approach students' learn to reflect and make judgments about their own learning – developing the skill of critical thinking and self-assessment. Co-assessment also contribute in developing students' personal responsibility, self-motivation and readiness to approach new tasks – all considered as desirable attributes for employability (CBI, 2009).

According to Zinser (2003) as cited in Raftopoulous, Coetzee and Visser (2009), employability skills include: effective management of resources, communication and interpersonal skills, teamwork and problem-solving skills, and the acquisition and retention of a job. With specific reference to South African talent, Birt, Wallis and Winternitz (2004) in Raftopoulous *et al* (2009) consider knowledgeable workers with the ability to solve complex problems and have a good understanding of cause and effect relationships and who are adaptable to changes within an organisation and environment as critical. Mathematics, the effective use of resources and information, interpersonal skills, the understanding of systems and mastering of technology and flexibility in coping with change in the workplace are employability skills considered as important by Horn (2006) as stated in Raftopoulous *et al* (2009).

In the article by Raftopoulous *et al* (2009), Smith and Kruger (2008) identified seven categories of generic skills considered important for employment. Generic skills are defined by Smith and Kruger (2008:1) as “*skills that apply across a variety of job and life contexts*”. The categories of generic skills are: 1) basic skills (literacy and numeracy), 2) communication skills (negotiation and conflict management), 3) management skills (planning, organising and decision-making), 4) environmental-awareness skills (business awareness), 5) intellectual skills (analysis, critical and creative thinking, problem solving), 6) self and career-management skills (personal drive, resilience and self-awareness) and 7) interpersonal skills (teamwork and

networking). Unfortunately more academic research needs to be conducted on employability skills within the South African context to support the much needed skills development agenda that is required for this country (Raftopoulous *et al*, 2009).

Research findings by Rao (2014) revealed a lack of soft skills amongst Indian students from management and engineering institutions. Soft skills in the context of this study are defined as people skills, life skills, interpersonal skills, employability skills and emotional intelligence. Successful students who manage to be employed due to their hard skills (technical skills and knowledge) were dismissed after a while due to a lack of soft skills – revealing a gap between campus and industry due to non-existent soft skills.

Wickramasinghe and Perera (2010) identified certain employability skills that are valued by employers, university lecturers and graduates. Problem solving, self-confidence and working as a team member were identified by all as important by all three groups. Learning skills are considered as important by graduates and employers, while a positive attitude towards work is seen as important by employers, university lecturers and only female graduates. Only male graduates identified creative and innovative thinking as important. Oral communication was highlighted only by university lecturers. Very interesting is the fact that the findings of this study suggest that employability skills could be influenced by gender. All the employability skills, except oral communication, were given a higher importance by female graduates than males.

As the focus of the research is on graduate employability, the concept will be discussed in the next session.

### **2.2.3 Graduate employability**

Graduate employability has become the new “buzz” word with organisations worldwide looking for graduates with discipline specific knowledge, skills and attributes (specific distinctive graduate qualities) which will equip them to be more effective in the workplace. Graduates need to have an understanding of the world of work. They have to be knowledgeable on how an organisation functions, what their objectives are and how employees in an organisation conduct their work (Mason, Williams & Cranmer, 2009). Due to the current focus on a knowledge-driven economy relying on the intellectual capabilities of an employee as well as a high-quality, diverse and talented pool of human capital it is understandable that this knowledge-driven economy will play a major role in the sustained employability of an employee (Powel & Snellman, 2004 as cited in Coetzee & Schreuder 2013). Employees need *hard skills* (subject related skills) and *soft/transferable skills* that are generic to succeed in their

career. In other words: they need *WOW* attributes and skills on top of working knowledge (as cited by Bernstein & Osman in Coetzee *et al*, 2012).

Hinchliffe and Jolly (2011) stated that the concept of graduate identity is subject to interpretation, depending on employer, sector and size (at least). Taking this into account, a graduate within the context of this study can be defined as an individual with a formal education like a degree, diploma or certificate obtained at an accredited training institution. Employees in possession of technical qualifications e.g. artisans and technicians will also be included in the study.

Employers are looking for graduates that can instantly become involved in delivering value to the company without having to make use of extended induction programmes (Barthope & Hall, 2000). Universities are experiencing more pressure to produce employable graduates which can contribute significantly to a knowledge-driven economy. This is however not without challenges (Coetzee *et al*, 2012). As cited in McIlveen, Burton and Beccaria (2013) a lack of shared understanding and uniform agreement amongst academic communities surrounding the employability construct, contribute to the challenges (Harvey, 2001; Yorke, 2006).

A misunderstanding exists between higher education institutions (HEI) and employers regarding graduateness. From an employer's perspective, employability is perceived as "work readiness". In other words, new graduates need to have the required skills and knowledge to make a contribution within an organisation in their new job. Employers argue that HEI's do not equip students with the necessary qualities and attributes that graduates need to possess in order to be employable and immediately productive within the workplace after completing their studies successfully. University responses include a broader employer involvement in course design and delivery, and also an expanded provision of opportunities for work experience (Mason *et al*, 2009). As discussed above, recent research by Rao (2014) amongst Indian students also revealed a gap between campus and industry due to non-existent soft skills (which include employability skills). Thami Mthethwa, a qualified civil engineer but now managing member of Recruitlink, stated in a report (Sake Beeld, May 2014) that education institutions are not doing enough to prepare qualified engineers on actual working conditions. These new recruits do not know what is expected from them in the industry and expect to work behind a computer in an office, dressed in a nice suit. They then end up working on a building site, dressed in safety clothes and working in dusty conditions – a total different picture of what they were expecting. Most of these engineers do not know the difference in working conditions between contractors and consulting engineers (Sake Beeld, May 2014).

Within the context of increasing pressure from Australian industry and government, McIlveen *et al* (2013) conducted research on ways Australian universities could address graduate employability. The Career Futures Inventory (CFI) was used to measure a range of psychological qualities contributing to perceptions of employability. Graduate attributes (within the Australian higher education system) may be developed through the curricula of degree programs. Career self-management embraces all other graduate attributes and is viewed as the fulfillment of one's career aspirations, learning, and employability. The search for graduate attributes by employers has become so important that employers view it as employability skills. To find suitable employment, potential employees should be in possession of disciplinary knowledge and also employability skills.

Many people view higher education as a means of preparing students for future employment. A study undertaken by the Council for Higher Education on behalf of four universities of the Western Cape (University of Cape Town, Stellenbosch University, University of the Western Cape and the Cape Peninsula University of Technology), confirmed high levels of graduate employment. The employment status of the entire graduating cohort of 2010 was traced in one of the most thorough investigations into the pathway between university and work. The myth of large scale graduate unemployment was proven false with results indicating 84% graduate employment. The study also found that other factors such as race, the institution attended and home backgrounds were strong predictors of whether a person would find employment. Unemployment was highest for African (19%) and also highest for those who came from rural provinces (Limpopo 19%, Eastern Cape and Mpumalanga 15%, townships 19% and village schools 14%). Whites and Indians were most likely to be employed with an unemployment rate of 5% and 3% respectively. A large difference in employment chances also exists depending on the institution a student attends (Daily Labour News, 2 September 2013).

Findings by Kraak (2010) are in contradiction with the research of the Council for Higher Education. By analysing the employment data by race a total different picture started to emerge, showing an increase in graduate unemployment. A disturbing finding is the high level of unemployment among African graduates with certificates and diplomas (a 10% increase from 1995 to 2005). Other ethnic groups (Coloured, Indian and White) showed a decline in unemployment over this time period. One of the contributing factors, according to a report by the Development Policy Research Unit in 2006 (Jonas, 2006), is the absence of opportunities for work placement. The huge increase in the numbers of graduates could also have led to a situation where more graduates completed courses that are not necessarily in demand in the labour market.

An article by Chan (2012) shows that since 2003 students from Chinese universities faced high levels of unemployment after graduation. The competition for jobs amongst graduates from different types of institutions is contributing to the employment difficulties. China has many inequities in their education system, with students coming from families with higher social class being able to attend elite schools. Social background cannot be ignored when comparing Chinese university students with their peers from other regions of the world. Employability is therefore influenced by external factors outside the scope of a graduate's personal control such as where they come from and the type and location of institutions they attend are thus contributing factors in determining the ability of the graduate to compete in the labour market.

The planned expansion of higher education in South Africa (universities to be built in Kimberley, Northern Cape and Nelspruit in Mpumalanga respectively) will lead to more graduates in the labour market. The challenge will be to not only look at supply, but also demand, development and deployment of graduate skills. Graduates need to be up-skilled in order to help the country out of the economic downturn to ensure superior economic competitiveness and performance. HEI and employers will have to work together as a team towards solving this challenge. One possible intervention could be to make workplace learning part of the academic program. Credits could be allocated to the graduate after completion of a practical training period. But to up-skill graduates, a better understanding of graduate employability skills is necessary.

Du Preez and Fossey (2012) emphasise a fine balance between the body of knowledge (discipline specific knowledge and skills) as core curriculum of higher education and the development of values skills (generic skills like intellectual and social attributes). Employers consider communication skills, specifically writing skills, as one of the most important attributes that a graduate should possess. But to teach students writing skills in order to foster academic performance may require a significant effort from the lecturer. According to Griesel and Parker (2009) as cited in Du Preez and Fossey (2012), written communication skills are one of the most important graduate attributes within the South African context. The ability to find and access information and to use such information is also ranked as important graduate attributes by South African employers. Due to English not being the mother tongue of most South African learners, students are lacking reading and specifically writing skills. This creates a challenge as many university lecturers do not perceive the development of generic graduate attributes as their responsibility.

In support of the article by Du Preez and Fossey (2012) where discipline specific skills and generic skills are mentioned, the study by Crossman and Clarke (2010) also distinguishes between subject specific knowledge and skills and transferrable knowledge, skills & attributes (oral communication, high level learning skills, problem solving, decision making and affective skills and traits i.e. positive attitude, interpersonal skills and ability to work both in a team and independently). The findings by Crossman and Clarke of an Australian qualitative study on how academics, students and employers perceive connections between international exposure and graduate employability also emphasise that although employers and academics support employability, the sole responsibility for employability is with the individual. According to the study employees with international work experience would have an employability advantage compared to those with only local knowledge, as the world of work has become more global and individuals need to function as global citizens. International exposure provides graduates with the opportunity to acquire and develop the necessary competencies and soft skills required in the global world of work. Such graduates also develop cultural sensitivity as they interact with diverse cultures, enhancing graduate employability in an international labour market.

According to research by Durrani and Tariq (2012) numeracy skills are also considered as an essential skill for employability. The demand by employers for graduates with different levels of numeracy skills are growing as more employers are using numeracy tests during the recruitment process. Numeracy skills were ranked 6<sup>th</sup> on a list of 28 employability skills according to a survey by the Institute of Directors (IoD), London (IoD, 2007). From a sample of 500 directors, 77% ranked numeracy skills as a very important skill for graduates, but a shocking 21% of employers indicated that graduates '*never*' show literacy or numeracy skills. The study by Durrani and Tariq (2012) however, suggests further investigation into how numeracy skills impact on organisational performance and to what extent employers and graduates make use of numerical skills within the workplace. But the fact remains that graduates will always need numeracy skills, no matter what they intend to do in later life.

In a study in which Jackson (2009) presented certain industry relevant competencies identified by employers internationally and gathered over the past ten years, written communication and numeric skills are listed as crucial for the modern graduate operating globally. This supports the above discussions where numeracy (Durrani & Tariq, 2012), writing skills (Du Preez & Fossey, 2012) and the ability to compete globally (Crossman & Clarke, 2010) are seen as crucial employability skills.

A survey by the Institute of Directors (2007) on graduate employability skills, identifies 28 different employability skills, with the following 10 rated as most important for recent graduates to possess: 1) honesty and integrity, 2) basic literacy skills, 3) basic oral communication skills, 4) reliability, 5) hardworking and good work ethics, 6) numeracy skills, 7) positive attitude, 8) punctuality, 9) ability to meet deadlines and 10) team work and cooperation skills. Ninety eight percent of employers indicate the ability to meet deadlines as an important graduate skill with a disappointing 66% of graduate employers indicating graduates demonstrate this skill 'always' or 'often'. An encouraging 77% of organisations employing graduates provide specific training in employability skills such as leadership and management, team work, presentation skills and communication, with 51% being involved and engaging with schools, colleges and universities to develop the employability skills of those in education. Mason *et al* (2009) mentioned a gap between higher education tuition and equipping graduates with the qualities and attributes they need to be employable. This gap is also mentioned in the survey by the Institute of Directors (2007). According to this survey, 35% of employers rate young people (both graduates and non-graduates) as unprepared for employment. An overwhelming 90% believe the education system could do more to get youngsters prepared for employment.

Graduateness is seen as specific skills and knowledge that graduates possess after completing their studies. Employability, on the other hand is more future oriented and concerned with a graduate's ability and capability to adapt to future work needs and to be able to function optimally in a national or international workplace (Glover, Law and Youngman, 2002).

Harvey (1999:4) defines graduate employability as "*... the propensity of the graduate to exhibit attributes that employers anticipate will be necessary for the future effective functioning of the organisation.*" From this definition it is clear that employability is not the same as employment. Higher employability increases the chance of obtaining employment (Bezuidenhout, 2011).

Employability is seen as "*a psycho-social construct representing a combination of attributes (dispositions, values, attitudes and skills) that promote proactive adaptability in changing environments and enhance an individual's suitability for employment and the likelihood of obtaining career success*" (Bezuidenhout, 2011:14).

According to Bridgstock (2009:32) "*... generic skill development is an inadequate answer to the question of graduate employability....*" Graduate employability skills include far more than just a set of generic skills listed by employers to be preferable and attractive. For employees to be both immediately and sustainably employable, they have to develop skills that are



specific to their own discipline and also “generic” skills that are transferable to other occupational areas as well. According to Mayer (1992) in Bridgstock, those generic skills are also known as “core skills”, “key competencies”, “transferable skills” or “underpinning skills”. Bowden, Hart, King, Trigwell and Watts (2000) distinguished between two sets of graduate attributes in Bridgstock: the ability to contribute to a well-functioning society and also to contribute to economic productivity. Bridgstock presents a model, indicating the basic skills necessary to enhance graduate employability and suggesting that career management plays an integral part in the world of work. Self-management skills relate to the individual’s knowledge of oneself in terms of values, interests and abilities while career building skills are skills that one uses to look for information and careers on the labour market.

A study by Potgieter and Coetzee (2013) provided evidence that employability attributes of a person relate significantly to their personality preferences. People with an extraverted personality preference tend to be more prone in taking ownership to sustain their employability and showing a great amount of career resilience. The intuitive type personality focuses on the here and now instead of future possibilities, resulting in less confidence to overcome possible career obstacles and to take career-related risks. Sensing personality types tend to become anxious about unknown events and unfamiliar circumstances and therefore more reluctant to risk.

The literature by Wickramasinghe and Perera (2010) suggests two different aspects of employability: *transferable skills* and *subject skills*. Transferable skills are certain personal abilities of an individual which the individual can take from one job role to another and apply within any profession at any stage of his/her career. Subject skills are more specific to the career of an individual. Subject skills alone are no longer sufficient for a graduate in his new role, but need to be combined with transferable skills as the latter will enhance employment.

Watts (2006), as cited in Bezuidenhout (2011), mentioned two additional definitions of graduate employability: *immediate employability* and *sustainable employability*. Immediate employability focuses on the possession of attributes graduates need to attain a “graduate job” and is short term orientated. Sustainable employability focuses on remaining employable over the long term. Certain attributes are therefore needed to sustain life-long employability.

As cited in Coetzee and Schreuder (2013) employees have to adopt a more proactive stance towards their careers by drawing on their career self-management skills and career resilience (Bezuidenhout, 2011; Schreuder & Coetzee, 2011; Savickas, 2011). This will assist them to deal with the uncertainty of employment. The emphasis on sustained employability has

resulted in a focus on the subjective career needs considered necessary for success in one's career. Coetzee and Schreuder (2013) conducted research on how individuals' psychosocial resources such as their career anchors (i.e. career identity and motivation) and emotional intelligence, influence the skills and attributes associated with their intellectual and personal development (graduateness) and capacity to sustain their employability. The findings indicate a correlation between career anchors and an employee's graduateness skills and employability attributes (career self-management and career resilience). Although emotional intelligence together with career anchors predicts graduateness skills and attributes, no correlation was found between emotional intelligence and employability attributes.

*Career anchors* (career identity and motivation) in this context influence one's career-related decisions as it is self-perceived talents and abilities. People with *emotional intelligence* tend to be more willing to explore a variety of career options. *Graduateness* refers to the intellectual development of a person and the relevant skills they bring to the workplace. University education equips graduates with certain skills and attributes, constituting the graduateness of an employee in three holistic domains. a) Scholarship refers to the attitude of a graduate towards knowledge. b) Global and moral citizenship are defined as a graduate's attitude towards the world and communities. c) Lifelong learning is a graduate's need to obtain new knowledge. Coetzee (2012a) identified the following eight skills that form part of the graduateness of a graduate: (1) problem solving and decision making, (2) analytical thinking, (3) enterprising, (4) ethical and responsible behaviour, (5) presenting and applying information skills, (6) interactive skills, (7) goal-directed behaviour and (8) continuous learning orientation (Coetzee *et al*, 2012). *Employability attributes* ensure job security for an employee in an uncertain and unpredictable labour market and contribute to sustainable employment. Bezuidenhout (2011) views both career self-management and career resilience as important employability attributes. According to Schreuder and Coetzee (2011) career self-management is when an employee sustains his or her employability by means of continuous learning and the pursuit of one's career aspirations. An employee portrays career resilience when he or she is open to change, adapts easily to changing circumstances and has a willingness to take risks.

The Council of Higher Education (CHE) in South Africa has identified eight attributes a graduate should possess to secure employability within the South African context: 1) computer literacy, 2) knowledge configuration skills, 3) information skills, 4) problem-solving skills, 5) teamwork, 6) networking, 7) mediation skills and 8) social sensitivity (Kizito, 2010 as cited in Coetzee *et al*, 2012).

#### **2.2.4 Employability in the mining industry**

Within the mining industry artisans are one of the jobs no mine is able to function without. Traditional artisans are trained in trades such as boilermakers, fitters, electricians (hard trades) and welders, brick layers and carpenters (soft trades). Technicians and millwrights are also crucial jobs in the functioning of a mine. Apprenticeship training is a well-tested approach; reason for the success being the combination of formal education and a practical program in which the graduate (apprentice) gets exposure and experience within the work environment. The skills developed during the workplace and education phases respectively are focused on what the industry (and the employer) needs (Nagendra, Radha & Naidu, 2013).

Kumba Iron Ore (part of Anglo American) in the Northern Cape, has a technical training center (SIVOS) in Kathu where apprentices are trained to become qualified artisans and technicians. This training center mainly ensures a proper pipeline of qualified artisans and technicians for the Sishen and Kolomela mine (in Kathu and Postmasburg respectively). Surrounding mines in the area also make use of the training center and can send a specific number of prospective graduates to SIVOS. Numbers are dependent on their agreement with the training center. Khumani and Beeshoek mines (part of African Rainbow Minerals – ARM) also make use of SIVOS to train their apprentices. Should the training center be unable to accommodate all their apprentices, they make use of the Artisan Training Institute (ATI) as an alternative training institution for their artisans. The practical component of the apprenticeship program entails workplace training provided by the mine, with the possibility to be employed by the company after completion of the training. The advantage for the mines for appointing a qualified artisan which has completed the practical training with the mine, is that such a graduate could take on responsibilities of the job from day one and be productive immediately. Khumani mine goes further and provides equipment specific training to their graduates to ensure they stay abreast with the latest technology of the equipment they work on. Enabling their artisans the opportunity to receive training on how to operate specific equipment, results in graduates with a higher level of employability.

Research by Allsop and Calveley (2009) reveals that after the privatisation of coal mines in the UK in the mid-1990's, miners with multi-skilling and flexibility were able to survive and secure their future in an industry characterised by high levels of job insecurity. Sophisticated mining technologies and new mining practices are drives to reduce manpower and create a multi-skilled and flexible workforce. However, technology cannot fully replace employees due to the unpredictability of maintenance problems requiring decision making and skills which are difficult to simulate. These radical changes provide employees with the opportunity to negotiate with management. Hence, with technological advancement come more

sophisticated information systems. Although certain skills will be replaced by new technology, an opportunity opens up for acquiring new knowledge and skills for those who need to interpret the information obtained from the new technology and systems. According to Doolin and McLeod (2007) as cited in Allsop and Calveley (2009) information technology can be one of two things: either empowering and up skilling or disempowering and de-skilling, depending on how it is applied. As employees lose their jobs due to technology and new mining practices, the ones remaining were required to expand their roles and thus become multi-skilled and flexible and developing new informative skills – all considered as necessary employability skills – and in the process improving their employability skills.

Little appears to have been written about employability in the mining industry, resulting in a need for further research to explore and gain new knowledge on this topic.

## **2.3 EMPLOYABILITY MODELS**

As per previous definitions, employability is defined as a combination of generic skills and attributes an employee needs to possess in order to be able to adapt and function within changing work environments, and that will also enhance ones' likelihood for employment. In this section various employability models will be discussed.

### **2.3.1 Fugate, Kinicki and Ashforth: Conceptual model of employability**

Fugate, Kinicki and Ashforth (2004) view employability as a complex, multi-dimensional construct, a work specific pro-active adaptability one needs to move between jobs and organisations. Their conceptual model of employability consists out of three dimensions namely career identity, personal adaptability and social and human capital.

*Career identity* refers to how individuals define themselves in a certain job context. This dimension represents constructs such as role identity, occupational identity, and organisational identity. Individuals view themselves as “who I am” and also “who I want to be”. Career identity provides one with a cognitive road map to give direction and guide behaviour (Fugate *et al*, 2004).

*Personal adaptability* is an individual's willingness to adapt, engage and succeed with change in ones surrounding environment (McIlveen *et al*, 2013). An individual that embraces personal adaptability has an optimistic openness towards learning and experience, is flexible with an internal locus of control, make decisions and succeed in challenges they take on themselves. Such individuals are able to remain attractive to employers and adapt to an ever-changing

work domain. Change is perceived as a challenge by such individuals, resulting in them to be more open, flexible and adaptable and therefore more employable (Fugate *et al*, 2004).

*Social and human capital* influence a person's ability to identify and realise career opportunities (McIlveen *et al*, 2013). Social capital refers to the size and capital of an individual's support network. People with well-developed social capital usually utilise this dimension by making use of informal job search networks instead of a formal network (recruitment agency). The ability to realise opportunities in the market place is influenced by one's human capital. The latter refers to expertise, capabilities and explicit knowledge.

When the three dimensions described above work together it creates employability, resulting in individuals displaying adaptive behaviour at work.

Other proactive constructs (proactive behaviour, personal initiative, proactive personality and career motivation) are compared and contrasted with the component dimensions of employability by Fugate *et al* (2004). According to Fugate *et al*, employability includes cognitive variables (career identity), dispositional variables (propensity to learn) and market-interactive variables (social and human capital) which implies a broader collection of personal characteristics. Employability is also contextualised in the work context, with all the other constructs (with the exception of career motivation) being more general dispositions that have simply been tested in a work setting. Employability incorporates each of these constructs in a more comprehensive way (Fugate *et al*, 2004).

The dimensions mentioned in the model of Fugate *et al* (2004) are applicable outside organisational boundaries and across career contexts which make it useful to the graduate population. With the focus on important career meta-competencies (cognitive & dispositional variables and market interactive variables), the model includes a wide collection of personal characteristics necessary for an individual to be employable (Bezuidenhout, 2011).

In the process of studying to prepare themselves for a career, graduates acquire an educational qualification and theoretical knowledge (human capital). To start a career with a specific organisation, graduates need to obtain information which they use through networking (social capital). Graduates with extensive networks and connections have a higher probability to find a suitable job within a specific organisation. Such individuals are also open for learning and are flexible and adaptable when it comes to change (personal adaptability). They have a clear road map that guides them (career identity). Such graduates welcome feedback from others that help them to develop, to achieve their goals and to improve their employability.

### **2.3.2 Van der Heijde and Van der Heijden: Competence-based approach**

The competence-based approach of Van der Heijde and Van der Heijden (2006) is based on an extension of the resource-based view of an organisation. In order for employees to keep track with fast changing job requirements, they need to possess certain competences which also benefit the organisation in such a way that it remains sustainable and competitive (Van der Heijde & Van der Heijden, 2006). Competences of employees are thus a valuable asset to organisations as it contributes to both individual and organisational career success (Van der Heijde & Van der Heijden, 2005).

While skills are concerned with the execution of a single task, competences deal more specifically with the execution of a series of different tasks (Van der Heijde & Van der Heijden, 2006). Employability within this study is defined as “*the continuous fulfilling, acquiring or creating of work through the optimal use of competences*” (Van der Heijde & Van der Heijden, 2006:453). This model includes a broader range of concepts with a richer description and therefore highlights the fact that employability is not a uni-dimensional concept (Bezuidenhout, 2011).

The measure of employability by Van der Heijde and Van der Heijden (2006) is based on a five-dimensional conceptualisation of employability and apply to both job-related matters and a broader career development. The dimensions are 1) occupational expertise, 2) anticipation and optimisation, 3) personal flexibility, 4) corporate sense and 5) balance. The last four dimensions are more general competences.

*Occupational expertise* is seen as a human capital factor and refers to knowledge and skills particular to a specific professional domain (Bezuidenhout, 2011). Employees with high levels of employability are also seen in this context as high performers and excellent performers.

*Anticipation, optimisation and personal flexibility* relates to adaptation to change. Anticipation and optimisation are self-initiated and proactive types of adaptation where an employee prepares, in a creative way, for prospective changes within the work environment. Personal flexibility is passive and reactive where employees need to adapt to changes in their work environment which they did not choose (mergers and restructuring). Such unforeseen changes call for employees with a lot of flexibility as they need resilience to be able to cope and recover from disappointments. Flexible employees welcome change and know how to take advantage of it.

The fourth dimension of the model is *corporate sense* and builds on social capital, social skills and emotional intelligence. It entails sharing responsibilities, knowledge, experiences, feelings and failure, and relates to the different groups employees belong to (occupational networks and work teams).

Balance, as the last dimension, refers to a compromise between conflicting employer's interests, or between the demands of an individual's own job, career, and personal interests, or both (Van der Heijde & Van der Heijden, 2006).

Graduates still need to learn a lot and become skilled in various areas once they start a career (occupational expertise). They have to be flexible and adaptive to adjust to their career and also need to prepare for future changes within the work environment. Without flexibility and resilience graduates will not survive difficulties within the turbulent career environment. Graduates need corporate sense, the ability to work in groups and have to start learning how to network in order for them to succeed in their career.

### **2.3.3 Pool and Sewell: Key to employability model**

Pool and Sewell (2007) present a simplistic *key to the employability model* that explains employability through various individual elements. They define employability as "...*having a set of skills, knowledge, understanding and personal attributes that make a person more likely to choose and secure occupations in which they can be satisfied and successful*" (Pool & Sewell, 2007:280).

The model consists of five components, namely 1) degree subject knowledge, understanding and skills, 2) generic skills, 3) emotional intelligence, 4) career development learning; and 5) work and life experience. By giving graduates the opportunity to develop these five components, and then reflect and evaluate these experiences, will result in higher levels of self-efficiency, self-confidence and self-esteem which are viewed as important attributes to employability.

Graduates need *degree subject knowledge*, understanding and skills as employers will judge them on this component as it will be the only measure available to them. *Generic skills* are transferrable skills applicable to various different contexts. The ability to manage one's own emotions and those of others is known as *emotional intelligence*. *Career development learning* enables graduates to identify job and career opportunities by networking and marketing themselves to prospective employers. Graduates with work experience reflect on their existing

*work and life experience* and apply what they have learnt, resulting in improved employability levels (Pool & Sewell, 2007).

Graduates need to *reflect and evaluate* their learning experiences. This will assist them to determine how far their employability has progressed and what else they should do to develop it further. *Self-efficiency* is one's own belief about your capability, while *self-confidence* is the way you portray this capability to the outside world. *Self-esteem* is how you worth yourself (Pool & Sewell, 2007).

Apart from subject specific knowledge, graduates also need career development learning to be able to identify career opportunities to maximise their opportunities and to network to present themselves as more desirable to employers. Graduates with work and life experience are more mature as they have wider life experiences, which enable them to balance all aspects of their lives successfully. Generic skills are very important as graduates will be able to apply it across different contexts within the world of work. Emotional intelligence will equip graduates with the ability to deal with different emotions – those of the self and of others. They need emotional intelligence in order to maintain themselves well in relationships. It will also benefit graduates to motivate themselves and others to achieve more. Very important for graduates is the ability to reflect and evaluate as this will improve their self-confidence in their abilities (self-efficiency). Graduates with a positive self-esteem will be realistic about their achievements and shortcomings. They will also be committed to life-long learning in order to gain the necessary competencies to achieve success in their career (Pool & Sewell, 2007).

#### **2.3.4 Fugate and Kinicki: Dispositional model of employability**

Fugate and Kinicki (2008) propose a dispositional approach towards employability. Their model builds on the theoretical foundation of Fugate *et al* (2004) who define dispositional employability as “... *a disposition that captures individual characteristics that foster adaptive behaviours and positive employment outcomes*” (Fugate & Kinicki, 2008:504). The fast pace and intensity of change within the work environment, resulting in employees that need to adapt swiftly due to high levels of uncertainty, make it relevant to investigate employability as a disposition.

The dispositional model extends beyond specific skills, knowledge and abilities needed for employability and signifies a broad, higher-order trait that enables proactive adaptability. The disposition of employability consists of both reactive and proactive individual characteristics. This means that employees not only have the ability to react proactively to environmental



demands, they also tend to have a “perpetual readiness for change”, i.e. they identify and create various opportunities for change proactively (Fugate & Kinicki, 2008).

Dispositional employability is viewed as a multidimensional and psycho-social construct consisting of different dimensions: 1) openness to changes at work, 2) work and career resilience, 3) work and career proactivity, 4) career motivation; and 5) work identity. Definitions of each dimension are provided in Table 2.1.

**Table 2.1 Dimensions of dispositional employability and their definitions**

Dimension of employability	Definition
<b>Work and career resilience</b>	Individuals with work and career resilience possess some combination of the following attributes: are optimistic about their career opportunities and work, feel that they have control over the destiny of their careers, and/or they feel that they are able to make genuinely valuable contributions at work.
<b>Openness to changes at work</b>	Individuals that are open to changes at work are receptive and willing to change, and/or feel that changes are generally positive once they occur.
<b>Work and career proactivity</b>	A proactive career orientation reflects people’s tendencies and actions to gain information potentially affecting their jobs and career.
<b>Career motivation</b>	Individuals with career motivation tend to make specific career plans and strategies. People in this category are inclined to take control of their own career management and set work/career-related goals.
<b>Work identity</b>	Work identity reflects the degree to which individuals define themselves in terms of a particular organisation, job, profession, or industry. Work identity is characterized by a genuine interest in what one does, how well it is done, and the impression of others.

Source: Adapted from Fugate and Kinicki (2008:528).

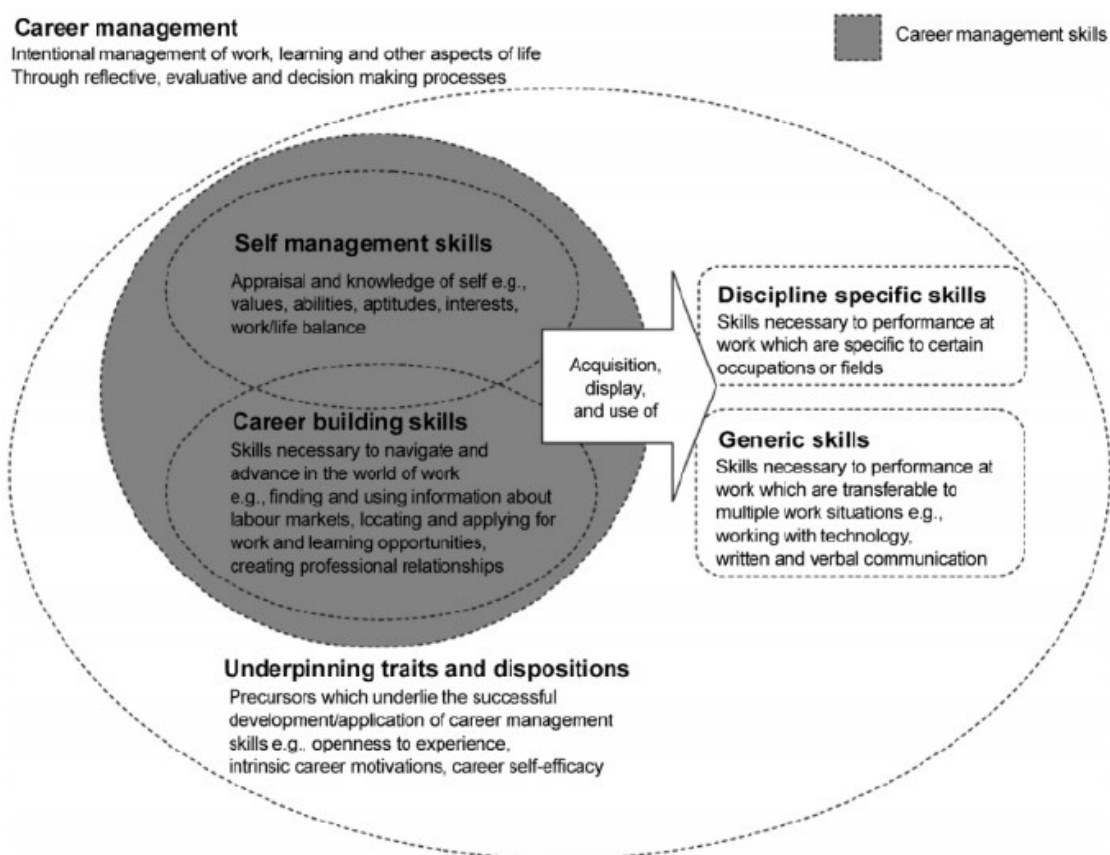
Fugate and Kinicki (2008) developed a 25 item Dispositional Measure of Employability (DME). The instrument is applicable to both employed and unemployed individuals.

Resilience is very important for graduate employability. An individual with resilience feels in control of their career destiny and is optimistic about possible career opportunities. Such graduates are confident and open to change at work. They embrace change, view it as positive and are open to new ways of doing things in order to prepare themselves for the work environment. Graduates with a proactive career orientation are open to new experiences which will enable them to gain the necessary competencies to become more marketable to employers. They have to proactively gather information about jobs and employers, and manage their own careers in order to succeed in the turbulent world of work (Bezuidenhout, 2011).

### 2.3.5 Bridgstock: Conceptual model of graduate attributes for employability

Bridgstock (2009) describes a conceptual model of graduate attributes for employability. The different dimensions of the model, namely career management, self-management skills, career building skills, discipline specific skills, generic skills, employability skills and underpinning traits and dispositions is presented in Figure 2.1 and will be described in more detail.

**Figure 2.1 Bridgstock's (2009) conceptual model of graduate attributes for employability**



Source: Adapted from Bridgstock (2009:7).

*Career management* entails a continuous process using reflective, evaluative and decision-making processes to effectively obtain, display and make use of generic and discipline-specific skills in the ever-changing world of work. Career management involves creating realistic and meaningful career goals, identifying and taking part in learning opportunities and employment decisions, maintaining a healthy work-life balance and values the interface between work, the economy and society (Bridgstock, 2009).

*Self-management skills* refer to the perception and opinion of employees about their values, abilities, interests and goals. Self-management in Bridgstock's model also relates to the career identity concept of Fugate *et al* (2004) where career identity refers to how individuals define themselves in a certain job context. Graduates with clear career goals and a positive view about their own abilities, will portray higher levels of employability than others (Bridgstock, 2009).

*Career building skills* relate to skills necessary to find data about careers and the labour market and then use such data to secure and maintain employment. This also relates to human capital (a person's ability to identify and realise career opportunities) described in the career identity concept of Fugate *et al* (2004). According to Bridgstock (2009) career building skills should include the following:

- a. Knowledge of one's industry. Employees should be aware of which threats and opportunities are available and necessary to succeed in one's career. This involves knowledge of "the rules of the game" such as the structure of the industry, beliefs, norms, values and culture, as well as labour market information such as unemployment rates and salary ranges.
- b. An individual should be able to identify and decide on the best possibility for progression in terms of location, projects and roles.
- c. An individual should know when it is time to move to a new role, when to pursue new training and must know when to move as opportunities come one's way.
- d. Individuals must know how to apply for and obtain a job by presenting their skills and abilities to prospective employers in a suitable and attractive manner.
- e. Establish strategic relationships with individuals who may offer opportunities and significant resources.

*Discipline specific skills* refer to the skills graduates obtain during their studies to meet specific occupational requirements which are more specific to one's career, i.e. subject specific skills (Bridgstock, 2009).

*Generic skills* include transferable skills or employability skills. Employees are able to apply generic skills within any profession at any stage of their careers as such skills could swiftly be moved from one job role to another (Bridgstock, 2009).

*Employability skills* comprise discipline specific and generic skills which are necessary to obtain and maintain employability and perform in a job. Career management skills, consisting of self-management and career building skills, are also part of employability skills. As

described by Bridgstock (2009:36), career management skills and knowledge are critical to employability as they “... *play a large part in determining which, to what extent, in what manner, when and where generic and discipline-specific skills are learned, displayed (e.g. in applying for a job) and used*”.

*Underpinning traits and dispositions* are described by Bridgstock (2009) as the underlying antecedents necessary for the successful advancement and application of career management skills. With specific reference to employability such traits and dispositions may include openness to experience, sociability, agreeableness, initiative, intrinsic motivation, career self-efficiency and self-confidence.

All of the above attributes in Bridgstock’s conceptual model are essential for graduates to acquire in order to be employable. Career self-management is crucial for graduates to be able to manage their careers. They have to set career goals for themselves (taking into account their own abilities) and participate in learning opportunities in order to achieve their goals. Graduates need to establish networks (formal and informal) and gather information about the labour market to provide them with the competitive edge for career opportunities. Discipline specific and generic skills are vital for graduates to compete in the ever demanding and competitive work environment. Openness, sociability, initiative and career self-efficiency are important attributes for graduates to succeed in their career and apply their career management skills to their fullest potential (Bezuidenhout, 2011).

### **2.3.6 Coetzee: Psychological career resources model**

Coetzee developed a psychological career resources model explaining the dominant career consciousness of a person. For individuals to succeed in their careers they need to be aware of their career preferences, values, attitudes and behaviours (Ferreira & Coetzee, 2010). Psychological career meta-competencies are defined by Coetzee (2008:10) as “... *skills and abilities such as behavioural adaptability, identity awareness, sense of purpose, self-esteem and emotional intelligence, which enable people to be self-directed learners and proactive agents in the management of their careers.*” Individuals with such meta-competencies will be able to attain specific competencies which will advance their employability.

According to Coetzee (2008) as cited in Coetzee & Esterhuizen (2010) psychological career resources entail career preferences, values, skills, attitudes and behaviours. Such psychological career resources enable individuals to empower themselves better in order to portray higher employability, resulting in better proactive career behaviour.

*Career preferences and values* give direction to an individual's career path in the sense that it guides their career moves. It defines the meaning of one's career. *Enablers* are the skills (transferable skills and talents, self-knowledge, work engagement, self-concept, career identity) assisting individuals to succeed in their careers. *Attitudes* (career motivation, career commitment, career maturity and career self-management skills) are considered as drivers as they drive employees to try out different career ventures, including a component of risk as well. The psychological attributes (people's self-esteem, behavioural adaptability, emotional literacy, social connectivity) are considered as the *harmonisers or behaviours* that help to keep the career drivers in place, maintaining the balance in an individual's life to prevent individuals to go overboard with their careers. As a result, resilience and flexibility are enhanced (Ferreira, Basson & Coetzee, 2010).

A study by Ferreira and Coetzee (2010) where the Psychological Career Resources Inventory (PCRI) was applied, revealed significant differences in the psychological career resources of different gender, age, education, marital and ethnic groups as measured by the Psychological Career Resources Inventory (PCRI). Coetzee and Schreuder (2009) found that psychological career resources predict an individual's career anchors successfully. An individual's core values, motives, talents and skills develop over time and influence and guide the direction of your career. This is perceived as career anchors.

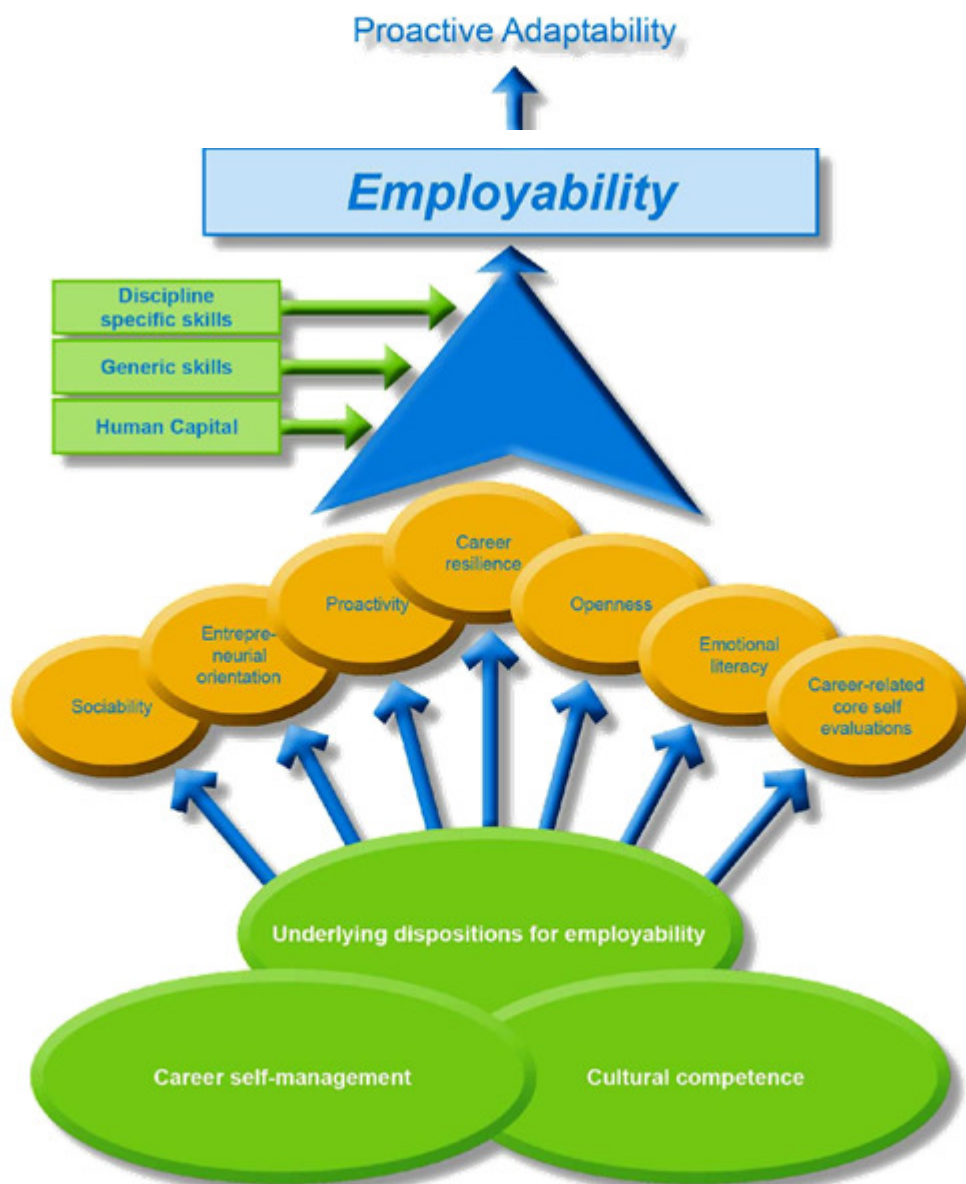
The psychological career resources model is not only South African based, but also includes many attributes identified in some of the other models discussed. Concepts that are included in the model are adaptability, career identity and social and human capital as described in the Conceptual model of employability by Fugate *et al* (2004). Also included are career resilience, career proactivity, career motivation and work identity, as per the Dispositional model of employability of Fugate and Kinicki (2008). A relationship is evident with the model of graduate attributes by Bridgstock (2009) as career self-management skills, career building skills and underpinning disposition and traits are also apparent. Graduates need to have "know why", "know how" and "know who" competencies (Bezuidenhout, 2011).

### **2.3.7 Bezuidenhout: Graduate employability model**

Bezuidenhout views employability as a psycho-social construct consisting of different individual attributes that promote adaptability in changing environments, enhancing an individual's likelihood to find suitable employment and succeed in his career (Bezuidenhout, 2011). A graduate high in employability will easily adapt to the ever-changing world of work by developing new skills swiftly, resulting in career success. Adaptability is viewed as the foundation of employability and thus a key competence for career success.

The Graduate employability model by Bezuidenhout (2011) consists of (a) Career self-management drive, (b) Cultural competence and; (c) Personal dispositions for employability consisting of (i) Career-related core self-evaluation, (ii) Entrepreneurial orientation, (iii) Sociability, (iv) Career resilience, (v) Proactivity; and (vi) Openness to change. The different components of the Graduate employability model as described in Fig. 2.2, will be discussed in more detail (Bezuidenhout, 2011).

**Figure 2.2 The Graduate Employability Model**



Source: Adapted from Bezuidenhout (2011:80).

*Career self-management drive* entails the gathering of information to improve one's knowledge and in the process, manage your own career. Bezuidenhout (2010) distinguishes further between i) self-, environmental and job opportunity exploration, ii) feedback seeking; and iii) formulating career goals and action plans as part of career self-management. *Self-, environmental and job opportunity exploration* are the efforts of an individual to gain knowledge of and insight of the self (career identity, career aspiration and abilities) as well as the environment and job opportunities. Individuals are thus responsible to manage their own careers. A strong sense of identity will direct career decisions. Gaining more knowledge on the environment and job will provide individuals with more insight on what is going on within the career field. *Feedback seeking* involves obtaining information to monitor if an individual's career goals are still on track. Seeking feedback is also about determining one's weaknesses and strengths in order to improve oneself in the career environment. By *formulating career goals and action plans*, individuals will be able to focus on specific outcomes in order to complete a series of activities to achieve a career goal. Clearly formulated career goals and action plans will enable individuals to reflect on their employability and direct them to succeed in their careers.

*Cultural competence* is defined by Bezuidenhout (2011:86) as "... a person's effectiveness in understanding and effectively working with people across different groups". It is therefore important for individuals to have the necessary knowledge and skills which will enable them to communicate effectively with people from different groups. This then will result in increased employability levels within a multicultural environment. An individual with high levels of cultural intelligence (CQ), is very much aware of cultural differences between the self and other individuals and will adjust behaviour accordingly to embrace other cultures (Bezuidenhout, 2011). As cited by Crossman and Clarke (2010), graduates with international work experience have acquired the relevant knowledge, soft skills and cultural sensitivity which enable them to interact with people from different cultural groups. In a world of work where individuals need to function as global citizens, cultural competence has become a necessary skill for graduates that will provide them with an advantage in the labour market.

Bezuidenhout (2011) distinguishes between various *personal dispositions for employability* in the Graduate employability model namely: i) career-related core self-evaluations, ii) entrepreneurial orientation, iii) career resilience, iv) pro-activity; and v) openness to change. Each of these dispositions is combined with other attributes and form part of an individual's personality. *Career-related core self-evaluations (CSE)* are "... deep-seated evaluations that individuals make of themselves regarding their self-worth" (Bezuidenhout, 2011:87). How individuals view their capabilities (to control their life) and their competence (to perform, cope

and succeed) are also perceived as CSE. Self-esteem, locus of control, self-efficiency and emotional literacy are all related to employability. 1) Self-esteem refers to what individuals think about themselves – how one judges one’s self-worth and own capabilities. Graduates need to believe in their own capabilities in order to succeed in their career. 2) Locus of control is the way individuals perceive the degree of influence they have on what happens in their lives. Individuals with an internal locus of control believe they are in control of what happens in their lives. An external locus of control results in individuals believing that external factors influence their fate. Graduates with an internal locus of control will have control over their lives and determine their own fate, resulting in better chances for career success. Bezuidenhout (2011:90) defines self-efficiency as “*one’s belief in his or her capabilities to cope with a range of challenges.*” Graduates with high levels of self-efficiency will set challenging goals for themselves and recover easily from a set-back. 3) Emotional intelligence is an individual’s ability to be aware of his or her own feelings and those of others. Graduates with high levels of emotional intelligence manage their feelings and those of others better and will experience better career success.

*Entrepreneurial orientation* refers to innovation, creativity and the tendency to take risks. Graduates with an entrepreneurial ability will build strong relationships with others, which will help them to market themselves better in an innovative and creative manner.

*Sociability* means to be open to network with other people in order to build and maintain business contacts. Both formal and informal social networking impacts positively on job opportunities (Bezuidenhout, 2011). Graduates that possess the ability to build and maintain satisfying social networks will be close to those who can provide opportunities, resulting in better access to information and resources, therefore improving their employability.

Another construct that Bezuidenhout includes in her graduate employability model is *career resilience*. Bezuidenhout (2011:97) defines *career resilience* as “...*a personal disposition that facilitates a high degree of adaptability, flexibility, self-confidence and competence regardless of adverse career circumstances.*” Fugate and Kinicki (2008) also identified career resilience as an important construct in their dispositional model of employability. Graduates with career resilience are able to “bounce back” from difficulties in their career environment. They recover and adapt easily from difficult circumstances such as new careers, job and organisational changes.

*Proactivity* means to take initiative and act in advance, not waiting for things to happen but rather make things happen. Bezuidenhout (2011:98) elaborates on the proactivity construct



by indicating that it is “... a *self-initiated action to change and improve oneself and/or one’s situation.*” The dispositional model of employability from Fugate and Kinicki (2008) also includes proactivity. A proactive graduate will take initiative to obtain information regarding the labour market to build and manage his/her own career.

Employees with a willingness to consider new ideas have *openness towards change*. Due to the ever-changing work environment graduates need to be willing to learn new skills and be open to new ideas. Curious employees will look for possibilities and in some cases, create new possibilities. Openness to changes at work also features in Fugate and Kinicki’s (2008) dispositional employability model. Individuals with openness towards change have a positive mindset towards any changes and therefore adaptable towards changing work environments.

## **2.4 INTEGRATION: NEW WORLD OF WORK AND THE NECESSITY OF EMPLOYABILITY**

For employees to survive the turbulent world of work they need to become highly flexible and adaptable. Lifetime employment with one employer no longer exists as job losses are evident since the recession in 2008. With South Africa facing the possibility of another recession should the country experience another quarter of negative economic growth; job losses will increase. Employees will therefore have to do whatever it takes to ensure their employability. One such measure could be to take responsibility for one’s own development.

Globalisation has turned the world around. Companies need to be more productive, applying more advanced technology to ensure global competitiveness. Unfortunately, job losses are a result of globalisation. To increase the productivity and efficiency of an organisation, employees need to ensure ongoing training and development.

The changing nature of work compels individuals to be more flexible and adaptable and to develop their knowledge. Employees have to stay abreast of technological advancement as the office is not the primary workplace anymore.

Due to the work environment being connected 24/7 it becomes a challenge for employees to disconnect from work. As a result employees are actually spending more time working and it has become critical to balance their work-life. At the same time however, employees need to maintain their employability. Working mothers experience conflict between the different roles they need to fulfil - their role at home and their career role. Employees need to be adaptable

and able to move swiftly between the different roles. Employers need to ensure that a well-designed wellness program is in place to assist employees in these challenging times.

Considering that today's workforce consists of baby boomers, generations X and Y and with the younger generation questioning and challenging everything, management are faced with different ways of managing employees. At the same time, the number of older employees are increasing as they are living longer and people are extending their working lives due to financial reasons. Companies also want to leverage information from knowledgeable and experienced workers (Bezuidenhout, 2011). More females, previously disadvantaged and disabled people are employed due to employment equity legislation, contributing to a change in the demographics of the modern workforce.

The move away from traditional careers (hierarchical progression with one employer) to protean and boundaryless careers, means employees have taken responsibility for managing their own career, rather than relying on the company. The career exceeds beyond the boundaries of one specific employer (Bezuidenhout, 2011).

Interest in employability has emerged as a result of organisational changes. Employers are looking for individuals with a broad and flexible range of skills with the ability to make an immediate impact and quick contribution to the company. Graduates with the ability to adapt easily to change will have high employability levels. Such graduates will be able to manage their own careers by gathering information to increase their knowledge. Cultural competence will enable graduates to interact with people across different cultural groups. Graduates with high levels of CQ will equip themselves with the necessary knowledge and skills to be sensitive towards other cultural groups. Employers are looking for graduates that act proactively and take initiative to change the status quo. Continuous learning, a combination of a positive self-worth, a healthy view regarding one's capabilities as well as innovative and creative thinking are necessary for graduates to succeed in their careers.

## **2.5 SUMMARY**

Changes taking place in the contemporary workplace were discussed. Today's modern world of work is characterised by an increase in globalisation, major technological advances, job losses, changing nature of work and a changing workforce. The ongoing drive for high performance by companies results in employees struggling to balance the different roles in their work life and personal life. As a result, work-life balance has become an important topic.

The focus of the discussion was on graduate employability. In an ongoing changing work environment, employees need to constantly adapt and ensure they stay valuable and attractive to current and future employers. Lifetime employment with one employer has become a notion of the past due to changes in the new world of work. Globalisation, the changing nature of work, technological advancement, job losses, a changing workforce and a focus on work-life balance have changed the employment landscape forever. One result is a move away from traditional careers to boundaryless and protean careers where employees take greater responsibility for their own careers. Employees are responsible for the building of their intellectual capital and skills while creating opportunities of growth and development lie with organisations (Hess & Jepson, 2009).

In an ongoing changing information and knowledge-intensive economy, employees are no longer guaranteed of employment. They have to navigate the world of work and self-manage their careers to ensure they maintain employability. Employability means having the skills and abilities to find employment (Crossman & Clarke, 2010) but does not guarantee employment. Richardson (2009) suggests that employability needs to equip employees with the necessary skills and competencies to remain employable and competitive. By enhancing the employability of employees, the organisation will improve the flexibility of the workforce and improve the ability to adapt to change and new challenges.

Employers are looking for graduates that are able to hit the ground running as soon as they enter the workplace and immediately make a meaningful contribution. In order to compete globally, companies need graduate skills more than ever before – graduates with discipline specific skills and generic skills (also referred to as transferable skills, including soft skills). The likelihood to obtain and retain suitable employment within the labour market will therefore increase for an individual with the right set of skills and abilities.

HEI's are under heavy criticism for not preparing graduates for the world of work. Tertiary institutions are expected to align the design, content and structure of undergraduate programmes in conjunction with employers. Strategies need to be reviewed and improved to enhance the graduate employability skills of their students (Durrani & Tariq, 2012).

Due to limited literature on employability within the mining industry a short discussion followed on this topic with specific focus on how Khumani mine improves the employability of their artisans.

Various employability models were discussed, with specific focus on the Graduate Employability Model.

The chapter concluded with an explanation on how the new world of work and employability integrate with each other.

## CHAPTER 3: PERFORMANCE MANAGEMENT

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This chapter deals with performance management as a formal, structured process whereby the performance of employees is managed. The design of a performance management system and the performance management process will be discussed, explaining how the goals of an individual employee should link with the overall organisational goals. Organisational citizenship behaviour and its contribution towards organisational success will be discussed. A short overview on the relevance of performance management in the mining industry in South Africa will follow. The chapter concludes with a discussion on the future role of performance management.

### 3.1 CONCEPTUALISATION OF PERFORMANCE MANAGEMENT

In a turbulent economic climate, characterised by pressures to improve productivity and reduce costs, performance management plays a central role in providing the organisation with a competitive advantage (Chartered Institute of Personnel and Development, November 2009). Many globally competitive organisations depend on the uniqueness of their human resources systems for managing human resources effectively.

Organisations need *performance* from employees. Rudman (2003) defines performance as *focused behaviour or purposeful work*. For organisations to achieve their business objectives, they need performance from their employees. But in order for employees to perform, they need to know: i) what the organisation requires from them, ii) how well they should do it, iii) how well they are doing it (perception of their performance) and; iv) what the consequences are for good or bad performance. The answers to these four questions will provide an organisation with the foundations on which an effective performance management system could be implemented.

Performance management is a key process within any organisation. Although it often measures past performance, it is a forward-looking process with the focus on learning, improvement and development. Performance management is also a process whereby employees are motivated to perform well and improve in their job. Performance is measured and monitored to address areas of improvement. An employee meets with his/her manager to determine specific goals that need to be achieved by the employee. By setting goals employees know exactly what is expected of them. Performance management however entails much more than “policing” an employee, it is a joint process with mutual effort from

both the manager and employee. Every employee needs to know what is expected of him/her in a specific job. Employees that do not have clear goals and objectives will experience uncertainty and frustration, resulting in demotivated employees. This will further impact on long term sustainability and performance of the company (O'Callaghan, 2005).

Performance management is a positive process as it is forward looking and developmental in nature. It is a process by which managers support their employees to achieve expected results. The focus of performance management should be on the growth and development of employees, with the goal being for all employees to work together to achieve the overall company goal and in the process contribute towards the company's effectiveness and efficiency (Bothma, 2014).

Bohlander and Snell (2013) explain performance management as the process in which a work environment is being created for employees to perform to the best of their ability in order to meet the company's goals.

According to DeNisi (2000) as stated in Biron, Farndale and Paauwe (2011) performance management is seen as organisations participating in a range of activities to improve employee performance with the aim to increase organisational effectiveness. The overall goal is for the organisation and all its subsystems (processes, units and employees) to work together to achieve the overall organisation goal. Eckerson (2009:24) defines performance management as "... *a management discipline that aligns performance with strategy to help organizations achieve their goals.*"

Walters (1995) as cited in Leopold and Harris (2009:195) defines performance management as "... *a process intended to improve the quality and quantity of work done and to bring all activity in line with an organisation's objectives.*"

Aguinis (2007) as cited in Aslam and Sarwar (2011), is more specific by defining performance management as an *ongoing process* by which the performance of individuals is identified, measured and developed. Clear objectives, measuring of performance and regular feedback are critical for capacity building.

According to Gilmore and Williams (2009:146-147) "*performance management is about realizing the strategic, long-term goals of organisations by providing support mechanisms in the form of systems, policies and practices that align, enable and motivate employees to achieve their goals, contributing to the performance of the organisation they work for.*"

Mucha (2009) went even further describing performance management as a systematic, ongoing approach that tends to use evidence based decision making with a focus on accountability for performance.

Performance management can be traced back to the third century when a performance review system was established for the first family by the Chinese Emperors. During the early 20<sup>th</sup> century, managers in corporate America started to develop annual appraisal systems for their employees (typical blue-collar workers) to measure their performance by output (Chamberlain, 2011). The emphasis of performance management has shifted over the years from direction and control to integration and agreement. Senior management now shares organisational aims and objectives with all employees to make people feel part of the organisation. This resulted in integrating the management of the organisation with the management of its people (Rudman, 2003).

Performance management is linked to consequence management which can result in increased pay and other rewards such as promotion and career opportunities or actions to remedy disciplinary or capability issues, even resulting in dismissal. According to a report by WorldatWork (October 2012) virtually all organizations (99%) assess employee performance. The most common criterion for determining pay increases continues to be based on individual performance against job standards, although its use has dropped since 2010 (66% in 2012 compared with 73% in 2010). Companies using a rating system with a performance score that is tied to salary increases showed a 6% increase for 2012 compared to 2010 data. Fifty-seven percent of participants having a rating system use a 5-point rating scale with a 54% distribution rate around the middle (a bell-shaped distribution rate with most people falling in the middle) (WorldatWork, October 2012).

### **3.2 PURPOSE OF PERFORMANCE MANAGEMENT**

Performance management serves two purposes within an organisation namely: i) measuring the performance of employees and ii) supporting the overall organisational strategy. Therefore performance management can be defined as a process whereby all employees in an organisation work together (top down and bottom up) to align individual performance with the organisation strategy in order to achieve the overall objectives of an organisation.

A survey by Towers Watson (2012) highlighted that 37% of the sample gave either a negative or neutral response when asked if they understood the business goals of the organisation. It

is therefore important for organisations to align individual key performance indicators (KPI's) of employees with business objectives.

The aim of performance management is to help organisations achieve the business objectives. Behaviours of employees consistent with the strategic objectives of the organisation will be reinforced when organisational goals are linked to individual goals. Employees should know what the strategy and objectives of an organisation are in order to understand their specific role and contribution towards achieving these objectives (Biron *et al*, 2011).

Jackson, Schuler and Werner (2009) argued that performance management serves three purposes in an organisation. The first purpose is that employee motivation and productivity are enhanced by equipping employees through training and development with the relevant capabilities to do their job. An employee can however be capable of doing a job, but if there is no motivation then capabilities could not be utilized to its fullest extent. According to a model by Jackson *et al* (2009) on understanding employee motivation and performance, motivation consist of two elements: i) decisions about which behaviours to engage in and; ii) decisions about how much effort to expend. The foundation of the model is the expectancy theory which states that employees tend to choose behaviours they believe will help them to achieve outcomes that will benefit them personally (i.e. a promotion or job security). Employees that are confident in their own skills and capabilities are more likely to expend effort that will lead to performance (Jackson *et al*, 2009).

A second purpose is that clearly defined goals that are accepted by employees, have a positive effect on productivity and performance. When employees' goals have a direct link to the strategic goals of an organisation, employees tend to better understand the strategic focus of the organisation. As a result, employee behaviour will be directed towards activities that support the overall organisation strategy (Jackson *et al*, 2009).

Thirdly, performance measures provide valuable information that can be used in strategic planning and organisational change. i) Strategic shortcomings could be detected by monitoring the performance of employees at higher as well as lower levels towards strategic goals and objectives. For example, a decline in sales performance can be due to a lack of training, or a poorly designed incentive program for lower level employees. By identifying such shortcomings, measures can be put in place to address the challenges. ii) The overall objective of most organisational change initiatives is to improve the performance of employees that will improve organisational performance. A key component of a plan to evaluate the



success of a change initiative should therefore include employee performance measures (Jackson *et al*, 2009).

A performance management policy will ensure that performance management within an organisation is maintained, reinforced and modified regularly. This will show that the organisation is committed to improve performance (Silverstein, 2007).

### **3.3 THE PERFORMANCE MANAGEMENT PROCESS**

Organisations are continuously faced with the challenge to do more with less and still maintain or increase organisational performance. A common understanding by organisations are that robust performance management is necessary to deliver the vision and mission of the organisation and in the process, achieve outstanding levels of organisational performance (Colville & Millner, 2011).

Organisations should take into consideration that the implementation of performance management is part of a change process. Should this fact be overlooked, chances are good that the implementation of performance management within an organisation will fail (Colville & Millner, 2011).

According to Colville and Millner (2011) various factors need to be considered in the management of performance. An organisation first needs to *understand how things are* (current state of the organisation) before implementing a performance management process. Four factors are important: i) performance management capability of managers (skills to manage the process such as goal setting and objective rating) and the behavioural skills (ability to conduct performance reviews and provide constructive feedback on a regular basis, ii) leadership styles as managers need confidence and skills to be effective performance managers, iii) generational make-up of the organisation as different generations react differently on performance management (Dychtwald, Morison & Erickson, 2006 as cited in Colville & Millner, 2011) and; iv) current engagement levels of the employees.

Secondly an *understanding of what is possible* also needs to be considered. Performance criteria need to be determined and it must be clear how performance behaviours will be weighted in terms of its contribution towards implementing a specific strategy and achieving organisational goals. It is also important to determine the level of readiness of the organisation for performance management (Colville & Millner, 2011).

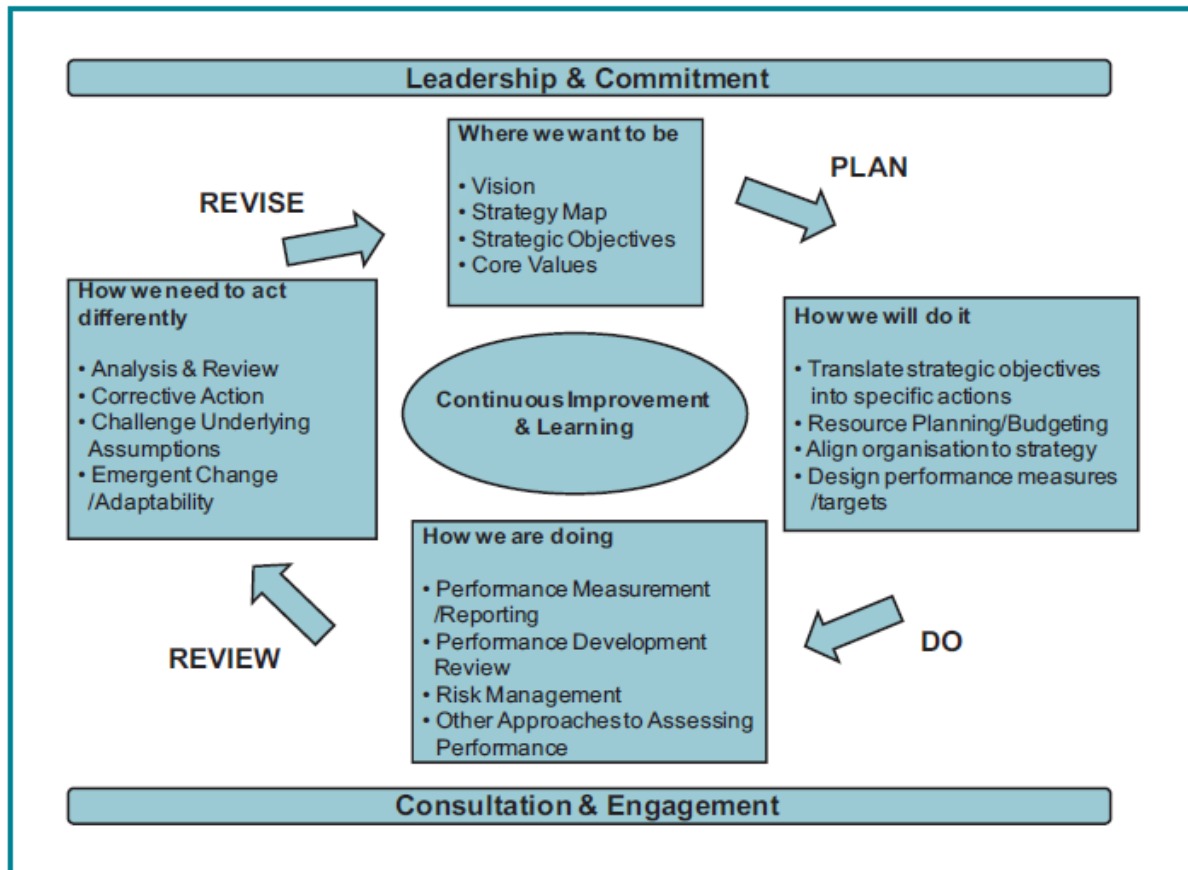
A third factor is *an understanding of the practical steps that can be taken* to support organisations with the smooth transition from the current to the desired state. An understanding of where employees are in the change process and how to support employees during this process of change, are of critical importance in managing performance successfully (Colville & Millner, 2011).

Performance ratings remain the most commonly used work performance criteria in industrial and organizational psychology (Borman *et al*, 2001). Due to the important role performance ratings play in organisations, researchers have been concentrating on increasing the quality thereof. A GuideSpark (2014) study reveals that from a sample of 325 full-time employees across all industries (most of which work for businesses with more than 2,500 employees), there were 45% overall consensus that performance assessments are a waste of time. More than half of the respondents (54%) find performance reviews as inaccurate. 75% feel that performance reviews do not always lead to better performance. Seventy-five percent of managers find performance reviews very time consuming. They also do not feel empowered to make performance decisions on their own. These results strongly indicate that it is time for change in how organisations deal with their performance management processes (GuideSpark, 2014).

A study conducted by Atkinson (2012) analysed the development and use of a performance management framework for the Regulation and Quality Improvement Authority (RQIA) - an independent health and social care regulator and quality improvement body for Northern Ireland. Atkinson (2012) distinguishes between performance measurement and performance management. *Performance measurement* is seen as the collection of data to track the status of work being done and the results achieved. *Performance management* is using data gathered through performance measurement to manage an organisation more effectively and to ensure continuous learning and development. The view of Atkinson is similar to Bohlander and Snell (2013) which identify the two most common purposes of performance management as administrative and developmental. From an administrative point of view, performance management enables organisations to gather data that can be used for the entire range of human resource management activities such as promotions, transfers, layoffs and pay decisions. Performance management provides feedback on an employee's strengths and weaknesses, enabling managers to put action plans in place on how to close the gap to enable an employee to perform well (Bohlander & Snell, 2013).

The performance management framework of the RQIA follows the plan-do-review-revise cycle as outlined in Figure 3.1. The study revealed that the use of “critical questions” can challenge an organisation in keeping the performance management framework of the organisation alive.

**Figure 3.1 The RQIA Performance Management Framework**



Source: Adapted from Atkinson (2012:49).

The planning, action and monitoring of performance are all integrated within this framework resulting in continuous improvement, achievement of objectives and learning. The integrated model consists of the following four elements: 1) *Where we want to be*, refers to the long term vision and strategic goals. A shared understanding of the strategic direction of the organisation is a starting point for good performance management within any organisation. 2) *How we will do it*, involves the translation of strategic objectives into specific strategies and actions. At this stage the performance goals of an employee are set mutually by the manager and the employee. 3) *How we are doing*, entails the monitoring of performance and the management of risks. 4) *How we need to act differently*, refers to the review and analysis of performance, taking appropriate corrective action, revising the strategy where necessary and making changes. Continuous improvement and learning is at the centre of the framework. Clear

leadership, commitment, consultation and engagement with stakeholders are key to the implementation of the framework (Atkinson, 2012).

Participants in the performance management process include the manager or supervisor, the employee, customers, peers or team members and subordinates. The person that knows more than anyone else on how employees perform is usually the supervisor or manager. Therefore, all responsibility to measure performance and give feedback will be with the supervisor or manager of an employee. Employees conduct a self-appraisal when they assess their own performance. Self-appraisals are effective tools for self-development and personal growth. It also impacts positively on employees' satisfaction with the appraisal process. Bias may however be a factor and can distort the data as self-appraisals are more lenient and less accurate than the rating by a supervisor or manager. Culture differences should also be taken into account as employees from different cultures approach self-appraisals differently. In individualistic cultures there is a tendency to project a positive self-image to others and employees will inflate their ratings (Jackson *et al*, 2009).

Sahoo and Mishra (2012) support the performance management model developed for RQIA, but added more steps in the performance management system. According to Sahoo and Mishra (2012), a performance management system should consist of the following components: i) a clear job description, ii) an appropriate selection process, iii) accomplishment-based performance standards, outcomes and measures, iv) effective orientation, education and training, v) coaching and feedback, vi) periodic performance development discussions and vii) an effective compensation and recognition system.

### **3.3.1 Planning performance**

Planning performance (sometimes also referred to as contracting performance), is about the mutual setting of goals, objectives, tasks and standards by the supervisor and employee (Rudman, 2003). Employees need clear objectives to enable them to work together as a team. Effective performance evaluation systems are aligned with the vision and mission of the organisation and relate directly to employee motivation and productivity (Ahmed, Sultana, Paul & Azeem, 2013).

The planning phase is where the questions of the employee “what do you want me to do” and “how well do you want me to do it”, are addressed. A job description is necessary to ensure that employees know exactly what the job requires of them. Job descriptions are the result of job analysis. It is important that a job description is useful, relevant and up to date. Performance standards and goals should be included in the job description as they are critical

to performance planning. Organisations apply different meanings to terms like goals, objectives, measures, standards and indicators. Employees might not understand these in the same way, and therefore it is necessary to clarify these concepts so that any confusion about what is expected can be avoided (Rudman, 2003).

Goals should be determined with the “*SMART*” principle in mind. Objectives should be *specific* in order for the employee to know exactly which actions and results they are expected to accomplish. Therefore, rather be outcome/results orientated than task orientated. Where possible, objectives should be *measurable* and based on quantitative measures. The objective should be *achievable* – small enough to achieve, but challenging and attainable by using available resources. Individual goals should be *relevant* and in line with the strategic goals of the organisation. Results should be *timely* and therefore delivered within a specific time period. Goals should be designed in such a way that it stretches the employee and offer potential development as well as meeting the overall organisational goal (Gillmore & Williams, 2009; Torrington, Hall & Taylor, 2008).

### **3.3.2 Developing performance**

The developmental purpose of performance management is to enable the manager to support the employee by means of monitoring, mentoring, coaching, listening, training and development. It is important to manage consequences of poor performance, but also to celebrate success. Unfortunately the development of employees is often the stepchild of performance management, mostly because managers are not held accountable for employee development. Managers should provide encouragement, resources and feedback to facilitate learning and development (Rudman, 2003).

Research by Risher (2011) is in line with a study conducted by Deloitte (2014) indicating that managers should be taught on how to give feedback to employees. More formal conversations about performance should take place. The aim should be to identify performance gaps and recommend development interventions that will enable employees to improve performance. When employees receive support and are recognized, they regard themselves as being valued contributors to the success of the organisation. This will in return motivate them to perform well (Deloitte, 2014).

All employees should have a personal development plan (PDP). Personal development plans assist employees to identify their training and development needs. It will also enable managers to provide employees with the necessary support and resources to achieve the identified training and development goals. It provides a systematic profile of all employees’

competencies as it is a way to keep record of learning achievements vs learning goals (Leopold & Harris, 2009).

When employees do not have a clear development plan, they might become disengaged or leave the company due to a lack of personal growth. Career discussions help employees to be realistic in their ambitions and expectations. It is important for managers not to create expectations if there are no future opportunities available.

### **3.3.3 Reviewing performance**

The performance review is an integral element in any performance management system. Actual performance and goals are reviewed by both the manager and employee during the performance review process (Grigore, Bagu & Radu, 2009).

It is important for employees to build a portfolio of evidence which they can present at the performance assessment interview. Such a portfolio provides evidence of performance throughout the year and provides an overall picture of the employee's performance. A portfolio of evidence typically consists of reports (weekly, monthly, quarterly and annually), written records (memorandums and emails), signed proposals and budget figures. Ownership and acceptance will be enhanced by involving employees to provide input when their performance is being reviewed (Grigore *et al*, 2009).

When managers evaluate the performance of an employee, they base decisions on own values and past experiences. It is for this reason that evaluations are often inaccurate and subjective. Managers should be aware of different types of assessment bias and rater errors in performance reviews. The *halo effect* occurs when a single characteristic dominates the entire evaluation. A rating can also be influenced by *recent behaviour* when activities performed near the end of the performance period have more influence on the rating than activities performed throughout the performance period. Managers can apply *strict or leniency ratings*. Strict ratings occur when a manager consistently rate performance below the average. Lenient ratings occur when a manager rates performance in most cases above the expected norm or average. The *horns error* occurs when a single negative characteristic dominates the entire evaluation. *Bias/prejudice* occurs when personal preferences and interests of managers influence their performance rating of an employee. Knowledge about an employee's previous performance influences the accuracy of ratings. More accurate ratings were provided by raters when they were not given information regarding the employee's previous performance (Roch & McNall, 2007). Managers often rate employees high when these employees have qualities and characteristics similar to the manager. *Central tendency* occurs when ratings are clustered

at the middle of the rating scale. By comparing employees with each other instead of with the performance requirements of the job, managers will allocate an unjustifiably high or low rating compared to a high or low rating given to the previous employee. We refer to this as an error of *contrast*. *Logical error* occurs when certain factors are given similar ratings as they appear to be logically related although they are not linked (Rudman, 2003).

All performance review methods come with advantages and disadvantages. Organisations need to choose a method that meets their needs. Rudman (2003) distinguishes between different performance review methods: i) comparison or ranking methods, ii) standards-based reviews, iii) results-oriented reviews; and iv) competency based methods.

*Comparison or ranking methods* compare each employee (or some characteristic/performance of the employee) with other employees. These methods are simple and easily understood, quick and inexpensive to implement. Despite the simplicity, this method comes with disadvantages such as: the assumption that employees that are being ranked all do the same job, which is seldom the case. Reasons for the rankings are not provided. People are ranked in order with no distinction on how much one differs from the other. Those who do the ranking should be very cautious of bias and discrimination. When employees are simply ranked in order according to the manager's assessment we refer to it as straight ranking. Alternation ranking is when the names of everyone to be ranked are listed alphabetically. The "best" and "worst" employees are selected by the rater and moved to the top and bottom positions respectively. The next available slots are filled by the next "best" and "worst" employees. The process continues until all names are slotted into a position. Paired comparison means that each employee is compared with every other employee in the group, one at a time. When reviewers are forced to assign a certain proportion of employees to each of several performance categories, we refer to forced distribution or ranking. When dismissals are based on poor performance, organisations might face unfair dismissal lawsuits based on the fact that a forced ranking method was used to determine performance (Rudman, 2003).

With *standards-based reviews* the focus is on an employee's characteristics or traits, rather than on actual performance. Some standards-based reviews are quite simple with not much validity; others are highly sophisticated and systematic. A manager uses critical incidents when a record is kept over time of on-job incidents or behaviour as examples of effective or ineffective behaviour of an employee. The information is then used with the year-end review or performance discussion. It is important to identify the critical success factors for the job in advance to ensure reliability. The checklist approach entails the gathering of statements (from people that know the job very well) about employee characteristics or behaviours in a job. The

statements are then reviewed and weighted according to how favourable or unfavourable they are for effective performance. The manager assesses an employee against the list, without knowing the weighting upfront. An approach that is not very popular with managers involves ranking performance according to forced choice. Linked to the checklist approach, managers use a list of employee behaviours and select the most and least applicable behaviour to an employee. Critical incidents, the checklist and forced choice methods of performance evaluations, all form part of a main group within the standards-based review approach in which the reviewer decides whether the employee has a certain trait or characteristic, the answer being a simple and straight forward “yes” or “no”. With the other group the reviewer assesses the extent to which the employee has a certain trait or characteristic, the response being plotted on a rating scale. The most frequently used approach is the use of linear or graphic rating scales. An employee’s actual performance is rated without comparing the person to other employees. Although rating scales are easy to construct, understand and use, a description of what each dimension on the scale involves should be provided. A 5-point rating scale could be used with 1 being inefficient and 5 being outstanding. With behaviourally anchored rating scales the manager’s role as judge is replaced by that of the objective observer of behaviour. The points or anchors along the scale are marked by descriptive statements of various levels of performance or behaviour applicable to a particular job or aspect of a job. Despite the potential for more objective assessments with this technique, it is very complex to develop and implement; and therefore not viable for most organisations (Rudman, 2003).

*Results-oriented reviews* are based on two ideas. 1) People who understand what they are trying to achieve have a better chance of achieving it. This simply means that employees perform better if they have specific goals, or have participated in setting the goals. 2) Performance improvement can only be measured in terms of the progress or improvements that people are trying to make. Desired outcomes should be listed as it will map the goals or objectives to be achieved over a specific period of time. The best known results-oriented performance evaluation method is Management by Objectives. Although highly effective where goals and performance are measured in quantifiable terms, it is however, more difficult in jobs where the emphasis is on quality.

*Competency-based methods* assess the potential of an employee to perform rather than the actual performance. It looks at the behaviour patterns an employee should have to be able to perform in a specific position. It is therefore understandable that competency-based techniques are more useful for employee development than for performance assessment because it focuses on the skills and knowledge needed for performance (Rudman, 2003).



A frequent problem experienced with performance assessment is that performance ratings are being inflated. According to Roch and McNall (2007) the inflation of ratings impacts on various human resource practices. When organisations make use of pay for performance pay plans, the performance rating will have a significant impact on the pay an employee receives. Similarly, performance ratings could influence decisions about merit increases, promotions, training and other forms of rewards. Organisations should guard against rewarding employees who only meet minimum requirements or inflate their ratings. Inflated ratings could result in unfair remuneration practices which could result in high performers becoming demotivated and not wanting to go the extra mile because the differentiation made between good and poor performers is inaccurate and unfair.

The success of a performance management system depends to a large extent on fairness. The performance standards must be fair, managers must appraise performance fairly and recognition or rewards should be linked to performance in a fair manner. Processes perceived as unfair by employees will result in a workforce not being prepared to “go the extra mile”. When employees feel that their rating is not being forced into a specific ranking and that conversations between them and their managers are open, honest and frank, the performance management process will be perceived to be fair and assist in creating trust and cooperation. Rowland (2013) supports this belief and states that a lack of engagement results when employees perceive performance management as being unfair.

One way for an organisation to ensure fairness and objectivity is to conduct moderation committee meetings where ratings are compared and validated. Managers have to explain the reason behind a rating that was being allocated to an employee. The aim of moderation committee meetings is to reduce bias and discrimination and also to improve consistency. This leads to greater acceptance amongst employees of the performance management process being procedurally fair (Risher, 2011).

### **3.3.4 Providing feedback**

Constructive feedback plays a vital role in the performance of the employee. Employees can only improve their performance if they receive specific and honest feedback. Feedback should focus on the behaviour of the employee and not on the person. Feedback should be formulated in such a way that it will assist the employee to improve and succeed (Bohlander & Snell, 2013). Managers should be evaluated and rewarded on how effective they manage the performance of their employees. Linking rewards to managers’ ability to manage performance will send out a very powerful message that performance management is not

simply a formality, but holds the manager responsible for the performance and development of employees (Risher, 2011).

Risher (2011) emphasised the importance of equipping managers to take ownership of the performance management process. Van Hoek and Schultz (2014) encourage managers to give feedback to employees on a daily and weekly basis. Continuous feedback will allow employees to make changes and develop. According to Van Hoek and Schultz (2014), managers should focus on building strong relationships with their employees as it will be much easier to address issues of non-performance when relationships are good.

Performance reviews conducted very infrequently, results in both managers and employees forgetting important performance milestones. Due to performance discussions only taking place once or twice a year, the discussion is often dominated by topics such as remuneration, promotional opportunities and other work-related matters. Without outlining performance gaps and identifying ways to improve, the setting of new goals will be a daunting task. By providing more regular feedback to an employee, the employee will have the opportunity to make changes, develop and be productive (Van Hoek & Schultz, 2014).

During the performance review the focus should be on providing evidence-based feedback. Managers should explain to the employee how they arrived at the final performance rating score (Mone & London, 2010). A climate of mutual trust and participation is essential for an effective performance review. Employees should be allowed to voice their opinions and new performance goals should be set by both the manager and the employee (Mone & London, 2010).

The performance discussion consists of two steps. During the introductory phase, the manager creates rapport with the employee. It is important for the manager to let the employee voice any concerns he might have about the job and performance. The discussion will further focus on previously agreed upon performance goals. Significant accomplishments during the review period should be considered as well as areas for improvement. During the closing phase, the decisions taken would be summarised and future actions confirmed (Rudman, 2003).

### **3.3.5 Rewarding performance**

Employees are expected to perform and contribute to the success of the organisation. In return for performance organisations will reward employees in two ways: intrinsic rewards and extrinsic rewards. Rudman (2003:175) defines intrinsic rewards as "*internal reinforcements*

(*feelings of accomplishment and self-worth*)” and extrinsic rewards as “*external reinforcements (pay, other benefits, promotion or recognition)*.” Intrinsic rewards are intangible and not controlled by others, whereas extrinsic rewards are tangible and controlled by others (Snelgar, 2014). It is important to give the reward as soon as possible after the performance had taken place to ensure a line of sight.

By aligning the interests of both employees and the organisation, employees will go the extra mile to work towards outcomes that are mutually beneficial for themselves and the organisation, provided that they are rewarded for their performance (Bohlander & Snell, 2013).

Performance related pay can only be applied if a *form of measurement* has been established (i.e. performance indicators, utilisation of competencies, achievement of goals and appraisal ratings). This may be relatively easy in some jobs, but becomes a challenge when quantifiable outputs are not as easily identifiable (i.e. managerial or professional occupations). As soon as performance measures have been determined, employee performance should be evaluated against those measures. Unfortunately, performance evaluation will remain a subjective process because managers’ and employees’ perceptions about performance will often differ.

### **3.3.6 Supporting poor performance**

When it concerns poor performance, both the manager and employee are accountable for the problem. The cause and extent of non-performance should be identified and an action plan outlining relevant interventions should be put in place to address the performance issues. A key factor in the management of poor performance is that poor performance is dealt with in a quick, appropriate and fair manner. Managers should ensure that they communicate performance expectations clearly to employees. A lack of guidance or coaching by managers (especially with new employees) can also result in an employee not performing. Managers may also be guilty of poor supervisory/managerial practices (Risher, 2003).

According to Bohlander and Snell (2013) ineffective performance may be caused by three factors: ability, motivation and environment. *Ability* refers to technical, interpersonal, analytical, communication and problem-solving skills. Relations with co-workers, career ambition, goals and expectations, fairness perceptions and job satisfaction and frustration refer to *motivation*. *Environment* comprises of equipment, job design, economic conditions, managerial support, rules and policies. Managers should identify the root cause for poor performance and decide on corrective action to address the performance deviation. An employee portraying the expected competency but lacking appropriate behaviour may have a motivation problem as the root cause for poor performance. When an employee performs the correct actions yet does

not achieve the expected results, external constraints might be the cause for poor performance (Bohlander & Snell, 2013).

Poor performers may be assisted to perform up to standard by making use of a performance improvement plan (PIP). This is especially important during mid-year reviews to ensure that the poor performer is given the opportunity to improve before the final year-end review takes place (Hosking, 2013).

A great deal of time and money are invested by organisations in selecting and developing their employees. There are several options to deal with poor performance. A counselling approach should be used first. The manager should not put solutions on the table, but must encourage the employee to recognize the problem and identify possible solutions towards the problem. The counselling approach differs from the behaviour modification approach as the former places the responsibility for change on the employee (Leopold & Harris, 2009). If the counselling approach is not successful to rectify the poor performance, alternative options could be considered. Training should be provided to assist the employee to increase knowledge and skills in order to perform more effectively. If the employee is not a fit to the job, the organisation can transfer the employee to another job (if useful skills and abilities are evident). Another option might be neutralising which involves the restructuring of the job in such a way that the areas that need improvement have little impact on the job. Unfortunately, despite all efforts, it does happen that some employees are not able to perform according to expectations. In such cases, terminations could be an option, but only if everything possible had been done to assist the employee in performing up to standard (Jackson *et al*, 2009; Bohlander & Snell, 2013).

Performance management should be applied as an ongoing, continuous process whereby communication takes place between managers and employees on a regular basis. The traditional annual performance review is therefore supplemented with frequent meetings and discussions about performance. This will result in performance issues being identified at an early stage and addressed before the final annual performance review takes place (Gilmore & Williams, 2009).

### **3.4 DESIGN OF A PERFORMANCE MANAGEMENT SYSTEM**

Due to a variety of systems used in managing performance, there is no specific definition of what a performance management system is. Gilmore and Williams (2009:147) however, define a performance management system as “...an organisational framework or model that

*support the integration and implementation of processes to facilitate the strategic management of performance.”*

Armstrong and Baron (2005) as cited in Gilmore and Williams (2009) describe a performance management system according to certain characteristics being demonstrated by an organisation: i) the organisation communicates a vision with its objectives to employees, ii) departmental and individual performance goals are set, iii) a formal review of progress towards performance goals are being conducted, iv) the review process is used to identify training, development and reward outcomes, v) evaluation of the entire process takes place to improve effectiveness and vi) formal appraisal procedures are used to communicate performance requirements set on a regular basis. When an organisation displays these characteristics, the assumption is that performance is being managed strategically by applying some kind of a performance management system (Gilmore & Williams, 2009).

Properly designed and implemented systems are crucial for the success of performance management. According to Risher (2003:20) “... *the best performance management systems are business strategies with plans for managing and organizing work and rewarding top performance.*” Various models provide the basis for the design and management of performance management systems (Gilmore & Williams, 2009). The *Management by Objectives model* emphasises the importance of goals or objectives to manage performance. All levels of management are involved to align organisational goals with individual performance and development. Results are continually reviewed to ensure improvement (Gilmore & Williams, 2009).

The *Balanced Scorecard* provides a holistic and systematic approach. Kaplan and Norton (1996) argued that “what you measure is what you get”. In other words, employees will work to achieve those things for which they have set goals and will ignore other things even though they may be equally important. Most organisations give priority to measuring financial performance, thus distorting managerial effort by privileging the achievement of financial goals. Performance measurement can lead to sub-optimisation, which means that one goal is achieved, but only at the expense of another. Kaplan and Norton’s solution to this problem was the balanced scorecard. According to these authors measurement should not be seen as a tool to control behaviour, but rather to articulate and communicate the strategy of the business and to help align individual, organisational and cross-departmental initiatives to achieve a common goal. The four perspectives of the scorecard allow a balance between short- and long-term objectives and include the following:

- The financial perspective
- The customer perspective
- The internal business perspective
- The innovation and learning perspective

This model ensures that factors critical to the success of the business are considered during performance management. The vision and strategy of the organisation are linked with group and individual objectives in all areas of the organisation (Gilmore & Williams, 2009).

The *HR Scorecard* is a performance management and measurement system developed from the Balanced Scorecard that manages performance of employees (human capital) of an organisation by means of a systematic approach. This model focuses on the principles of the HR function, HR practices and policies and employee behaviour contributing towards creating shareholder value (Gilmore & Williams, 2009).

Pulakos (2004) states that before starting with the design of a performance management system, it is very important to decide on the purpose of the system: decision making (pay decisions, promotion decisions) or employee development. A system that focuses on one main purpose has a higher probability to succeed. The purpose for a specific system depends on the business needs, organisational culture and the system's integration with other human resource management systems. In theory it is possible to have a performance management system for both decision making as well as development purposes, but in practice it becomes challenging as the purpose of the rating affects the rating. Ratings used to make decisions about pay increases might be stricter than ratings used for development purposes (Pulakos, 2004).

When designing a performance management system, it is important to consider the performance climate that management is trying to create within the organisation. It might vary from a climate of customer service to a climate of innovation. When designing a performance management system, organisations will adopt certain practices related to a particular context in order to create a specific climate (Paauwe *et al*, 2013).

Another factor to consider in the design of a performance management system is the key role players. For a system to be sustainable, the interest of all parties should be served (i.e. the organisation, stakeholders as well as employees). It is called mutual high performance when the interests of all parties are served within their specific context (Paauwe *et al*, 2013).

The success of any strategy is dependent on the alignment of all systems. When HR practices are integrated and aligned as a system, there will be a horizontal fit resulting in enhanced performance and organisational objectives being achieved. Where a system of HR practices is aligned to the business strategy of an organisation we refer to a vertical fit. Strategy will be executed effectively coupled with optimal organisational performance. Wood (1999), as cited in Paauwe *et al* (2013) outlined additional fits (besides a horizontal and vertical fit). An internal fit refers to the integration of the different HR practices within the HR system (performance management system). A strategic fit refers to the alignment between the performance management system and business strategy (Paauwe *et al*, 2013).

Effective performance management systems are dealt with as a process in which timelines and responsibilities are clearly defined. Performance expectations of the employee are determined by both the manager and the employee during the *performance planning* stage. Properly developed and implemented systems drive the employee to engage in behaviour to achieve results that will result in organisational objectives being met. *Ongoing feedback* on behavioural as well as result expectations should take place between the manager and employee. One of the most important factors that determine the success of any performance management system is effective and continuous conversations between the manager and employee. *Employee input* could enhance the involvement of employees in the process. Typical input from an employee would be a self-rating or a statement on key results. *Performance evaluation* of an employee should be based on performance standards or key competencies and should be done on a rating scale to ensure fairness. During the *performance review* meeting the manager should provide feedback on the performance rating and explain the rationale behind the rating. Developmental initiatives should also be discussed. Continuous feedback during the year would ensure that there are no surprises during the performance review meeting (Pulakos, 2004).

Pulakos (2004) emphasises the successful implementation of a performance management system as the most challenging and important part in developing an effective system. The system should be user-friendly and add value (Pulakos, 2004). Automated performance management systems are a corner stone for successful implementation as it improves efficiency and saves time. Through the use of technology, the performance management process can be automated by tracking goals, scoring performance and approving appraisals. Data can also be used to determine compensation, training, succession planning and recruitment. A great deal of data can be converted into usable information which enables organisations to identify performance gaps and compile accurate reports (Jackson *et al*, 2009). Various other corner-stones for successful implementation include: i) alignment with other HR

systems, ii) support of top management and other organisational members, iii) communication, iv) pilot testing, v) trained employees and managers; and vi) evaluation and improvement (Pulakos, 2004). Legal guidelines applicable to a specific country should be taken into consideration with the design and implementation of performance management systems. By following legal guidelines, the organisation will be able to defend its system in case of a legal challenge (Pulakos, 2004).

According to Pollitt (2013) the *aspects to be measured* is important because what is measured, is managed. The decision regarding the people responsible for measuring performance is also an important design factor as it has a direct influence on the objectivity and fairness of the system. *What techniques* will be used to measure performance and the *criteria to be applied*, also form part of the basic elements of performance management. The *criteria to be applied*, *the way in which the information will be presented*, as well as *how the information will be used*, are questions that the designers of a performance management system should answer.

The focus of performance management systems should be to facilitate and support strategy implementation. It becomes problematic when performance management systems start to influence strategic decision-making. Organisations should be watchful not to channel too much energy and resources into reporting on performance. Focus should rather be on improving performance (Gilmore & Williams, 2009). Efforts should thus focus on training and supporting managers to take responsibility for the performance of their employees. According to Pulakos and Leary (2011) as cited in Risher (2011), too much focus is sometimes directed towards the design of a performance management system. As soon as a system is in place, the focus should shift to the manager that needs to manage the performance of employees.

Employees often exceed expectations and do more than what is outlined in their job description. Employees that fulfil tasks beyond their call of duty are engaging in organisational citizenship behaviour.

### **3.5 ORGANISATIONAL CITIZENSHIP BEHAVIOUR (OCB)**

It is not possible to outline all tasks and responsibilities in an employee's job description but certain tasks need to be performed and depend on the employee's willingness to perform additional tasks. Organ (1990) as cited in Zheng, Zhang and Li (2012:3) defines organisational citizenship behaviour (OCB) as "*performance that supports the social and psychological environment in which task performance takes place.*" OCB includes behaviour that is important to the overall performance of an organisation; it is a function of the employees' ability,



motivation and opportunity. OCB is the behaviour of an employee that is very discretionary and not being recognised by the formal reward system although it promotes the effective functioning of the organisation (Organ, Podsakoff & MacKenzie, 2006 as cited in Jensen & Dudley, 2011).

A study conducted by Zheng *et al* (2012) examined the relationship between performance management and organisational citizenship behaviour under the light of social exchange theory and impression management theory. Conway (Zheng *et al*, 2012) views organisational citizenship behaviour (OCB) as shaping the social and psychological context where core job responsibilities are accomplished and uniquely contributes to overall performance of a company. The social exchange theory assigns employees' decisions about the amount of effort they are willing to expend for their organisations to how much the organisations contribute to their well-being. Employees will thus perform OCB based on their perception of organisational fairness. Impression management theory refers to employees influencing the perceptions that others have of them. Employees realise that taking initiatives that would help them getting promoted demonstrate high levels of OCB. An employee has thus the opportunity to manipulate their supervisors' impression of them (Zheng *et al*, 2012).

According to Inkeles (1969) as cited in Van Dyne and Graham (1994) the organisational citizenship behaviour construct consists of three categories, namely obedience, loyalty and participation. (1) *Obedience* involves respect for orderly structures and processes. It reflects employees' acceptance of the necessity for and desirability of rational rules and regulations governing organisational structure, job descriptions and personnel policies. (2) *Loyalty* involves serving the interests of the community as a whole and the values it embodies. In an organisation, loyalty is identification with and allegiance to the organisation's leaders and the organisation as a whole, transcending the interests of individuals, work groups and departments. It also includes defending the organisation against threats, contributing to its good reputation and cooperating with others to serve the interests of the whole. (3) *Participation* entails active and responsible involvement in community self-governance and keeping oneself well informed about issues affecting the community as well as exchanging information and ideas with other people. In an organisational context, it refers to interest in organisational affairs and taking responsibility for organisational governance. It also includes attending non-obligatory meetings, sharing informed opinions and new ideas with others and being willing to combat groupthink (Van Dyne and Graham, 1994).

When employees engage in obedience, loyalty and participation activities as outlined above, they display commitment to the organisation. Not only do these employees do more than what

is expected of them, but they do not expect to be rewarded for it. Extra-role behaviours are vital for performance because organisations cannot forecast through stated job descriptions the entire spectrum of subordinate behaviours needed for achieving goals. In order to achieve a sustainable competitive advantage, an organisation is dependent on employees' willingness to do more than what their official job descriptions outline (Javadi & Javarian, 2011).

Coetzee, Bergh and Schreuder (2010) state that one determinant of how broadly employees define their jobs is affective commitment. Instead of believing that affective commitment leads employees to exceed their job requirements, Coetzee *et al* (2010) propose that affective commitment changes the way in which employees define the scope of their job. In such a case, extra-role behaviour is more likely to be seen as in-role behaviour and part of one's job.

Assumptions that OCB is merely positive are challenged by Bolino, Turnley and Niehoff (2004) as cited in Bolino, Klotz, Turnley and Harvey (2013). According to them OCB is not always prosocial and may be a result of an employee trying to influence the view of others or due to boredom with in-role tasks. They further claim that OCB could impact negatively on organisational performance. This occurs when OCB is of low quality or performed instead of focusing on in-role tasks. Finally they argued that employees displaying OCB may experience an increased role overload and work stress due to the belief that they are pressurised to engage in such behaviour (Bolino *et al*, 2013).

### **3.6 CHALLENGES OF PERFORMANCE MANAGEMENT SYSTEMS**

Performance management does not come without challenges. Leopold and Harris (2009) identified the following challenges: i) Organisations need to ensure that performance management systems measure the right things. Part of this challenge is to make sure that managers are sufficiently trained to implement the process. ii) After a period (mostly within three years), initial response rate and commitment towards performance management decline. iii) Personal development plans could be perceived by some as only a development ritual instead of a way to assist and support the growth of an employee. One of the biggest challenges of performance management is to ensure that employees are positive about the performance management process. Sometimes an employee has to achieve a target which is only possible through a combined team effort. This will discourage the employee that may result in employee disengagement. According to Rock, Davis and Jones (2014) managers also tend to rate employees as average to avoid "extra work". Managers realise that if a top-performing employee is rated as "excellent" or "outstanding", the manager must justify why the specific rating has been awarded. Should on the other hand, an under-performing employee

being rated as “inconsistent” or “insufficient” the manager must put the employee on a performance improvement plan (Rock *et al*, 2014).

But why do most employees dislike the performance management process? Some managers simply rate employees to comply with formal procedures without considering the developmental purposes that performance management is supposed to fulfil. The need for training and development as well as career options are then never discussed with employees. Managers sometimes tend to focus on most recent performance without taking into consideration the contributions of the employee throughout the year (Sahoo & Mishra, 2012).

Findings by Haines and St-Onge (2012) are similar to that of Risher (2011). Haines and St-Onge identified certain practices that could improve the effectiveness of a performance management system and provide more valued outcomes. Managers should be properly trained to form part of the performance management process from the planning phase to the review process. Training should enhance their managerial competencies. Adequately trained managers will be more knowledgeable resulting in employees being more open to feedback during the performance discussion. According to Biron *et al* (2011), manager training will also decrease rater bias (the subjective inflating or deflating of performance reviews because of either intentional or unconscious errors).

A syllogism raised by Leopold and Harris (2009) is the statement that employees will only strive to achieve those things for which goals have been set. Some will only strive to achieve the goals that they will be rewarded for. The deduction can be made that performance management systems can undermine the achievement of an organisation’s objectives, as employees only strive to achieve lesser objectives at the expense of much greater ones.

A study by Rock *et al* (2014) revealed mounting evidence against conventional strategic human capital management approaches (like performance management) that are not functioning properly anymore. According to the Corporate Executive Board Corporate Leadership Council (2012 as cited in Rock *et al*, 2014), surveys found that 90% of HR heads view their performance management systems as not reflecting accurate information. A further 95% of managers were not happy with the performance system their companies use.

Rock *et al* (2014) view performance management practices as damaging the performance they are intended to improve. They identify at least two basic problems with performance management: 1) When managers label employees by allocating a numerical rating to them, it leads to employees experiencing a “flight or fight” neural response. The judgment of an

employee will be impaired and may cause the employee to react in an aggressive way. Employees will sometimes not say anything, but they experience a feeling that they have been undermined and will become disengaged. 2) Performance management cultivates a fixed mind set where employees believe things are the way it is and there is nothing you can do to change it (in other words there is no room for improvement). The development mind set is in contrast with the fixed mind set and encourages growth, learning and improvement. Rock *et al* (2014) are of the opinion that the effects of conventional performance management on organisations are devastating, resulting in high levels of attrition, low productivity and significant problems with collaboration.

Organisations need to reverse the destructive effects caused by conventional performance management and rather focus on recognizing employees for their contributions towards organisational performance. The focus should be on a development perspective (Rock *et al*, 2014).

One way for organisations to start changing conventional performance management will be to educate the leadership of the company on the performance system. Awareness should be created especially in organisations where a numerical ranking system is deeply embedded. When employees perceive the rating system as being unfair, performance management will become a “tick box” exercise resulting in employees setting their goals lower to be perceived as succeeding. They will also avoid development discussions as loaded emotions are usually part of such discussions (Rock *et al*, 2014).

### **3.7 INFLUENCE OF TRADE UNIONS ON PERFORMANCE MANAGEMENT**

Brown and Warren (2011) researched performance management in global unionised settings and found that performance management processes are not as common in unionized organisations and that organisations will have to embrace union involvement to succeed in HR practices like performance appraisals and goal setting. According to a report by the Organisation for Economic Co-Operation and Development (ECD) (2010), as cited in Brown and Warren (2011), unionisation is declining across the global economy (unionization rates for 2007 for the US were within a 10% range and 20% for countries such as Germany, Australia and the Netherlands). Bargaining counsel membership in South Africa declined by 39% between 1996 and 2011. The number of individuals that were registered with a trade union as a proportion of employed people dropped by 7.7% from 1994 to 2010 (South African Institute for Race Relations Survey, 2012.). Despite the decline in union membership, unionization will still continue to play an important role in organisations across the world.

Unionization in South Africa will remain high, especially within the mining industry. COSATU affiliation grew by 19% between 2006 and 2012, with the highest penetration in the mining and quarrying industry (South African Institute for Race Relations Survey, 2012).

Findings by Nurse (2005) as cited in Brown & Warren (2011) show that formal performance appraisals were not present in most unionized organisations in Barbados in the survey sample. Unions are not very keen for the use of performance appraisals as they view it as a subjective process which management use to serve their purpose at the expense of union goals (Verma, 2005 as cited in Brown & Warren (2011). According to a study by Brown and Latham (2000), as cited in Brown & Warren (2011) unions are much more supportive of a performance management system that supports employee development. When unions are involved with the implementation of a performance management system they tend to support the initiative (Pieroway & Brown, 2006 as cited in Brown & Warren, 2011).

Brown and Warren (2011) predict that performance management within a unionized setting will increase over the next decade. However, future research is needed to investigate the impact of trade unions on organisational performance, especially the mining industry in South Africa with its high level of union participation.

### **3.8 PERFORMANCE MANAGEMENT IN THE MINING INDUSTRY**

Although the mining industry is an industry highly driven by technology, investment in its employees remains vital to any organisation to ensure sustainable organisational growth (Van Hoek & Schultz, 2014). In a dynamic business environment objectives and goals change as employees move between different projects, resulting in a shift of goals.

Research by Kotze and Visser (2012) reveals that performance management is not yet used to its full potential within various mining companies in the South African mining industry. Performance goals should be determined according to the cost reduction strategy, which stems from the business strategy. The performance management system should thus focus on reducing costs, outlining opportunities for improvement and providing feedback to employees.

A large number of mining companies in South Africa use performance management systems to manage employee performance towards achieving organisation goals. Kumba Iron Ore and Anglo Platinum (both part of Anglo American) use a 5-point rating scale for their systemised performance management system. Employees' performance is evaluated bi-annually. In

addition to their individual objectives, employees are also required to perform on all other role requirements as set out in their job profiles. The fulfillment of role requirements is taken into account with the final performance review at the end of the year. The final performance rating determines the bonus amount as well as the percentage salary adjustment allocated to an employee. Exxaro also uses a 5-point rating scale on their systemized performance management system. African Rainbow Minerals (ARM) is currently busy implementing a performance management system at some of their mines. Khumani mine was identified for the pilot study with performance management being implemented in the Engineering, Plant, Mining and Human Resources divisions. Employees are evaluated on a quarterly basis. The performance rating scale makes use of a 5-point rating scale. The final performance rating is linked to the bonus payment.

### **3.9 NEW PERSPECTIVES ON PERFORMANCE MANAGEMENT**

Research results on the effectiveness of performance management in different companies are still mixed. Research by Armstrong (2000) and Molleman and Timmerman (2003) as cited in Biron *et al* (2011) revealed that companies with performance management systems in place, outperform their counterparts without such programs. Findings by Rademan and Vos (2001) and Furnham (2004) as cited in Biron *et al* (2001), are in contradiction with the research by Armstrong (2000) by indicating that of the 80% of workplaces in the USA applying performance management processes, 90% are not satisfied with the process.

In most companies, performance management is only an artifact of the past. If performance management is not done in an effective way and used as a strategic tool, it is often perceived by both managers and employees as a difficult, time consuming and painful process. According to a study done by Deloitte (2014), ranking- and rating-based performance management may lead to employee disengagement and alienation and a waste of valuable time of managers. A total of 58% of companies that participated in the study reported their performance management process as being a waste of time. A further 70% confirmed that their performance management systems were “currently being evaluated”, or had recently been “reviewed and updated”. The study indicated that the focus of performance management systems was shifting towards ongoing feedback, coaching and employee development (Deloitte, 2014).

Microsoft is one of the companies who abandoned traditional performance management. They are following a long tail approach instead of the tradition bell curve as is the case in typical talent-intensive companies. With a long tail approach, top performers should be treated very

well, while mid-level employees should be inspired to improve their performance by coaching and development. A forced bell curve results in mid-level performers being pushed into the bottom part and reducing the value of top performers (Deloitte, 2014).

Adobe also replaced their performance management process with a more effective and simpler process. High achievers are recognized and rewarded while low performers receive guidance and support towards improvement. Adobe places a high value on group performance so that team work can be encouraged. This new approach towards performance management by Adobe seems to have resulted in a 30% reduction in voluntary turnover (Deloitte, 2014).

Organisations that consider moving away from the traditional rating system and rather implement a non-rating system, should focus on the consistent development of talent and fair performance related remuneration. The entire performance management system should however not be abandoned. The setting of goals still remains important as it improves performance. Feedback should also be designed to have a positive impact. Organisations can decide to apply one of two alternatives: 1) Highly structured performance reviews on an annual basis during which topics such as career growth, collaboration or innovation might be discussed. Managers will receive guidance from HR on how to approach and discuss these topics. 2) Guided conversation which provides a general framework for a discussion between the manager and employee on the goals employees set for themselves, as well as their progress and contribution towards such goals. Managers will again receive training and guidance on how to lead guided conversations (Rock *et al*, 2014).

Some organisations replaced numerical ratings with only one rating; whether someone is “in or out” as a fit with the company’s culture. An “X-Player” would be an employee with reasonably good performance and who behaves according to the company values. A “non X-Player” would be all employees who do not perform on standard. Should an employee be a “non X-Player” the manager will explain to the employee which types of behaviour are important to succeed in the organisation. The employee then decides to remain with the company or leave. Should the employee’s decision be to stay, the manager will assist and help such an employee to fit in. Conversations with X-Player employees focus on the personal and career growth of the employee without any fear and anxiety experienced by the employee of being rated poorly. Organisations following such a performance management approach report high levels of participation and satisfaction amongst employees and managers. Employees also experience the conversations as very helpful (Rock *et al*, 2014).

David Rock, founder of the Neuro Leadership Institute and Summit (a global initiative bringing neuroscientists and leadership experts together) developed the SCARF model to explain the fight-or-flight response that employees experience when they are rated and ranked against their performance. According to Rock (2009) the SCARF model explains how one's flight-or-flight response when experiencing a threat, is being influenced by the following organisational factors: 1) *Status* is perceived by all humans as important. When people feel they might compare unfavourable against someone else the threat response kicks in. In performance rankings any number below "outstanding" are perceived by employees as a lower-status position. People feel uncomfortable about it as they carry that number with them (Rock *et al*, 2014). 2) When people experience *certainty* they will perform better with higher engagement levels. People should feel that in a sense they have control over their ranking. To create certainty managers should inform employees of the strategic objective and goals of the organisation. By doing this, employees will know what is expected of them to contribute towards the achievement of the overall goal of the organisation. Transparent processes and practices will enhance certainty as people will know what is expected of them and how they will be rated. 3) *Autonomy* refers to having a clear direction on where you are heading by making your own decision. By ranking people, the sense of autonomy are removed as people feel that their decisions do not count. No matter how hard they work, they do not have any control over the ranking that is being allocated to them. The feeling of a lack of control will trigger the sense of uncertainty and subsequently generate a threat response. 4) *Relatedness* between people exists when there are trust and empathy amongst them and they perceive each other to be part of the same social group. By ranking people they are encouraged to compete against each other and in the process, undermine each other's ranking in order to achieve the highest ranking. There will be no collaboration between people working together in the same team. An environment that supports maximum performance will only prosper where a sense of relatedness between people exists. 5) *Fairness* creates an environment in which trust and collaboration flourished. If people experience something as unfair they will experience a strong feeling undermining trust. When people perceive the ranking system as unfair they become demotivated and their performance levels start dropping as they will set their goals lower to ensure they succeed (Rock, 2009).

Technological improvements like social media have led to increased levels of social collaboration, resulting in a different way in which managers and employees, specifically generation Y, communicate. As a result, social recognition and feedback tools could be applied as valuable performance management tools (Human Capital Trends, 2013).



Gilmore and Williams (2009) already predicted nine years ago that organisations will become more effective and efficient at what they do (based on continued economic growth) and ensure they benefit from the employees they employ. Performance will thus have to be monitored more closely to ensure organisations stay competitive.

Organisations will have to develop practices to manage and report performance more effectively due to a growing emphasis on corporate governance. The focus will be on standardising the way organisations report performance by adapting similar best practices. This will foster innovation and creativity with regards to performance management. Going forward performance management will always be part of the organisations of tomorrow (Gilmore & Williams, 2009).

### **3.10 SUMMARY**

Ineffective performance management practices may result in decreased employee morale, an inability to achieve strategic objectives, a decrease in employee productivity, higher employee turnover and a negative impact on financial performance of the company (Jackson *et al*, 2009). The inability of an organisation to manage workforce performance will place them at a competitive disadvantage (Silverstein, 2007).

Employees exerting extra effort and not only meeting the minimum prescribed requirements of the job are portraying organisational citizenship behaviour. For organisations to be globally competitive they require work behaviour from their employees that goes beyond the required role behaviour.

When designing a performance management system, it is important that the system should be aligned and supports the objectives of the organisation. The system should be well-developed, user friendly and well-accepted by both managers and employees. The system must be used in such a way that the value added benefits in the performance planning, performance development, feedback and achieving of results should be clearly visible (Pulakos, 2004).

Performance management within the mining industry in South Africa was discussed briefly. Although all mining companies in South Africa apply some form of performance management, the level of performance management varies quite substantially across the various mining companies.

The chapter concluded with a discussion on the future role of performance. In many organisations where performance is not managed effectively, performance management is perceived as being destructive and of little value. It is for this reason that some organisations have moved away from a traditional rating system to alternative systems. The focus of performance management will however remain on the setting of goals and performance feedback.

Organisations must ensure that their performance management processes keep abreast with the changing way of work. Irrespective of how performance management systems will change, the validity and fairness of the performance management system will remain vital to the successful management of performance (Human Capital Trends, 2013).

## **CHAPTER 4: AN OVERVIEW OF THE MINING INDUSTRY**

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This chapter discusses the history and the role of the mining industry in South Africa. The discussion will focus on the significant contribution of the mining industry as an employer and the current challenges experienced by the mining industry. The chapter concludes with a short overview on the future role of mining in South Africa.

### **4.1 HISTORY**

South Africa is a country rich in mineral treasure. Varying deposits of precious stones, mineral and metal have been found in South Africa – some in mere traces to quantities of enormous value. South Africa has the largest reserves of platinum group metals, chromium, manganese and vanadium (Davenport, 2013). Reserves such as gold, coal, diamonds, iron ore, titanium, andalusite, fluor spar and vermiculite are also to be found in the country (Davenport, 2013).

The South African economy transformed into a modern, industrialised era during the late nineteenth century with the intensive exploitation of copper, diamonds, gold and coal. A giant mining industry started to grow as the country had commodities that the rest of the world desperately needed. The establishment and growth of the mining industry played a very important role in the history of South Africa by influencing the political, economic and social landscape of the country (Davenport, 2013).

In 1850 Phillips & King, a mercantile house based in Cape Town, bought a portion of a farm located in the heart of Namaqualand that hosted a rich deposit of copper. Mining commenced in early 1852 with primitive methods and the employment of unskilled workers. During the first year of production copper was exported to Wales, increasing to 199 ton the following year. With no established mining industry and no skills of that nature, the copper bubble collapsed mid-1855 with only two companies remaining, Phillips & King and the Namaqua Mining Company continuing with copper mining. Local investor confidence was restored resulting in an inflow of investment capital pushing copper exports to become the second biggest export product by 1860. The first mining related act to be enacted in South Africa, the Mining Lease Act of 1865, recognized the mining industry as a commercial sector from which much revenue could be generated and a long-standing relationship between government and the mining industry was initiated (Davenport, 2013).

It was however, not the discovery of copper leading to South Africa's mineral and industrial revolution, but the discovery of diamonds and gold. The first diamond to be discovered in South Africa is called the Eureka diamond (21 carat) and was discovered in the 1866 on a farm in the Hopetown village, part of the Cape Colony. In 1869 an 83,5 carat diamond (The Star of South Africa), was found on the banks of the Vaal River resulting in the country's first "mineral rush". Because both the Eureka diamond and the South African Star were found close to a river, most pioneers rushed to the river banks to search for diamonds. The first diamond to be discovered in "dry country" was found on a farm in the Free State. By 1873 diamonds of the value of over R1 billion were exported (Davenport, 2013).

The Kimberley diamond mine had one of the richest kimberlite pipes in the diamond city. In 1914 operations at the mine were stopped leaving behind one of the biggest hand-dug excavations in the world, the Big Hole, with a depth of well over 1,000 meters. A total of 14,505,466 carats had been extracted from 22.5 million tons of soil (<http://www.southafrica.net/za/en/articles/entry/article-a-brief-history-of-mining-in-south-africa>, Accessed on 08/05/2015).

Cecil Rhodes founded the De Beers Consolidated Mines in 1890. Over the years Ernest Oppenheimer transformed it into a global commercial empire of South Africa's diamond industry. Since the 1980's other large mining companies such as Rio Tinto, BHP Billiton and Alrosa are challenging the dominance of the De Beers group over the diamond industry (Davenport, 2013).

Gold fever hit South Africa in the early 1870's. The three main gold belts of ancient gold-bearing rock are in Barberton (Mpumalanga), the Murchison Hills in Limpopo and the Witwatersrand (Gauteng). The Witwatersrand gold basin is by far the most explored and geologically well-understood series of rocks and produce almost one third of all gold mined in the world despite the poor grade of the gold (Davenport, 2013).

The first coal was discovered in 1699 in the Franschhoek Valley in the Cape Province. Due to high mining and transport costs it was not viable to exploit coal of such poor quality. A colliery was only established in 1864 to work coal from a coal seam in the Eastern Cape which was of better quality. With the expansion of Natal's railway network, the demand for locomotive fuel increased resulting in the establishment of the first commercial coal mine – Newcastle Colliery. As the mining industry grew, more powerful machines were required to mine deeper with a subsequent demand for more fuel. A third of coal reserves in the Southern Hemisphere

are to be found in South Africa, with an estimated 31 billion tons of coal still to be mined. The Richards Bay Coal Terminal exports 72 million tons of coal a year (Davenport, 2013).

With iron the world's most commonly used metal, the Iron and Steel Corporation of South Africa (IsCOR) was established in the 1928 in an effort to make South Africa more self-sufficient. IsCOR became a state-owned iron and steel producer aiming to provide the country with low cost steel. Worldwide sanctions against South Africa's system of apartheid in the 1970's and 1980's forced the government to become more independent. This led to a significant increase in production capacity of high-grade steel, resulting in IsCOR to commission several expansion projects and additional steel works. IsCOR was primarily responsible for the establishment of the iron ore mining sector. Sishen mine (Kumba Iron Ore, part of Anglo American) in the Northern Cape, is currently one of the largest open cast iron ore mines in the world. When the production of iron ore started to exceed the local need, a fully electrified railway line was constructed connecting the Sishen mine and the port of Saldanha Bay in the Western Cape. Today other iron ore mines in the Northern Cape such as Khumani and Beeshoek (part of Assmang, African Rainbow Minerals) as well as Kolomela (Kumba Iron Ore, part of Anglo American), also make use of the railway line connected to Saldanha Bay (Davenport, 2013).

Although platinum was discovered in 1924, significant growth only became evident in the early 1970's. The largest reserve of platinum occurs in South Africa. Today this precious metal constitutes South Africa's flagship mining sector with many platinum operations still evident in North West (<http://www.southafrica.net/za/en/articles/entry/article-a-brief-history-of-mining-in-south-africa>, Accessed on 08/05/2015).

Over the last century and a half, the mining industry in South Africa has risen to a mighty and economy-dominating force, the backbone of the national economy. Today, however, the mining industry is at a crossroad facing perhaps the most uncertain time in its history. This can be attributed to a significant decline in commodity prices, a huge increase in production cost as a result of more difficult mining conditions caused by amongst others, deeper mines and lower quality of the available resources as well as the rising cost and shortages in power. At the same time labour relations is becoming more difficult as legislation favours the workers and their unions. The union rivalry in the mining industry and the drop in labour productivity, is also making it very difficult for employers to perform optimally and to remain competitive (Bell, 2014).

## 4.2 THE ROLE OF MINING IN SOUTH AFRICA

According to the annual report of the Chamber of Mines (2012/2013) the mining sector remains the “flywheel” of the South African economy. The key role that the mining industry has played in the country’s economy over the past 140 years, transformed South Africa into the most industrialised country in Africa. The mining industry (the fifth largest in the world) is a significant contributor towards employment, export earnings, attracting foreign investment, creating GDP and facilitating proper transformation of the economy (Chamber of Mines, 2012/2013).

Mining accounts for 12% of total investment in the economy (public and private) with 19% being total private investor investment. One-quarter (25%) of all investments in the economy is related to mining. As a key component of the JSE, the South African mining industry accounts for 24.7% (i.e. R1.8 trillion) of the all-share index. The total income of the South African mining industry was R497.1 billion in 2012 (Chamber of Mines, 2012/2013). In 2013 the mining sector accounted for 8.3% of GDP directly. A marginal growth (1.7%) in real fixed investment was experienced during 2013, due to a decline in commodity prices and other country-specific factors such as regulatory uncertainty and infra-structure constraints. The total mining production was 4% higher in 2013 compared to 2012 (Chamber of Mines, 2013/2014).

In 2012 the mining sector contributed towards the creation of 1,365,892 jobs (directly and indirectly) (Chamber of Mines, 2012/2013). According to a report by the Chamber of Mines (2013/2014), direct employment within the mining industry was 448,909 by July 2014. An amount of R93.6 billion was spent on salaries and wages during 2012. In 2012 the average remuneration for a gold mine employee was R13,435 per month. Between 2008 and 2012, average earnings per worker employed in the coal mining sector increased by an average of 8.1% per annum (Chamber of Mines, 2012/2013). In 2014 Kumba Iron Ore (part of Anglo American) paid R3.9 billion to employees in salaries and wages (Kumba Iron Ore Annual Results, 2014). Although labour costs in the mining industry showed an increase of 12% per annum from 2007 until 2012, productivity is declining across most commodities when labour costs and output per worker are compared (Chamber of Mines, 2012/2013).

As the mining industry remains a major contributor to the economy, various stakeholders in the mining industry attend the annual Mining Indaba where various topics relevant to the mining industry are discussed. During the 2014 Mining Indaba the focus was on the unique and attractive investment opportunities in Africa, with specific focus on South Africa. The

exploration of successful ways to successfully integrate the sustainable social and economic development of people and communities were also discussed.

Safety is an important topic in the mining environment and mining companies spend a lot of time and money on safety programs. The importance of safety is also emphasised with slogans like “zero harm, zero tolerance, 100% safety first” to ensure that employees understand the importance of safety. It seems as if the significant effort towards safety is paying off with an 86% drop in mining deaths since 1993 until 2014. Eighty-four miners were killed in South Africa during 2014 – the lowest ever in the country’s mining history. Of the 84 deaths during 2014, 44 occurred in gold mines, 15 in platinum mines, 9 in coal mines, and 16 in other mines. The number of mine injuries dropped by about 18%, from 3,123 in 2013 to 2,569 in 2014. The reported number of occupational diseases dropped from 18,371 cases in 2003 to 6,810 in 2013, constituting mainly pulmonary tuberculosis and noise-induced hearing loss cases (Daily Labour News, 2 February 2015).

Mining companies aim to make a real contribution to the lives of people near their operations instead of leaving communities with only a hole in the ground when mines reach the end of their life cycle. Reviewing the top ten mining companies in South Africa approximately R2.4 billion was spent on community development during 2012 (Chamber of Mines, 2012/2013:27). Mining companies have to submit an annual Social Labour Plan. Typical topics in the Social Labour Plan of a mine include: human resource development (formal education and early childhood development), local economic development (poverty alleviation, job creation through enterprise development and capacity building within local communities) and government relations (building positive relations with local and provincial government). Instead of ad hoc donations and sponsorships that may temporarily fill a gap, some mining companies engage in activities that could make a long-term difference (InSite, September 2011).

Kumba Iron Ore (part of Anglo American) launched several projects over the years to make a contribution towards the communities where their mining operations are based: a cultivation project where vegetables were grown was established in the Northern Cape in 2011 to empower communities to actively do something for themselves instead of relying on handouts (InSite, September 2011). In 2013 mine-owned land in Limpopo province that was no longer in use was turned into a bamboo farm (12 hectares) and a vegetable farm (6 hectares). Kumba Iron Ore was responsible for the full set up and infrastructure development of the farm (InSite, December 2013). Mobile health clinics were launched to bring much needed primary health care to communities that are unable to access primary health care (InSite, September 2011). Another project entailed the distribution of over 11,000 school bags containing much needed

stationary to some of the poorest schools in Limpopo and the Northern and Western Cape at the beginning of 2013 (InSite, March 2013). Kumba Iron Ore has built 4,222 houses since 2007 until 2014 to accommodate employees working at their mines (Kumba Iron Ore Annual Results, 2014). They also moved away from hostel accommodation and converted all 18 hostel blocks into 684 bachelor flat units. All hostels at the Thabazimbi mine in Limpopo province were converted into family units (InSite, December 2013). A success story of Kumba Iron Ore is the Envision share scheme, created in 2006 to give employees a chance to share in the profits and ownership of the company. Dividends were paid out twice a year to employees, based on the units they owned. The payments were based on the company's profits and were distributed equally among beneficiaries who were still in employment by the time of payout. The size of the Envision scheme, both in terms of the number of beneficiaries and the scale of the potential payout, made it one of the most impressive broad based black economic empowerment transactions in South Africa (InSite, December 2011).

### **4.3 MINING AS AN EMPLOYER**

According to statistics, North West has the largest number of mining industry employees followed by Gauteng, Mpumalanga and Limpopo. Employees with a Grade 12 have increased from 14.2% in 2004 to 20.9% in 2011. The number of employees with a post school matric qualification has improved from 6.5% in 2004 to 12.1% in 2011. The mining industry employs 10.2% female employees – an increase of 4.3% since 2002. Looking at the age distribution, a total of 34.9% of employees are under the age of 34 years. The majority of employees (56.4%) are within the age group of 36 - 54 years with the remaining 8.7% being older than 55 years (Chamber of Mines, 2012/2013).

Technical skills, more specifically Engineers, Technologists, Technicians and Artisans are critical for the existence and functioning of mining companies. These skills have become scarce skills over the past few years and therefore scarce skills remain a topic on the strategic agenda in many boardrooms. Although the availability of skilled talent has been slightly reduced by a number of mine closures, the long-term challenge remains. Attraction and more specifically retention of critical skills, remains a key concern due to the misalignment of supply and demand of these skills globally and nationally. According to a report by Ernest and Young (2013) skills shortages were ranked the fifth biggest risk for South African mining companies.

In 2010 there were only 500 practicing mining engineers with an average age of 47 years left in South Africa. Mine Managers certification shows a decline from 123 in 1997 to 25 in 2008, with the 25 emerging from an original 822 applications. While South Africa's 4 600 engineers



of all disciplines officially represent a 15% shortfall in 2012, the belief is that the real shortfall is considerably higher (Mining Weekly, 2 December 2010). According to Professor Fred Cawood, head of Wits School of Mining Engineering, education within the mining industry remains a challenge. In order to improve the education, a proper skills set should be defined and the mining education system should be redesigned to supply the right quantity and quality of skilled workers at all levels with minimum leaking of talent. Wits School of Mining Engineers has developed a postgraduate programme with a range of mostly technical subjects required for specialists in new mining fields like mechanised mining systems, mine planning, sustainable development of minerals and resource management, in addition to the established fields like mineral economics (Mining Weekly, 5 September 2014).

There has been a focus on artisan training over the past few years to alleviate the skill shortage. During 2012, R93 billion was spent on artisans and other training initiatives within the mining industry. According to the funding model for artisan training grants that was introduced in 2013 by the Minister of Higher Education and Training, employers receive a grant of R139,350 per learner for the training of artisans (Chamber of Mines, 2012/2013). Artisan training comprises of two phases: theoretical training and practical training. One of the stumbling blocks why artisans are not moving quickly enough through the system is the difficulty for learners who completed theoretical training to find apprenticeships with employers. Mining companies should consider affording more apprentices an opportunity to complete training beyond the company's demand (Financial Mail, 2011).

Sishen mine (Kumba Iron Ore, part of Anglo American) has a well-established engineering training centre (SIVOS) where artisans and technicians are trained and developed to supply the mine with skilled employees. SIVOS training centre is accredited by the Mining Qualification Authority (MQA) and train not only its own learners, but people from other mines as well. SIVOS can train 195 artisans per annum and learners trained at SIVOS account for 27% of the total number of artisans trained through the MQA every year (InSite, 2009). Kolomela, the other Kumba Iron Ore mine in the Northern Cape, opened its own training centre in April 2011 (the Kolomela Skills Training Centre) where people from the community can be trained in scaffolding, welding, carpentry, bricklaying and plastering. After three months of training, learners receive an accredited certificate of competence that enables them to be employed in the formal sector or to start their own business. The Kolomela Skills Training Centre is an initiative where the mine as an employer makes a difference in people's lives and contributes towards poverty alleviation (InSite, June 2011).

Should mining companies not prioritise skills as a strategic risk, they could face the following challenges: 1) project delays and difficulty meeting contractual obligations, 2) safety: fatigue due to overtime, shortcuts due to workload, gaps in employee skills and abilities, 3) higher operational costs: remuneration and wage pressures, greater use of contract labour, increasing turnover; and 4) reduced productivity: increased overtime and absenteeism, lost time to onboard new recruits (Ernst & Young, 2011).

Statistics show that about 40% of employees in the mining industry have qualifications below Grade 9 (NQF Level 4), with 11% having no formal schooling. This clearly shows a need for Adult Basic Education and Training (ABET) in the mining industry (Chamber of Mines, 2012/2013).

#### **4.4 CHALLENGES FACED BY THE MINING INDUSTRY**

The mining industry is facing serious challenges ranging from weak commodity prices, a squeezed global economic environment, high labour costs, forced retrenchments and power cuts. With mining companies looking for ways to contain costs, restructuring is inevitable. AngloGold Ashanti, the world's third largest gold producer, joined ArcelorMittal and Anglo American Platinum (Amplats) late 2014 in reviewing its staff complement and making plans to trim its workforce (Business Report, January 2015). Anglo American CEO Mark Cutifani has warned that, without change, the South African mining industry would lose another 100 000 jobs (Daily Labour News, 6 December 2017). AngloGold Ashanti also announced the shedding of 2,000 jobs at its South African base due to production costs being higher than the gold price (Daily Labour News, 23 May 2018).

One of the greatest challenges the mining industry is facing is the troubled relationship between mining management and labour, especially in the platinum and gold sectors (Davenport, 2013). The 2014 mining strike in the platinum industry has been the biggest post-apartheid economic catastrophe. The crippling five-month strike – the longest in the country's history – resulted in extensive financial losses to both business and labour and caused untold damage to the economy and the country's reputation. Three major platinum producers lost about R24 billion in revenue as a result of a strike by more than 70,000 miners over a R12,500 monthly salary demand at Anglo American Platinum, Impala Platinum and Lonmin led by the Association of Mineworkers and Construction Union (AMCU). Employees forfeited R10.6 billion in wages due to the strike. These numbers exclude the financial impact on related industries and communities in the area. It will take years to recover from the losses incurred (Daily Labour News, 25 June 2014). The strike also resulted in the largest ever recorded decrease in

platinum output - a 49% drop compared to 2013 (Daily Labour News, 11 July 2014). The platinum industry will never be the same again. Events such as these could result in anxious executives selling off their mining assets. Others will quietly accelerate the modernisation of the mines, replacing labour with machinery. The rest are already thinking about restructuring their operations and retrenching workers in the medium term (Daily Labour News, 25 June 2014). Anglo American announced that it will shed some of its oldest South African platinum mines, leaving 20,000 employees jobless (Daily Labour News, 21 July 2014).

Union rivalry between the National Union of Mineworkers (NUM) and Association of Mineworkers and Construction Union (AMCU), resulted in a war that left many people killed and unleashed a wave of labour unrest. This is mainly due to the crumbling of NUM's monopoly over almost three decades and being displaced at mines affiliated by AMCU. With the move towards mechanisation, the tension between unions can become even worse as mechanisation can undermine the union's collective power. Most of AMCU's members are semi-skilled, earn wages at the bottom of the wage scale and perform tasks that could easily be performed by mechanised equipment (Daily Labour News, 15 October 2014).

A report by the Boston Consulting Group (BCG) (2013) found a significant decline in labour productivity in mining. Findings revealed that only 6 out of 24 companies showed an increase in productivity levels over a 10-year period. BCG suggested a holistic approach towards improving productivity that includes improving the effectiveness of management systems, utilizing physical assets in an efficient manner and managing people according to sound human resource management principles.

For South African mines to become more productive, they will have to mechanise to compensate for the declining mining productivity. To raise the skills levels of those destined to manage mechanised sections in mines, the University of the Witwatersrand Centre for Mechanised Mining Systems (CMMS) offers courses in mechanised mining. Currently 300 people enroll annually for the courses in mechanised mining. The CMMS is sponsored by companies including Anglo American, Anglo American Platinum, African Rainbow Minerals and Impala Platinum (Mining Weekly, 29 October 2014). Although automation may eliminate some jobs, it will also create other jobs that are higher paying (WorldatWork, August 2014). Anglo American Plc, the world's largest platinum producer, plans to move away from labour-intensive underground mining to mechanised open pit output. Anglo American Platinum (Amplats) capitalised its mechanised mines and plan to spend R100 billion on them in the next 10-years to ensure sustainability (Mining Weekly, 21 July 2014).

Another challenge that the mining industry has to deal with is the fluctuation in commodity prices. Iron ore prices dropped by 28% and reached a 5 year low of US\$66.25/dmt in December 2014 with no major increase in prices expected (Kumba Iron Ore Annual Results, 2014). Mechanisation will entail big capital expenditure for mining companies. The drop in commodity prices can result in mining companies not having a vast pool of capital available for mechanisation (Daily Labour News, 15 October 2014). South African mines are amongst the deepest and most labour intensive in the world and therefore exceptionally expensive to operate, resulting in them being very cost sensitive (Davenport, 2013).

An interim report reviewing the mining sector's compliance with the Mining Charter revealed that the majority of companies in South Africa's mining sector have not met their transformation responsibilities in the ten years to 2014. The Charter was adopted in 2004 and was amended in 2010 with a revised scorecard. The Charter required that 26% of the mining sector should belong to previously disadvantaged groups. It also advocated for compliance on other employment, social, community and labour obligations companies must meet to retain mining rights. More needs to be done to address the broader objective of ensuring that mineworkers have decent accommodation, as only 63% of mining rights holders with hostels had converted to either family and/or single units. The target of spending 5% of their total annual payroll on training was only met by 36.8% of companies. With regard to procurement and enterprise development, 42% of companies met the target of procuring capital goods from historically disadvantaged South Africans. About 20% of the mining companies did not provide details about their compliance with the Charter. Government will strengthen the efficacy of the Mining Charter through a review process to accelerate the transformation imperative in the sector (Daily Labour News, 1 April 2015).

The nationalisation debate in South Africa has a negative impact on the mining industry as it creates uncertainty regarding the future of the industry. Foreign investors are cautious and will first review the long term investment prospects before they invest in the country's mining industry. The Minerals and Petroleum Resources Development Act (MPRDA) was promulgated in 2002. This legislation regulating the mining sector is very vague with limited guidance to applicants applying to use mineral rights. The South African government has however committed to stabilise and strengthen the mining industry to benefit all stakeholders (investors, owners, employees, government and the broader society) (Davenport, 2013).

The electricity shortage that the country experienced since 2014 had a negative impact on the mining industry which is by far the largest consumer of electricity in South Africa. The commissioning of the newly built Medupi Power Station is still delayed due to numerous

challenges and labour unrest. Mining companies are encouraged by Eskom to limit production in order to minimise power cuts. The steep increase in the price of electricity is subsequently raising the operating costs of the mines. It becomes very difficult for mining companies to envisage growth or expand its operations while facing such severe power disruptions (Davenport, 2013).

#### **4.5 FUTURE ROLE OF MINING IN SOUTH AFRICA**

According to a report by Deloitte (2015) the mining industry has always been subject to cyclicity. To emerge after a downward cycle, mining companies have to increase mining intensity and implement aggressive cost reduction measures to position themselves for long-term growth. Robust scenario planning by mining companies is necessary to prepare for potential future outcomes and ensure response plans are in place. Innovative thinking is required to think in entirely new ways and adopt technologies that are applied successfully in other industries outside the mining industry.

The view of the acting CEO of the Chamber of Mines, Roger Baxter, is that mining will differ significantly in the future. He states, as cited in the Mining Weekly (29 October 2014) that *“South Africa’s mining industry would continue to evolve over the coming decades, eventually transitioning into a mechanised, modernised and automated industry staffed by a highly skilled, well paid and lithe workforce.”* He predicts an increasing introduction of “technologically sensitive” mining methods as well as a potential doubling of the size of the industry – in terms of gross domestic product (GDP) contribution and sales – by 2030 (Mining Weekly, 29 October 2014).

Deloitte identified six factors in their *“State of Mining in Africa”* report (2015) for the mining industry to succeed: 1) a good mineral deposit; 2) the deposit being located in an economic region with good governance and consistent application of civil and tax law; 3) infrastructure in the form of roads, rails, ports, electricity and communication in order for the mine to function; 4) a competent team with members working safely together; 5) supply chain support; and 6) a social license for the mine to operate in a mutual beneficial operating environment with the community. Taking these factors in consideration, South Africa could be perceived as quite stable, although the current situation with regard to power supply might impact negatively on investment within the mining industry. The current low prices of many commodities can also have a restrictive effect on the future growth of mining in South Africa.

Despite the many challenges facing the South African mining industry, future prospects remain positive as South Africa is still globally regarded as a leading force in mining. The country is ranked amongst the world's top five producers of nine important commodities such as platinum, manganese, vermiculite, vanadium, zirconium, fluorspar, titanium, uranium and nickel (Davenport, 2013).

#### **4.6 SUMMARY**

The mining industry played a significant role in the development of South Africa's history, influencing the political, economic and social framework of the country. One of the longest mining histories in the world is to be found in South Africa due to the rich mineral treasure beneath the surface that brought the country fame and wealth (Davenport, 2013).

The mining industry is struggling for survival after being for a long time the economy-dominating force. South Africa's overall mining production shows a decrease of 6.2% between June 2012 and June 2013 (Mining Weekly, 28 August 2013 as cited in Davenport, 2013). During 2016 the mining industry experienced the largest annual fall of 4% in production since the global recession in 2009. The total mining production stabilized again in 2017 with a 4% increase compared to 2016 (Statistics South Africa, 2018). Strong intervention is required to restore the mining sector that remains the country's largest export earner and also one of the largest employers (Business Day, 1 September 2014).

The South African mining industry experienced a quite unsettling period since 2012. Mining in South Africa is at a crossroad due to labour unrest, power shortages, lower investment rates, collapsing of commodity prices and major mining houses slimming down to core businesses. Mining companies have to produce more with less, hence a drive towards mechanisation of mines. Fewer people will be involved but they will be highly skilled (Mining Weekly, 21 July 2014), hence the drive towards mechanisation that will result in greater efficiencies and output (WorldatWork, August 2014). By researching the relationship between graduate employability and work performance, this study could contribute significantly towards solving the difficult challenges the mining industry is currently experiencing regarding employee skills and performance.

To ensure survival during turbulent times, the focus of the mining industry will be to maintain and increase productivity and remain profitable despite all the challenges. Innovation, change and courage are required to address issues in the mining industry (Deloitte, 2015).

## CHAPTER 5: RESEARCH METHODOLOGY

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This chapter describes the research methodology used in this study. Simple random sampling will be applied in the study with young graduates between the ages of 18 – 30 years who are employed in the mining industry in South Africa forming part of the sample. The empirical investigation carried out in this study will be discussed according to the steps in the research process and the chapter will conclude with a sum

### 5.1 INTRODUCTION

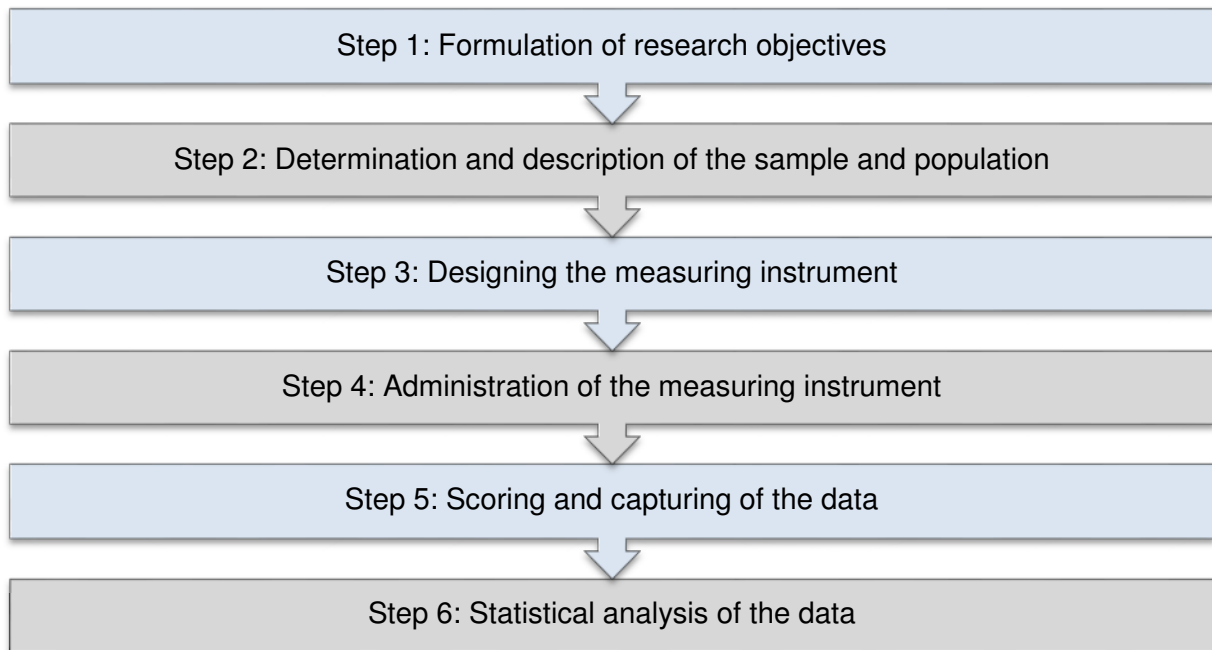
When knowledge is gained by means of observation (direct or indirect), it is called empirical research. Empirical evidence in this study will be analyzed quantitatively focusing on two key concepts associated with empirical research: reliability and validity (Girden & Kabacoff, 2011). Leedy and Ormrod (2015:98) define quantitative research as “... *to identify relationships among two or more variables and then, based on the results, to confirm or modify existing theories or practices.*” During quantitative research a researcher will identify a few variables to study, collect data related to those variables, and then measure the variables collected from a sample of a particular population (Leedy & Ormrod, 2015).

The different statistical strategies used to investigate the empirical research aims of the study will be described. The primary research objective is to determine the relationship between graduate employability and work performance in the mining industry in South Africa. This objective forms the centre of this study from which all the other aims and objectives are derived.

The chapter begins with the formulation of the research objectives followed by an explanation of the sampling strategy. The measuring instrument will be discussed with specific focus on the design and development of the questionnaire. Thereafter the data collection methods are described. The research questions of the study will be stated along with the statistical processing approaches that will be used. Finally, the ethical considerations of the research methodology are provided and a brief summary of the chapter will be given.

The empirical research phase explained in this chapter consisted of numerous steps, as outlined in figure 5.1.

**Figure 5.1: Steps in the research process**



Source: Adapted from Moosa (2016)

## 5.2 FORMULATION OF RESEARCH AIMS

The specific aims of the empirical study are listed below:

**Research aim 1:** To confirm/determine the constructs of graduate employability.

**Research aim 2:** To confirm/determine the constructs of work performance.

**Research aim 3:** To determine the relationship between graduate employability and work performance.

**Research aim 4:** To determine the relationship between biographical characteristics and graduate employability/work performance.

**Research aim 5:** To make recommendations regarding employability and work performance in the mining industry in South Africa and identify issues for future research.

The research additionally endeavors to investigate broad trends on the relationships between demographic variables such as age, gender, ethnic group, marital status, current position, number of years' service in current position, staff level, highest educational level, monthly



gross salary, number of children, age of children, number of elderly taken care of on graduate employability and work performance.

### **5.3 DETERMINATION AND DESCRIPTION OF THE SAMPLE AND POPULATION**

#### **5.3.1 Sampling strategy used**

The population from which the sample was chosen consists of employees within the mining industry in South Africa. The empirical study took place amongst graduate male and female employees between the ages of 18 – 30 years who are employed in the mining industry in South Africa. A graduate within the context of this study is an individual with a formal post-matric qualification (i.e. degree, diploma, certificate, N6). At the time of data collection, the total population constituted of approximately  $N = 1570$  graduate employees employed by mining companies in South Africa.

Researchers would want to determine and describe the nature of how things are. Due to populations being very large, a researcher will select a representative sample of a particular population to make generalisations about the entire population provided the sample is truly representative of the population (Leedy & Ormrod, 2015). A population refers to the total unit or group of individuals under investigation for research purposes and the sample is then extracted from this group (Salkind, 2012). The process of sampling allows one to make an estimation of the entire population based on a section of the population (Salkind, 2012; Thompson, 2012).

According to Steyn, Smit, Du Toit and Strasheim (2003) there are two main categories of sampling – non-probability and probability sampling designs. If the amount of elements is indefinite or cannot be identified individually then a non-probability sampling design should be used (Kumar, 2014). In this case the population was not indefinite and could be identified. The study therefore made use of probability sampling.

Amedeo, Golledge and Stimson (2009) explain that in probability sampling every unit of the target population has an equal and specified possibility of being selected in the sample. This type of sampling also accommodates sampling error (Leedy & Ormrod, 2015; Steyn *et al*, 2003). Affleck (2010) suggests that probability sampling has three conditions – 1) elements are randomly selected, 2) each element has a positive chance of selection; and 3) it is easy to determine the rate at which an element is included in the sample. When the goal of the research is to use statistics to make deductions about the population parameters and

conclusions based on the sample then probability sampling should be used (Amedeo *et al*, 2009).

There are a number of different techniques or designs used in probability sampling such as simple random sampling, cluster sampling or stratified sampling (Kumar, 2014). Random sampling is the best method to generalise from a sample to a population. Bezuidenhout (2011) states that random sampling may fail to produce a truly representative sample as it may be difficult to actually obtain a random sample. This is because it may not be possible to identify all of the members of the larger population from which the sample is to be drawn, or some of those who are selected to be in the sample are likely to decline to take part. Steyn *et al* (2003) contend the probability to draw a completely random sample due to the inherent biasness of humankind. A complete random sample can only be drawn by using some or other objective mechanism.

The type of probability sampling used for this study was simple random sampling. Although simple random sampling is identified as a very basic type of probability sampling, it is also the most commonly used method where each participant has an equal and independent chance of being selected, hence it was determined as suitable for the current study (Affleck, 2010; Kumar, 2014; Salkind, 2012, Steyn *et al*, 2009).

The questionnaire was emailed to all graduate male and female employees between the age of 18 – 30 years with any post-matric qualification employed in the mining industry in South Africa. 350 questionnaires were completed resulting in a response rate of 22.3%. This number was deemed fair for data analysis and to make a valuable contribution to the subject of graduate employability and work performance in the mining industry in South Africa.

### **5.3.2 Representation of the sample**

Information on the population was obtained from the different mining companies (Northern Cape, North West and Gauteng provinces) after ethical clearance was obtained for the research. The representability of the sample was analysed in terms of biographical data such as age, gender, ethnic group, marital status, current position, number of years' service in current position, staff level, highest educational level, monthly gross salary, number of children, age of children, number of elderly taken care of.

The HR department provided a list of all employees that met the criteria of the sample and the IT department provided email addresses for these individuals. A simple random sampling method was used to select participants.

### 5.3.3 Demographic characteristics of the sample

#### Age

The age distribution of the sample is shown in Table 5.1 below.

**Table 5.1: Age distribution of sample**

AGE					
Valid		Frequency	Percent	Valid Percent	Cumulative Percent
	19	3	.9	.9	.9
	20	8	2.3	2.3	3.1
	21	11	3.1	3.1	6.3
	22	24	6.9	6.9	13.1
	23	28	8.0	8.0	21.1
	24	33	9.4	9.4	30.6
	25	38	10.9	10.9	41.4
	26	37	10.6	10.6	52.0
	27	42	12.0	12.0	64.0
	28	50	14.3	14.3	78.3
	29	44	12.6	12.6	90.0
	30	32	9.1	9.1	100.0
	<b>Total</b>	<b>350</b>	<b>100.0</b>	<b>100.0</b>	

The largest number of respondents fall within the age group 27 – 29 years (39%). This is not surprising since most mining companies are aiming to employ a professional workforce with the necessary experience. The younger in age, the lower the number of respondents being part of the study. This could be as a result of graduates still looking for employment taking into account that unemployment in South Africa was 27.7% in the third quarter of 2017 (Daily Labour News, 6 November 2017). The policy and regulatory uncertainty about the new Mining Charter driven by the country's Department of Mineral Resources could also hinder mining companies to employ so many young people (Daily Labour News, 8 September 2017). Another factor that could attribute to the low number of young graduates in the workforce is that young graduates may not as yet have obtained the necessary skills and work experience to be appointed as permanent employees.

#### Ethnic group

The ethnic group distribution of the sample is shown in Table 5.2 and Figure 5.2 below.

**Table 5.2: Ethnic group distribution of sample**

ETHNIC GROUP					
Valid		Frequency	Percent	Valid Percent	Cumulative Percent
	Black	221	63.1	63.1	63.1
	White	69	19.7	19.7	82.9
	Coloured	39	11.1	11.1	94.0
	Indian	21	6.0	6.0	100.0
	<b>Total</b>	<b>350</b>	<b>100.0</b>	<b>100.0</b>	

**Figure 5.2: Ethnic group distribution**

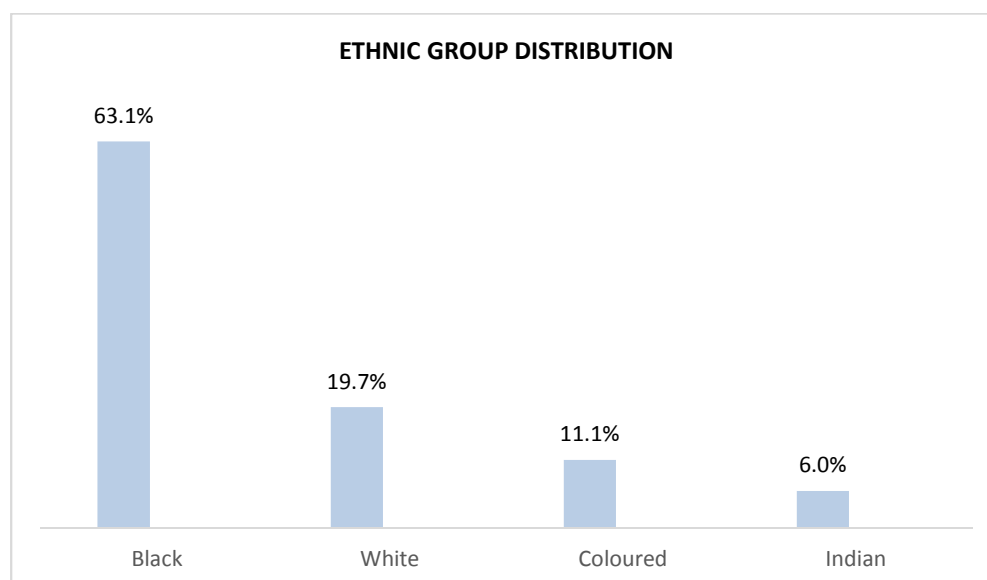


Figure 5.2 shows that the majority of respondents were Black. This could be attributed to transformation initiatives at the mining companies towards appointing more Black employees in respect of reaching Employment Equity targets, meeting Broad Based Black Economic Empowerment requirements as well as adhering to the proposed new Mining Charter. The Mining Charter states that mining companies will have to increase the appointment of designated groups to top-level positions (Daily Maverick, 8 August 2017).

The number of Coloureds in the sample is relatively low taking into consideration that data was collected from mining companies in the Northern Cape where the Employee Active Population workforce distribution for Coloured people is the second highest for South Africa

(38.6% in the Northern Cape followed by 48.7% for the Western Cape) (Watkins, CEE Report, 2017).

The number of Indians in the sample was relatively low but representative of the population.

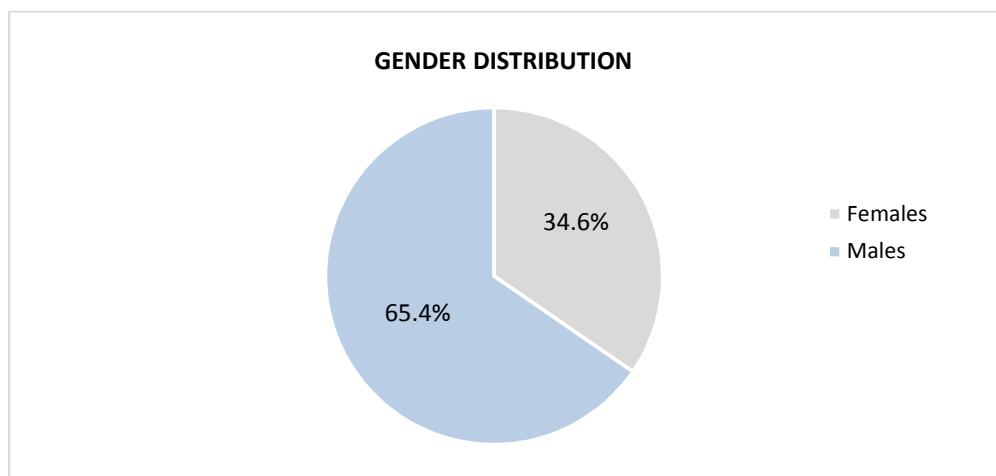
### Gender

The gender distribution of the sample is shown in Table 5.3 and Figure 5.3 below.

**Table 5.3: Gender distribution of sample**

GENDER					
Valid		Frequency	Percent	Valid Percent	Cumulative Percent
	Female	121	34.6	34.6	34.6
	Male	229	65.4	65.4	100.0
	<b>Total</b>	<b>350</b>	<b>100.0</b>	<b>100.0</b>	

**Figure 5.3: Gender distribution**



The gender distribution of the sample shows a higher representation for males (65% males compared to only 35% females). This is understandable as the mining industry is mostly a male-dominant industry.

### Marital status

The marital status distribution of the sample is shown in Table 5.4 below.

**Table 5.4: Marital status distribution of sample**

MARITAL STATUS					
Valid		Frequency	Percent	Valid Percent	Cumulative Percent
	Single (including divorced, widowed)	245	70.0	70.0	70.0
	Married (incl living together)	105	30.0	30.0	100.0
	<b>Total</b>	<b>350</b>	<b>100.0</b>	<b>100.0</b>	

This question was asked to determine profiles of graduate employees and their unique needs. For instance, it could be said that a graduate employee has significantly different needs to an older employee who is married and financially stable. The question provided two alternatives – 1) single (including divorced, widowed) and 2) married (including living together). This question provided an underlying view into the support system and responsibilities of the respondents. The results showed that 70.0% of the respondents were single, with only 30.0% being married. The reason could be that graduate employees are still relatively young and busy building a career before getting married to settle with a family.

### **Number of children**

This question was asked to draw attention to the number of graduate employees with childcare responsibilities. Up to the age of 18 when children are legally considered adults, there exists a certain degree of obligation and concern on the part of the parent. For this reason, the researcher wanted to ascertain the actual number of graduate employees who have children and the number of children under each employee's care. The results are indicated in Table 5.5 and Figure 5.4.

The number of graduate employees who do not have children below the age of 18 is relatively high (42.0%). A total of 34.0% of the sample only have 1 child. The number of graduate employees with 2 or more children is at a low percentage of 24.0% and is understandable in terms of general lifestyle choices of the 21<sup>st</sup> century where the younger generation first pursue a career and then start with a family at a later stage.

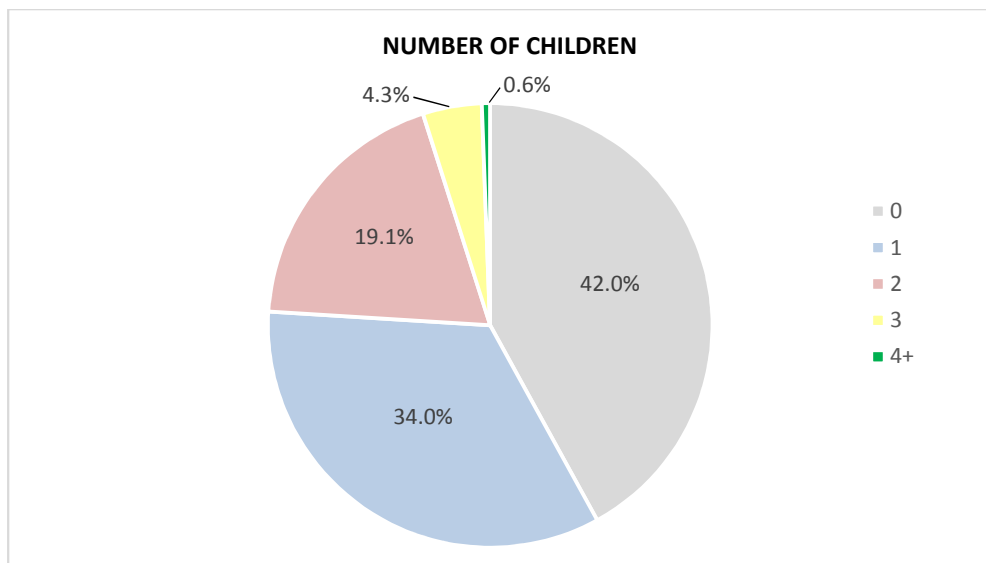
These findings show that more than half of the sample have childcare responsibilities (58.0%) with the number of children varying between 1 and 4+.

The study shows that the number of children in pre- and primary school represents a total of 49.5% of the sample. This is an indication that the sample consists of young people with young children. Only 8.6% of children is in secondary school or a student.

**Table 5.5: Number of Children (<18)**

NUMBER OF CHILDREN BELOW 18					
Valid		Frequency	Percent	Valid Percent	Cumulative Percent
	0	147	42.0	42.0	42.0
	1	119	34.0	34.0	76.0
	2	67	19.1	19.1	95.1
	3	15	4.3	4.3	99.4
	4+	2	.6	.6	100.0
	<b>Total</b>	<b>350</b>	<b>100.0</b>	<b>100.0</b>	

**Figure 5.4: Number of children (<18)**



### Number of elderly taken care of

The number of elderly taken care of by graduate employees in the sample are shown below in Table 5.6. The purpose of the question was to determine to what extent graduate employees were responsible for taking care of elderly people in addition to taking care of children.

**Table 5.6: Number of elderly taken care of**

<b>NUMBER OF ELDERLY TAKEN CARE OF</b>					
<b>Valid</b>		<b>Frequency</b>	<b>Percent</b>	<b>Valid Percent</b>	<b>Cumulative Percent</b>
	0	142	40.6	40.6	40.6
	1	78	22.3	22.3	62.9
	2	94	26.9	26.9	89.7
	3	20	5.7	5.7	95.4
	4+	16	4.6	4.6	100.0
	<b>Total</b>	<b>350</b>	<b>100.0</b>	<b>100.0</b>	

The respondents were asked to specify the number of elderly they were taking care of. This question adds another dimension to the profile of the graduate employees in the sample. By recognising that some graduate employees are responsible to look after elderly people, it provides a depiction of their duties and roles. A staggering 59.5% of the respondents indicated that they are looking after elderly people. This is understandable when taking the 2011 census findings into consideration indicating that 50.6% of elderly persons live in extended households (Statistics South Africa, 2014). This finding portrays the need for graduate employees to keep their jobs as their earnings are contributing to provide for an elderly person as well.

### **Current position**

In the biographical section of the questionnaire, employees had to provide their current position (job title). The extent and variety of positions did not allow for meaningful grouping to take place and therefore no further analysis was done on this dimension.

### **Number of years' service in current position and at current organisation**

This study focused on graduate employees therefore the number of years that an employee has worked in a specific position and in the organisation was important. The results are shown in Figure 5.5.



**Figure 5.5: Years of service**

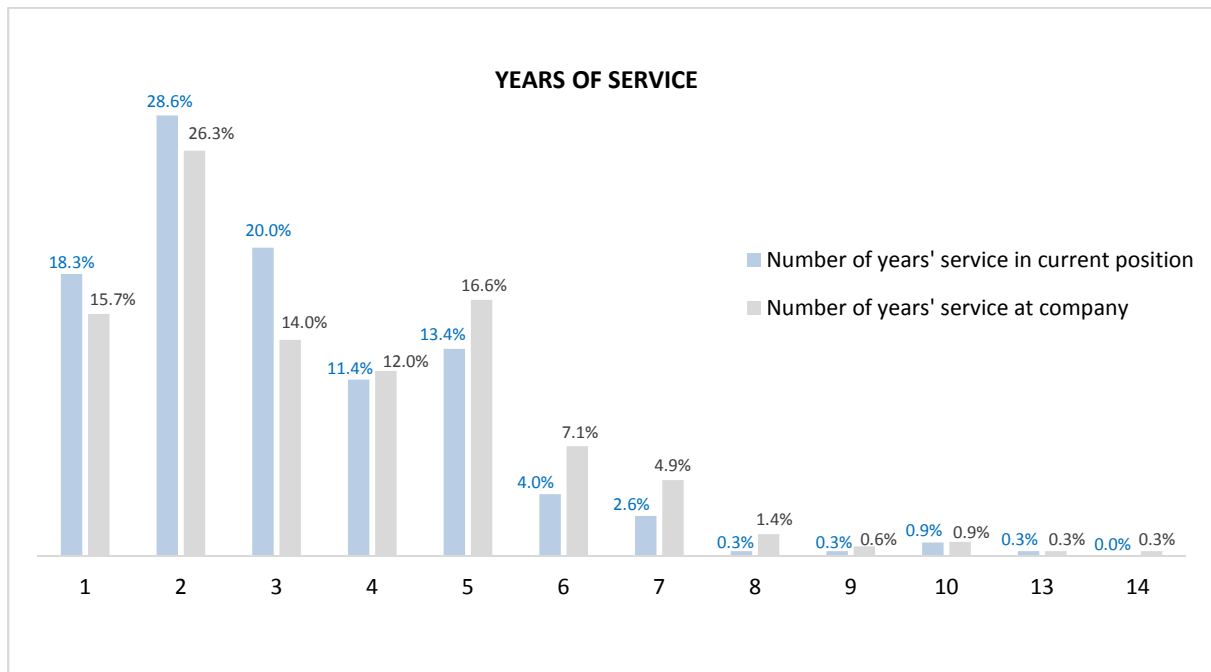


Figure 5.5 indicates that the majority of the respondents with 5 years' and less service have longer years of service in their current position than years of service with the company. This could be as a result of the respondent being appointed in a temporary position initially and only appointed permanently at a later stage. Some companies only consider an employee's years of service from when they were appointed permanently by the company.

A total of 92% of respondents in the study were 5 years and less in their current position. This finding talks to the millennial generation of which graduates form part of. A study conducted by PwC (2011) shows that more than 25% of millennials expect to have six or more employers in their professional life. Of those questioned during the study, only 18% planned to stay in their current role for the long term.

The number of respondents with more than 5 years' service in their current position and service at the company is significantly low (8% and 15% respectively).

A total of 28.6% of the respondents are in their current position for 2 years. They vary from ages 19 to 30 years.

## Staff level

The respondents were asked to provide their staff category by choosing from senior management, middle management, supervisory level, or administrative level. The results are shown in Table 5.7 and Figure 5.6.

**Table 5.7: Staff level**

STAFF LEVEL					
Valid		Frequency	Percent	Valid Percent	Cumulative Percent
	Administrative staff	103	29.4	29.4	29.4
	Entry Level	21	6.0	6.0	35.4
	Middle management	78	22.3	22.3	57.7
	Senior management	30	8.6	8.6	66.3
	Supervisory level	118	33.7	33.7	100.0
	<b>Total</b>	<b>350</b>	<b>100.0</b>	<b>100.0</b>	

**Figure 5.6: Staff level**

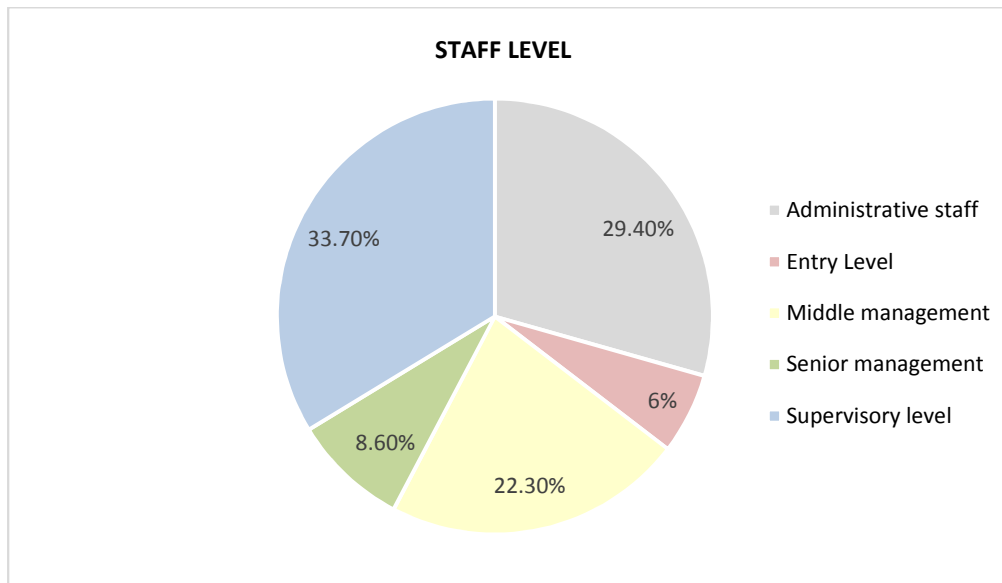


Figure 5.6 shows that the majority of respondents occupied positions on an administrative level (29.4%) and supervisory level (33.7%). Only 8.6% of the respondents were from senior management. The small number of respondents that were from senior management could be as a result of the young age of the respondents and the fact that they are still busy building their career and progressing in seniority within the company.

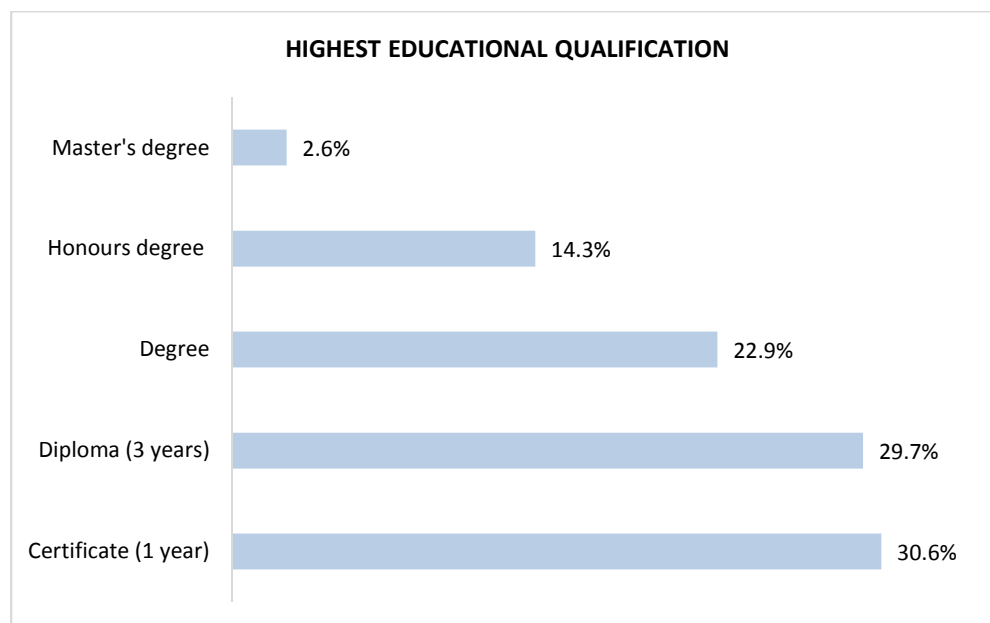
## Highest Educational Qualification

All respondents indicated their qualification level which are presented in table 5.8 and Figure 5.7 below.

**Table 5.8: Highest educational qualification**

HIGHEST EDUCATIONAL QUALIFICATION					
Valid		Frequency	Percent	Valid Percent	Cumulative Percent
	Certificate (1 year)	107	30.6	30.6	30.6
	Diploma (3 years)	104	29.7	29.7	60.3
	Degree	80	22.9	22.9	83.1
	Honours degree	50	14.3	14.3	97.4
	Master's degree	9	2.6	2.6	100.0
	<b>Total</b>	<b>350</b>	<b>100.0</b>	<b>100.0</b>	

**Figure 5.7: Highest educational qualification**



As shown in Figure 5.7, the majority of respondents hold a certificate or diploma qualification (60.3%). A small number of respondents (14.3%) hold an Honours degree and only 2.6% are qualified on Master's level. The sample consists of young graduates, most of them still busy building their career with the prospect to embark on post-graduate studies at a later stage.

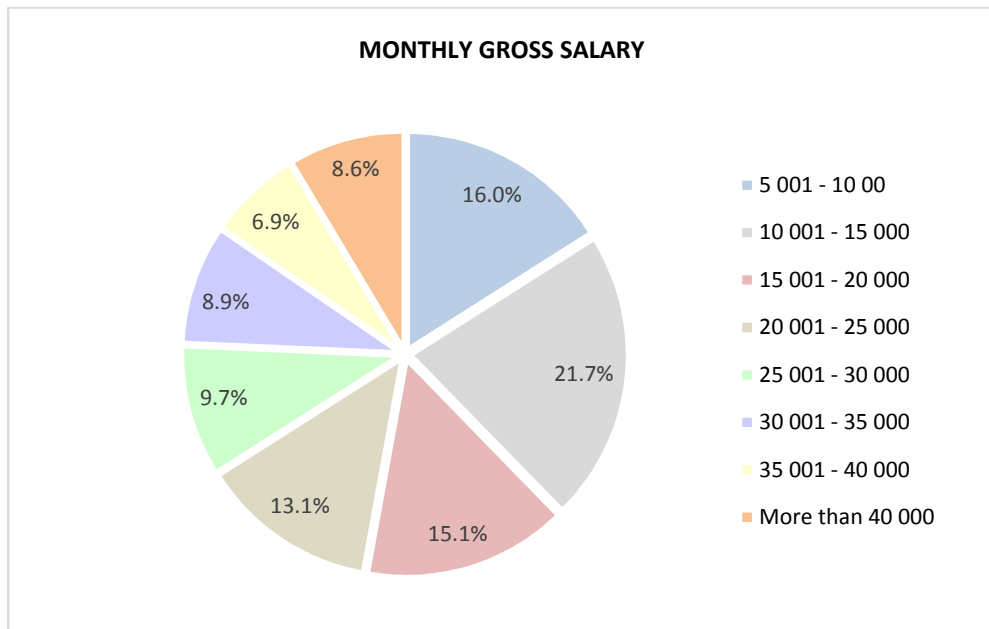
## Monthly gross salary

The different categories of salaries are depicted in Table 5.9 and Figure 5.8.

**Table 5.9: Monthly gross salary**

MONTHLY GROSS SALARY					
Valid		Frequency	Percent	Valid Percent	Cumulative Percent
	5 001 - 10 000	56	16.0	16.0	16.0
	10 001 - 15 000	76	21.7	21.7	37.7
	15 001 - 20 000	53	15.1	15.1	52.9
	20 001 - 25 000	46	13.1	13.1	66.0
	25 001 - 30 000	34	9.7	9.7	75.7
	30 001 - 35 000	31	8.9	8.9	84.6
	35 001 - 40 000	24	6.9	6.9	91.4
	More than 40 000	30	8.6	8.6	100.0
	<b>Total</b>	<b>350</b>	<b>100.0</b>	<b>100.0</b>	

**Figure 5.8: Monthly gross salary**

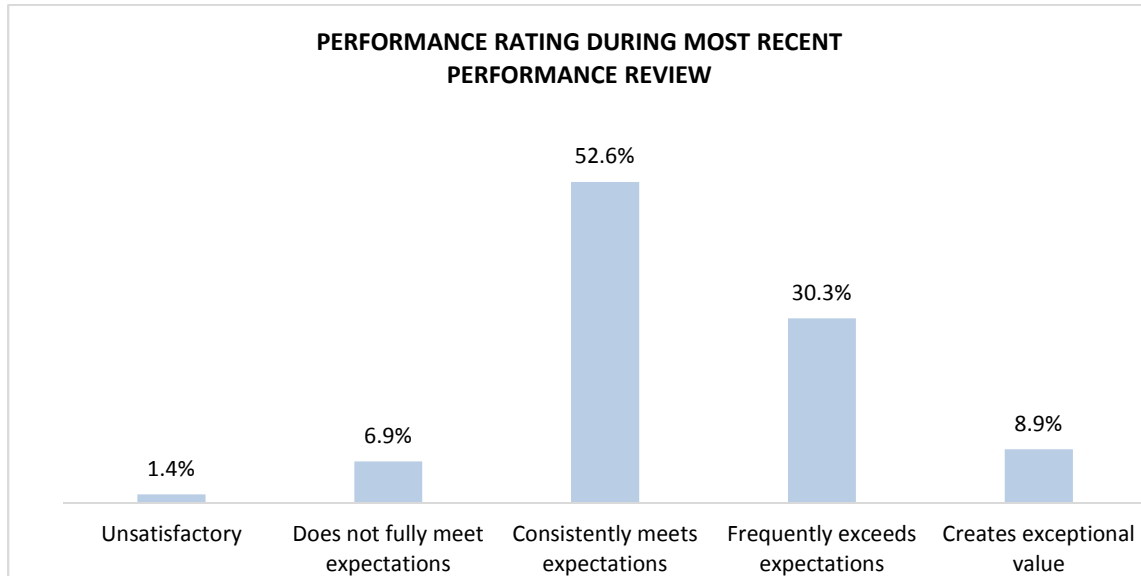


According to Table 5.9, the largest number of respondents (21.7%) earn a gross monthly salary of between R10 001 - R15 000. Only 6.9% of the respondents earn between R35 001 - R40 000 per month.

## Performance rating during most recent performance review

The aim of this study was to determine to what extent work performance could be linked to employability and therefore respondents were asked to provide their performance rating score during the most recent performance review. The most recent performance rating is shown below in Figure 5.9.

**Figure 5.9: Performance rating during most recent performance review**



The performance ratings in Figure 5.9 show a bell curve with a normal performance distribution with 52.6% of respondents “consistently meeting expectations”. Only 8.3% of respondents are not performing on required performance levels i.e. does not fully meet expectations or performing unsatisfactory. This could be due to the graduate lacking the necessary employability attributes to adapt to the new world of work. The majority of respondents (91.8%) are performing consistently, exceed expectations or display exceptional performance.

## 5.4 DESIGN OF THE MEASURING INSTRUMENT

### 5.4.1 Overall research design

The research design guides the decision of the type of measuring instrument to be used. A quantitative research design was chosen for this study. The empirical study took on a cross-sectional descriptive, explanatory and exploratory research design in order to determine the relationship between graduate employability and work performance in the mining industry in South Africa. Cross-sectional studies provide a general viewpoint of the research topic at the time when the study is conducted by surveying a selection of respondents with regards to a

list of variables (Kumar, 2014; Welman *et al*, 2005). It is a simple survey design as a sample of respondents are only approached once with an associated low cost in gathering the data (Breakwell *et al*, 1995). Descriptive studies do not aim to draw conclusions on causality but instead attempt to explore a specific situation at a specific point in time by selecting a specific sample (Leedy & Ormrod, 2015; Welman *et al*, 2005). Explanatory research on the other hand does aim to determine a causal relationship (Terre Blanche, Durrhein, & Painter, 2006). Exploratory research should thus be used to investigate the research questions without providing binding or conclusive solutions to existing problems (Terre Blanche *et al*, 2006).

#### **5.4.2 Type of measuring instrument chosen: Web-based Questionnaire**

A questionnaire is a general term that includes all techniques of data collection in which each individual is requested to answer the same set of questions in a predetermined order (de Vaus, in Saunders, Lewis & Thornhill, 2000). It is a document that contains questions and other types of items intended to solicit data suitable for analysis (Babbie, 2005).

The type of data required will largely determine the most appropriate method to be used. In line with the quantitative approach, a survey research method was chosen. When investigating a potential relationship between two or more variables, then a survey research method could be applied (Welman *et al*, 2005). The measuring instrument is used as a means of understanding data and relating data to a specific qualitative criterion (Leedy & Ormrod, 2015; Welman *et al*, 2005). The use of a self-administered electronic questionnaire (web-based survey) was used as the measuring instrument for this study. A web-based survey refers to questionnaires which are uploaded on a website, the sample is then sent an invitation to participate in the study via email with a link directing them to the webpage where the survey can be accessed and completed (Feinberg, Kinner & Taylor, 2013).

According to Salkind (2012), the advantages of using questionnaires is firstly the fact that it is self-administered and requires a short time to complete the survey and secondly, when using email to send surveys, researchers can reach respondents from a broad geographical area. Web-based surveys are gaining popularity because they are time and cost-efficient with no need for assistants, and respondents are more inclined to provide honest answers as their anonymity is practically secured. However, Salkind (2012) also warns that one of the major disadvantages of using questionnaires is that the response-rate is much lower than other methods as people must make some effort to complete and return the questionnaire (Salkind, 2012). Questionnaires were used in this study due to the cost-effective nature and for the ease of administration in reaching a large sample.

Aldridge and Levine (2001) however warn against the following limitations when making use of electronic surveys:

- respondents may have fears concerning anonymity and therefore might not be comfortable regarding the security of data sent over the internet and its storage on a remote computer or server;
- there is a sampling bias towards individuals that are young, well-educated and versed in the use of technology and;
- respondents need to be familiar with and have access to a computer that has the required software.

Some of the above limitations were addressed in the current research as the sample comprised of graduate employees with a post-matric qualification, thus the entire sample having a given level of education and having access to computers and the internet.

#### **5.4.3 Development and design of the questionnaire**

For the purpose of this research two questionnaires were combined into one questionnaire; the Graduate Employability Measure (GEM) developed by Mareli Bezuidenhout and a self-developed questionnaire on performance management. The Graduate Employability Measure was specifically designed to measure the underlying construct of employability, and specifically graduate employability. After careful review of the literature on the topic of work performance and performance management, it was found that a suitable questionnaire which would address the aims of this study did not exist. Therefore, a questionnaire on work performance was developed by the researcher based on the literature reviewed.

The final questionnaire was used to measure the relationship between graduate employability and work performance within the South African context. More specifically the aim was to investigate the relationship between graduate employability and work performance in the mining industry in South Africa. The employability of employees in the mining industry in South Africa was measured by the GEM measurement tool. The content of the work performance questionnaire was based on an exhaustive study of the literature which included research articles and subject-specific books on the topics of the new world of work, graduate employability and performance management.

## **Scaling of the questions**

This study made use of a structured questionnaire. A structured questionnaire provides alternatives to each question, and the respondent simply needs to select and mark the applicable answer.

There are a number of different types of tests utilized in research. One of the most common is known as 'attitude tests' or 'scales' which attempt to measure people's feelings regarding a person, event or object (Salkind, 2012). This is different to achievement tests which are used generally in society to assess individual's competence in a specific subject.

Before the actual items could be developed, the researcher first decided on the type of rating scale to be used. According to Salkind (2012) there are two methods used to create two different types of scales, Likert and Thurstone. The method used in this study was the Likert scale (developed by Likert in 1932) due to its extensive application and ease of development. For each statement provided, respondents had to indicate the degree to which they agreed or disagreed with its content on a precise scale (Hair, Celsi, Money, Samouel, & Page, 2015; Welman *et al*, 2005). When developing a rating scale, a verbal label should be attached to each response option so that the meaning of the rating for the respondents is clear. In order to reduce the effect of central tendency, the researcher specifically chose to use a 4-point Likert type scale (even-numbered) with verbal labels assigned to each score as shown below:

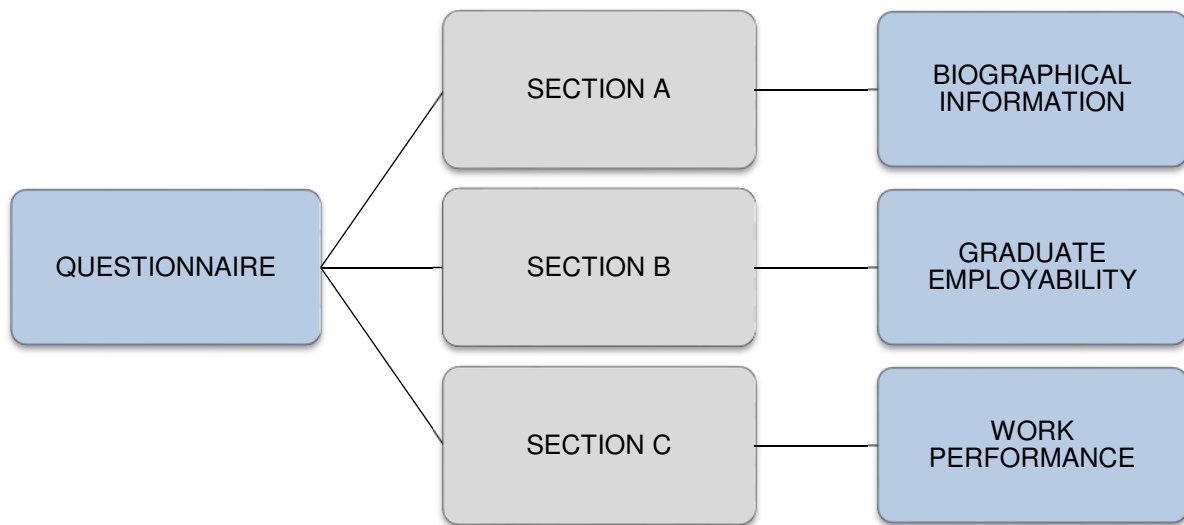
- 1 = Never true
- 2 = Occasionally true
- 3 = Often true
- 4 = Always true

## **Layout of the questionnaire**

When creating the questionnaire items, the researcher consulted various guidelines to help prepare clear, well-written items (Leedy & Ormrod, 2015). Items were prepared to specifically address the research aims of the study. The questionnaire was divided into three sections with different categories as shown in Figure 5.10.



**Figure 5.10: Layout of questionnaire**



➤ **Biographical Details:**

The biographical details of the respondents included the following elements: age, gender, ethnic group, marital status, current position, number of years' service in current position, staff level, highest educational level, monthly gross salary, number of children, age of children, number of elderly taken care of and performance rating during most recent performance reviews.

➤ **Graduate Employability:**

The graduate employability section constituted of 56 statements that represent the GEM instrument as developed by Mareli Bezuidenhout in 2011. This section included statements about individual attributes linked to employability dimensions such as career self-management drive, cultural competence and personal dispositions.

➤ **Work Performance:**

The section on work performance comprise of 33 statements that relate to the role of the supervisor, the role of the employee, recognition, organisational support and the value of performance management.

#### **5.4.4 Reliability and validity of the measuring instrument**

In any study it is important to report the extent to which instruments used in the study have valid and reliable scores and whether the research design is valid.

Reliability refers to the probability that a particular measurement procedure will generate the same results if applied repeatedly to the same object (Babbie & Mouton, 2001). It is very

important to determine a test score's reliability before establishing its validity (Struwig & Stead, 2001), since reliability is a necessary but not sufficient condition of validity (Salkind, 2006). In other words, the scores on a measure can be reliable but invalid, but the scores on a measure cannot be valid without being reliable first.

The reliability of the questionnaire was ascertained by the Cronbach's alpha coefficients (developed by Cronbach in 1951) which are reported on in chapter 6. The Cronbach's alpha is a means of measuring how consistently each item assesses the same underlying construct (Girden & Kabacoff, 2011; Salkind, 2012). According to Pallant (2005) reliability coefficient of 0.70 or more is generally considered sufficient.

Babbie and Mouton (2001) state that validity refers to the degree to which an empirical measure adequately reflects the real meaning of the concept under investigation. In other words, does the instrument truthfully measures what it is supposed to measure within the context of its application. Validity in this study was ensured in terms of the following procedures:

**Content validity** refers to "... the extent to which the items reflect an adequate sampling of the characteristics" (Girden & Kabacoff, 2011:8). The construct to be tested should thus be assessed to determine fairly representation of the items.

**Construct validity** involves the extent to which the test measures the characteristics it intends to measure (Girden & Kabacoff, 2011). The process of establishing construct validity begins by understanding the meaning of the construct and hypothesising its relationship to other variables or constructs (Bezuidenhout, 2011). An instrument portraying the construct is consequently developed and if the test's score is determined to be reliable, its association with other tests or variables is established (Struwig & Stead, 2001).

Content, construct and factorial validity of the questionnaire was established by the results of the Exploratory Factor Analysis, as shown in chapter 6. Exploratory factor analysis is used to establish which variables are correlated with or independent from one another when it has not been decided a priori how many factors are present (Struwig & Stead, 2001). One of the purposes of conducting the exploratory factor analysis (EFA) was to assess the latent construct validity of the questionnaire. Leedy and Ormrod (2015:107) define latent constructs as variables that cannot be directly observed and can only be "measured indirectly through their effects on another, observable entity". This was accomplished by detecting the underlying latent variables present in the data and identifying the underlying factor structure (Hair, Black,

Babin & Anderson, 2010). According to Hayashi and Yuan (2010) an EFA uses a lesser number of factors to explain a larger amount of observed variables. By determining the validity of the factors, factorial validity which is a form of construct validity is established (Gebotys, 2010; Sekaran & Bougie, 2010). When data is submitted for factor analysis, factorial validity can be established by validating if the theorized dimensions materialize (Gebotys, 2010; Sekaran & Bougie, 2010).

In light of the purpose of this study in which the aim was not to make individual predictions based on the questionnaire, but rather to investigate broad trends and certain relations between variables, the instrument was considered to be psychometrically acceptable for the purpose of the study.

## **5.5 ADMINISTRATION OF THE MEASURING INSTRUMENT**

Permission to conduct the study and ethical clearance was obtained prior to commencing with the collection of data. The email addresses of the sample were drawn from the list provided to the researcher from the IT Help Desk Technician at the different mining companies after ethical clearance was granted for the study. The members of the sample were sent emails inviting them to participate in the research study with a link to the actual survey provided in the email. Once respondents chose to click on the link to the survey they had accepted to participate in the study. They were then directed to the online survey platform, SurveyMonkey where a welcome message was displayed and instructions on how to proceed. The instructions for each section were repeated at the beginning of each section.

The instrument could be administered to individuals and groups if necessary. The questionnaire is self-explanatory and therefore no supervision is required. The survey should not take more than 30 minutes to complete but a time limit was not enforced. The online platform, SurveyMonkey automatically captured the responses of each completed survey.

The data administration and collection procedure that was followed are shown in table 5.10. The data was gathered over a period of one month. Once a satisfactory number of completed surveys was received, the survey was closed in order for data analysis to take place. None of the participants involved in the research process were harmed in any way.

**Table 5.10: Data collection**

<b>Steps</b>	<b>Details</b>
<b>Step 1: Ethical Considerations</b>	Permission for the research was obtained from the institutional research ethics committee of the institution. A certificate awarding ethical clearance was received and recorded. The researcher undertook to protect the confidentiality and anonymity of all research participants.
<b>Step 2: Uploading questionnaire onto the online platform</b>	The questionnaire was converted from a paper-based questionnaire to an online web-based survey and uploaded onto SurveyMonkey. The final survey included a biographical questionnaire, the Graduate Employability Measure and questionnaire on work performance. Codes were assigned to questionnaire items which would greatly assist when data analysis were to take place. Instructions were provided at the beginning of each section of the survey. The settings were arranged so that respondents could only answer the full questionnaire once.
<b>Step 3: Invitation to participate sent out to sample</b>	A cover letter (in the form of an email) with all the necessary information that participants would require such as the aim of the study, potential benefits, voluntary participation and withdrawal was provided. The researcher's contact details were provided for further enquiries. A welcome message was also prepared for the online platform. Participants were informed that they were providing voluntary consent to participate in the study by clicking the "I agree" button before continuing to participate in the survey. One reminder email was sent out two weeks after the initial email.
<b>Step 4: Waiting period</b>	The researcher waits for a sufficient response rate before closing the survey.

## **5.6 SCORING AND CAPTURING OF THE DATA**

All completed responses are automatically received and captured on the researcher's SurveyMonkey profile. The responses were arranged according to the codes that were set previously.

Once a sufficient number of responses were captured, the survey was closed. The data set was downloaded onto a Microsoft Excel spreadsheet to be used for statistical analysis using

the Statistical Package for Social Sciences (SPSS). The research data obtained from the study was entered into the program in order to generate the necessary tests required for further analysis.

## 5.7 STATISTICAL ANALYSIS OF THE DATA

The study made use of quantitative data analysis. The essence of a quantitative study is that observations are observed and the phenomena that those observations reflect is then analysed and described by means of statistics in a numerical way (Babbie, 2005; Punch, 2014). The researcher must have a firm understanding of statistical tools and processes. Therefore, a brief description of each of the statistical processes used in this study is provided in this section.

During the process of data analysis, data is usually organised, described and tested. Part of organising the data includes examining the data, checking for accuracy, entering the data on the processor, transforming the data, and developing and documenting a database structure that integrates the different measures. For the purpose of this research, a statistician was employed to perform this step in the research process. By describing the data, the essential characteristics of the data are shown. The concluding step of data analysis is the investigation of the research aims. This step allows the researcher to analyse the different hypothetical theories and determine possible relationships between constructs. Conclusions can then be drawn which can be used to provide recommendations and serve as a basis for further research (Moosa, 2016).

Table 5.11 illustrates the research objectives that were formulated for the research study along with the statistical procedures which were used to investigate each objective.

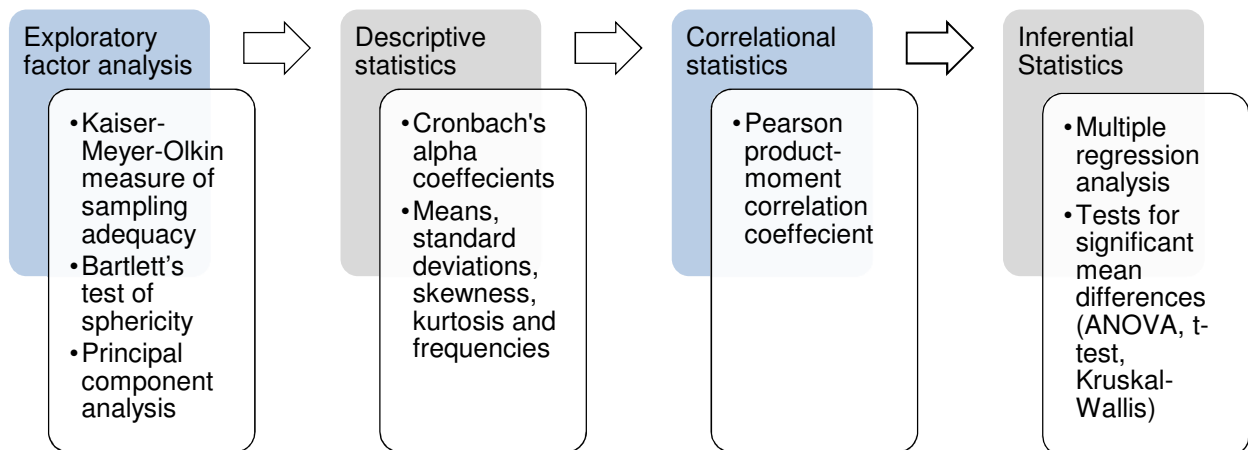
**Table 5.11: Research Aims and Statistical Procedures Used**

Empirical Research Aim	Statistical Procedure
Research aim 1: To determine the factors that constitutes graduate employability.	Exploratory factor analysis
Research aim 2: To determine the factors that constitutes work performance.	Exploratory factor analysis

Empirical Research Aim	Statistical Procedure
Research aim 3: To determine the relationship between graduate employability and work performance.	Correlational statistics
Research aim 4: To determine the relationship between biographical information and graduate employability/work performance.	Inferential statistics
Research aim 5: To make recommendations regarding graduate employability and work performance in the mining industry in South Africa and identify issues for future research based on the empirical findings of the research.	

In the present study, data was analysed by means of an exploratory factor analysis, descriptive, correlational and inferential statistics. Figure 5.1 indicates the different steps undertaken in the empirical research process and the statistical processes performed.

**Figure 5.1: Statistical Processes**



Source: Adapted from Moosa (2016)

### 5.7.1 Exploratory Factor Analysis

Factor analysis is a conventional multivariate analysis technique that is used to classify underlying variables or constructs from a set of observed variables in (Lamb, Wolfenbarger, Money, Samouel & Page, 2015). Smaller clusters of highly interrelated variables that reflect a

common theme are identified to study the correlation amongst these variables (Leedy & Ormrod, 2015). During factor analysis correlations between variables are studied and strong relationships indicate similar factors within the data (Salkind, 2012).

Confirmatory and exploratory factor analyses are the two types of factor analysis that could be applied. In this study, exploratory factor analysis (EFA) was used to investigate the fundamental factors underlying graduate employability and work performance. When exploratory factor analysis is used the underlying constructs are determined by reducing a large number of variables into a more convenient size while retaining as much of the original data (Lamb *et al*, 2015). Two different types of models could be used for EFA, principal component or common factor analysis. The present study made use of principal component analysis whereby the main factors are identified by reducing the original set of variables to a smaller set of variables (Girden & Kabacoff, 2011).

Prior to using factor analysis, the suitability of the data for factor analysis should be assessed. The KMO and Bartlett's Test which includes the Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy (Kaiser, 1970, 1974) and Bartlett's Test of Sphericity (Bartlett, 1954) were used.

The Kaiser-Meyer-Olkin measure of sampling adequacy, which is the ratio of the squared correlation between variables to the squared partial correlation between variables, determines whether the sample size is sufficient (Kaiser, 1974). The range of the KMO index is 0 to 1.0, however a minimum value of .60 is recommended in order to render the data suitable for factor analysis (Coleman, 2010; Tabachnick & Fidell, 2007).

Bartlett's test of sphericity tests the null hypothesis that the original correlation matrix is an identity matrix and should therefore be significant ( $p < 0.05$ ) to indicate that there is some relationship between the variables.

For the purpose of factor extraction for this study, the Kaiser criterion was used. The Kaiser criterion stipulates that factors with eigenvalues greater than one should be retained since this represents a significant amount of variance and stability (Feinberg *et al*, 2013; Field, 2013; Pallant, 2011; Girden & Kabacoff, 2011). The eigenvalue measures the variance in all the variables which is accounted for by a specific factor. Once the number of factors have been identified, the amount of variance in each variable that could be explained by common underlying factors is described by communalities (Salkind, 2012). The requirement is that communalities should be reasonably large. The principal component factor analysis generates

estimates for factor loadings of each of the factors. The factor loadings indicate the connection between the original variables and the resulting factors (Feinberg *et al*, 2013). A variable could be used to explain a factor if the factor loading is high, factor loadings range from -1 to 1 (Feinberg *et al*, 2013).

The data was analysed in a factor pattern matrix which consisted of regression coefficients (Yang, 2010). The theoretical review of the factors was also considered to ensure the alignment of factors within each category and to explain the proportion of variance (Yang, 2010). The factor-loading threshold for inclusion of an item in a factor was set at  $\geq .30$  for this study. According to Yang (2010), this threshold or cut-off value is randomly selected and depends on the field of study. However Field (2005) states that researchers typically consider a loading with an absolute value of greater than .30 as important. Theoretical expectations and the contents of factors and items were considered when decisions, either to include or omit items were not clear.

The results of the exploratory factor analysis are discussed in chapter 6.

## **5.7.2 Descriptive Statistics**

Descriptive statistics provide statistical summaries of data in order to describe the basic features of a large amount of data to provide a logical and straightforward picture. (Struwig & Stead, 2001). There are three factors about a data set that a researcher needs to determine: i) the extent to which variables relate to each other, ii) the amount of variability and iii) points of central tendency (Leedy & Ormrod, 2015). In this study the descriptive statistics that were applied included Cronbach's alpha coefficients, frequency data, means, standard deviations, skewness and kurtosis.

### **Cronbach's alpha coefficients**

Correlation coefficients such as the Cronbach's alpha is used to measure the relationships between variables (Nisber, Elder & Milner, 2009). The reliability of the questionnaire was assessed by analysing the Cronbach's alpha coefficients (Field, 2013; Pallant, 2011) of each factor identified in the factor analysis. The most frequently used estimate of internal consistency is Cronbach's alpha coefficient and is considered as the most accurate (Field, 2013). According to Pallant (2011) the average correlation between every item of the scale is provided by the Cronbach's alpha statistic which ranges from 0 to 1, the higher the value the greater the reliability. The Cronbach alpha coefficient of a scale should ideally be above 0.7.



Different researchers recommend different minimum values for a scale to be considered reliable. The use of a minimum Cronbach's alpha value of .70 is recommended by Nunnally and Bernstein (1994), while Kline (1999) suggests that when investigating psychological constructs even values below .70 could be accepted due to the vast range of constructs being measured. Hensley (1999) contends that a cut-off of 0.60 is supported by research as satisfactory for new scale development attempts. It is important to consider the number of items on the scale, as a lower number of items could cause lower Cronbach's alpha coefficients (Pallant, 2011).

Since this study is highly exploratory in nature, the critical value of the Cronbach's alpha coefficient was set at .70. Where factors fell below this value, such factors were discarded and did not form part of the study or any further statistical analysis.

### **Means, Standard Deviations, Skewness, Kurtosis and Frequencies**

One of the most common research statistics is an analysis of the central tendency. There are three measures of central tendency – mean, mode and median (Leedy & Ormrod, 2015). However the one most commonly used and most reliable in research is the mean (M) (Salkind, 2012). The mean indicates the midpoint or centre of the distribution of the scores. Mathematically it represents the arithmetic average of the scores within the data set and is calculated by adding all the scores and dividing the total by the number of scores (Leedy & Ormrod, 2015).

The standard deviation (SD) on the other hand indicates how the raw data are spread around the mean (Nisber, Elder & Miner, 2009). The standard deviation is an approximation of the average variability of a data set (Punch, 2014). Mathematically it is the square root of the variance. Smaller values in terms of standard deviations indicate that the scores gather close to the mean, while larger values indicate that the scores are further from the mean (Steyn, *et al*, 2003). Both the mean and standard deviation provide beneficial information regarding the distribution of a set of scores.

The shape or form of the data is shown by the skewness and kurtosis values. The kurtosis value is the point where data indicates an unusually pointy or flat distribution. (Leedy & Ormrod, 2015). In terms of frequency distributions, the skewness statistic measures symmetry, this implies that perfectly symmetrical distributions have a skewness of 0 and represents a normal distribution (Steyn, *et al*, 2003). A positive or negative skew would result

depending on which side of the mean the data is distributed. Overall skewness values should range between -1 and 1 for a normal distribution to be accepted. The number between -1 and 1 indicates the direction of two different variables as well as the strength between the variables (Leedy & Ormrod, 2015). Kurtosis provides information about the extent of the peak of the distribution and could be positive or negative (Pallant, 2011). For a perfectly normal distribution, the kurtosis value must be 0.

Frequencies are used to portray the distribution of a score or values on a specific variable, in other words it summaries the frequency with which data occurs. Frequency distributions are regularly used to describe research results. The number of classes as well as the class widths should be considered when compiling a frequency distribution (Steyn, *et al*, 2003). In this study frequency data was analysed to interpret results in order to describe how respondents reacted to certain items.

### **5.7.3 Correlation Statistics**

Relationships play a crucial role in data analysis. Correlations determine whether a relationship exists between variables, and if so what the strength and direction of such a relationship is (Steyn, *et al*, 2003). Correlational statistics does however not necessarily probe for the underlying reasons of such relationships (Leedy & Ormrod, 2015).

The Pearson product moment correlation ( $r$ ) is the most widely used statistic to determine correlation (Leedy & Ormrod, 2015) and was used in this study to identify the direction and strength of the relationships between graduate employability and work performance. The Pearson Correlation coefficients range between -1 (perfect negative correlation) and 1 (perfect positive correlation), taking on any values in between (Salkind, 2012). Correlational statistics are based on the assumption that the relationship between two variables is always linear. This implies that with positive correlations an increase in one variable will result in an increase in the other, while negative correlations imply an inverse relationship in which one variable increases while the other decreases. However, one should keep in mind that not all relationships take a linear form (Leedy & Ormrod, 2015). The level of significance set for this study was  $p \leq .05$ . This suggests that there was a 95% confidence level that the results from the sample could be generalised to the total population (Salkind, 2012).

Once determined that a result has not occurred by chance and statistically significant relationships were identified, the focus turned to the practical effect size of the correlation. The effect size refers to the degree of the strength of the relationship between two variables. A distinction must be made between the significance level and effect size. A significance level

focuses on the probability of whether or not a difference exists in the sample of the population, whereas the effect size refers to the magnitude of the difference between the variables (Leedy & Ormrod, 2015).

For the purpose of this study, the following guidelines were used to determine the practical significance of correlation coefficients, as set out by Cohen (1992):

Small effect	r = .10 to .29
Medium effect	r = .30 to .49
Large effect	r = .50 to 1.0

#### 5.7.4 Inferential Statistics

According to Leedy and Ormrod (2015), inferential statistics are utilised to draw inferences about large populations from relatively small samples. Inferential statistics can accordingly be used to generalise findings from the sample to the larger population and to test hypotheses. The level of statistical significance must once again be considered when analysing inferential statistics ( $p \leq .05$ ). Multiple regression analyses and tests for significant mean differences were conducted for the current study.

#### Regression analysis

Regression is used to investigate the accuracy of which one or more variables demonstrate predictions regarding the values of another independent variable. Simple linear regression uses *a single independent variable* to generate predictions for the dependent variable. Multiple regression analysis is used to predict the relationship of the dependent variable from *a number of independent variables* (Leedy & Ormrod, 2015). Moosa (2016) states that “regression analysis is used to make forecasts by understanding which of the independent variables are related to the dependent variable, and to further explore the nature of these relationships”.

A standard linear multiple regression analysis was carried out in this study to establish the degree of variance in the dependent variable (work performance) that was predicted by the dependent variable.

#### Test for significant mean differences

One of the most useful tools to determine if conclusions can be drawn about the population based on information obtained from the sample, is to test for statistical significance. This study

tested for statistically significant differences between the respondents of different ages, ethnic groups, gender, marital status, current position, number of years' service in current position, staff level, highest educational level, monthly gross salary, number of children, age of children, number of elderly taken care of and performance rating during most recent performance reviews in terms of their perceptions of graduate employability and work performance. Parametric and non-parametric tests were used. The analysis of variance (ANOVA) was used to compare the mean scores or the variance in the scores of more than two groups (Pallant, 2011). A one-way analysis of variance includes one independent variable or factor which has different levels or groupings (Pallant, 2011). The t-test was used to test the significance of the difference between two means based on two unrelated and independent groups (Salkind, 2012). The Kruskal-Wallis test was used as the non-parametric alternative to the one-way analysis between groups due to small group sizes (Pallant, 2011). This test compares scores on a variable for three or more groups by converting scores to ranks and analysing the mean rank for each group (Pallant, 2011).

The level of statistical significance was set at  $p \leq .05$ . The following tests were used for each category:

- Age and staff category: Analysis of variance (ANOVA)
- Race and educational level: Kruskal-Wallis test
- Marital status: T-test

#### **5.7.5 Level of significance**

The level of significance conveys the statistical significance of the results in terms of probability. In simple terms the level of significance is when a result is deemed not to be due to chance (Leedy & Ormrod, 2015). For the purpose of this study, the  $p \leq .05$  level of significance was applied throughout the data. This is generally the level of significance used to determine whether a result is of significance, which affords a 95% level of confidence in the results (Salkind, 2012).

There are two types of errors that could be made in terms of the level of significance (Field, 2013; Leedy & Ormrod, 2015, Salkind, 2012):

- Type I error (or alpha error): The researcher believes that there is no statistical difference or effect in the population when in fact there is a difference.
- Type II error (or beta error): The researcher believes that there is a statistical difference or effect in the population when no difference exists.

## 5.8 ETHICAL CONSIDERATIONS

Ethics is a fundamental principle in research methodology and to support the integrity of the findings, it is important to adhere to strict ethical considerations.

To ensure that all ethical conditions were met, the following procedures were conducted in terms of the methods employed to conduct the research:

- Research was conducted within recognised limits.
- Written permission was obtained from all participating mining companies.
- Participating mining companies would not be identifiable by anyone reading the final report.
- Conventional and current resources were embraced when analysing and describing concepts.
- Theories by experts in the field of research were used to ensure that a scientific research process was carried out.
- Every source used was quoted and referenced explicitly.
- Participation in this study was completely voluntary, with no intimidation, force or bribery.

In terms of the protection of participant privacy, the following procedures were carried out:

- The informed and voluntary consent of every participant was obtained.
- The cover letter email provided participants with all the information concerning the research, including the aim and objectives of the study. The contact details of the researcher and supervisor were also provided.
- The survey could only be accessed via a link sent through a direct email.
- The confidentiality of the participants was ensured.
- The participants were not requested to provide their names or any information that may reveal their identity.
- The participants' information was not identifiable by anyone reading the final report.
- The participants had the option to choose not to participate in the study before submitting the questionnaire.

In terms of the protection of data, the following procedures were carried out:

- The questionnaires were saved in an online database that was secured with a password.
- The data will be retained for a period of five years on an external hard drive.
- The data is password protected.

- A computer software program will be used to delete all electronic data stored on the external hard drive. The hard drive will then be formatted. The researcher will keep a record of what was deleted and when.

## **5.9 SUMMARY**

This chapter focused on the research design and methodology. The empirical investigation and the methods used in the study were explained in detail by the hand of different steps: 1) formulation of the research aims for the empirical study, 2) the determination and description of the sample, 3) a description of the design of the measuring instrument, 4) the data collection process in terms of administering the measuring instrument, 5) the scoring and capturing procedure; and 6) the data analysis processes used. The chapter concluded with an overview of the ethical considerations adhered to by this study.

## CHAPTER 6: RESULTS

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### 6.1 INTRODUCTION

The aim of this chapter is to report on and discuss the statistical results of the study and to integrate the empirical research findings with the information derived from the literature review. The statistical results, pertaining to the research aims that were presented in Chapter 1, are reported upon.

The empirical study continues with the following steps in this chapter:

- Step 7: Reporting and interpreting the results
- Step 8: Integrating the research findings

The statistical results of the exploratory factor analysis, and descriptive, correlational and inferential statistics are discussed in the sections that follow.

### 6.2 EXPLORATORY FACTOR ANALYSIS

Before the factors could be identified for each category using the principle-axis factor analysis, the suitability of the data for factor analysis first had to be established by analysing the results of the Kaiser-Meyer-Olkin (KMO) and Bartlett's test. The KMO index ranges from 0 to 1, with .6 as the minimum value for a good factor analysis (Tabachnick & Fidell, 2007). For the Kaiser-Meyer-Olkin measure of sampling adequacy, values between 0.5 and 0.7 are mediocre, values between 0.7 and 0.8 are good, values between 0.8 and 0.9 are very good and values above 0.9 are superb (Kaiser, 1974). Bartlett's test of sphericity should be significant ( $p < .05$ ) for the factor analysis to be considered appropriate.

Table 6.1 displays the results of the KMO and Bartlett's test for graduate employability and work performance.

**Table 6.1: KMO and Bartlett's Test: Graduate employability and work performance**

		Graduate Employability	Work Performance
Kaiser-Meyer-Olkin measure of sampling adequacy		.944	.934
Bartlett's test of sphericity	Approx. Chi-square	9848.729	5796.527
	df	1540	528
	Sig.	.000	.000

An exploratory factor analysis was conducted, using principal axis factoring as extraction method and promax as rotation method. The Kaiser-Meyer-Olkin Measure of Sampling Adequacy (0.944 for graduate employability and 0.934 for work performance) and the Bartlett's Test of Sphericity which was significant ( $p=0.000$ ) both indicated that a factor analysis was appropriate.

### 6.2.1 Diagnostic Statistics for Factor Analysis

Once the KMO and Bartlett's test values had been determined, the analysis identified the number of factors to be extracted by means of eigenvalues. The Kaiser criterion was used for the purpose of factor extraction in this study.

#### Graduate employability

The principal axis factor analysis revealed the presence of ten factors with eigenvalues exceeding 1.0 that cumulatively explained 49.8% of the variance in the data. After reviewing the ten factors, it was found that cross-factor loading occurred. Four items cross-loaded on different factors and a decision was made to include these four factors with the other six factors. The eigenvalues of the remaining six factors all exceeded 1.0, cumulatively explaining 45.1% of the variance in graduate employability (shown in Table 6.2).

**Table 6.2: Graduate employability: Total Variance Explained**

Factor	Initial Eigenvalues	Extraction Sums of Squared Loadings	
	Total	% of variance	Cumulative %
1	18.627	32.377	32.377
2	2.757	4.083	36.460
3	2.015	2.726	39.186
4	1.937	2.571	41.757
5	1.522	1.810	43.566
6	1.324	1.490	45.056

Once the number of factors and the total variance was determined, the factor loadings in the pattern matrix were analysed with reference to the theory in order to name or categorise each factor. As explained above, six factors were identified and the factors were labelled as follows:

Factor 1: Career self-management drive

Factor 2: Cultural competence

Factor 3: Career resilience

Factor 4: Emotional literacy



Factor 5: Career literacy

Factor 6: Self-efficacy

Table 6.3 below illustrates the factor loadings for each item included in the exploratory factor analysis for graduate employability.

**Table 6.3: Factor loadings: graduate employability**

Item	Career self-management drive	Cultural competence	Career resilience	Emotional literacy	Career literacy	Self-efficacy
36. I tend to think about how things can be done differently	.453					
37. I enjoy discovering original solutions to tasks	.314					
38. It is essential to regularly seek out new ways of doing things in my career	.665					
39. I am generally willing to take risks	.421					
40. I generally set challenging targets for myself	.452					
44. I continuously look into new business opportunities	.455					
45. I adapt easily to changes in my environment	.397					
46. I anticipate and take advantage of changes in my career environment	.659					
47. I am able to adapt to changing circumstances in my career	.578					
48. I am able to persevere even in the face of difficult career circumstances	.553					
49. I can generally identify a good opportunity before other people can	.593					
50. I spend a lot of time enhancing my knowledge and skills to benefit my career	.689					
51. I continuously seek out improved ways of doing things	.673					
52. I pay a great deal of attention to regularly develop myself	.639					
53. I regularly keep up with the latest development concerning	.499					

Item	Career self-management drive	Cultural competence	Career resilience	Emotional literacy	Career literacy	Self-efficacy
my type of job or career						
54. I am curious about new things	.422					
55. I feel changes at work or in my studies have positive implications	.635					
56. I am generally willing to consider new ideas	.572					
10. I find it easy to adapt to different social situations		.335				
13. I know the customs of other cultures		.799				
14. I am confident in my ability to communicate inter-culturally		.813				
15. I understand the values and beliefs of other cultures		.750				
16. I can easily initiate and maintain relationships with people from different cultures		.823				
17. I enjoy working with people from different cultures		.596				
18. I change my non-verbal behaviour in different cultural circumstances		.515				
22. I take responsibility for my decisions			.680			
23. I am responsible for my own successes and failures in my career			.730			
27. I generally persist in a difficult task and do not easily give up			.485			
28. It is easy for me to identify the emotions of others				.589		
29. I generally know what emotions I am feeling				.815		
30. When I am in a good mood I am better able to persist with challenges				.483		
31. I can easily understand why I feel a certain way				.524		
32. I know what to do to be in a good mood				.324		
1. I regularly reflect on what my career aspirations are					.330	
2. I know what skills I need to be successful in my career					.461	
3. I regularly seek information						

Item	Career self-management drive	Cultural competence	Career resilience	Emotional literacy	Career literacy	Self-efficacy
regarding what a specific career involves					.307	
6. I have clearly formulated career goals and action plans on how to achieve them					.412	
7. I know what I must do to make a success of my career					.623	
8. I know what I want to accomplish in my career					.516	
24. When I achieve something, it is because of my own effort						.404
41. I enjoy working independently to reach my goals						.717
42. I am comfortable in uncertain situations						.518
43. I like to make my own decisions						.436

### Work performance

The principal axis factor analysis revealed the presence of six factors with eigenvalues exceeding 1.0 that cumulatively explained 59.9% of the variance in the data. After reviewing the six factors, it was found that cross-factor loading occurred. Only two items loaded on factor five and a decision was made to not include these items but to proceed with four factors only. The items that cross-loaded on different factors were included in the other four factors. The eigenvalues of the remaining four factors all exceeded 1.0 cumulatively explaining 47.447% of the variance in work performance (shown in Table 6.4).

**Table 6.4: Work performance: Total Variance Explained**

Factor	Initial Eigenvalues	Extraction Sums of Squared Loadings	
	Total	% of variance	Cumulative %
1	11.944	34.790	34.790
2	2.260	5.454	40.244
3	1.796	4.015	44.259
4	1.502	3.188	47.447

After the number of factors and the total variance were determined, the factor loadings in the pattern matrix were analysed with reference to the theory in order to name or categorise each factor. As explained above, four factors were identified and the factors were labelled as follows:

Factor 1: Supervisor role

Factor 2: Employee role

Factor 3: Recognition

Factor 4: Organisation support

**Table 6.5: Factor loadings: work performance**

Item	Supervisor role	Employee role	Recognition	Organisation support
25. Performance expectations are realistic	.302			
26. My supervisor is fair when evaluating my performance	.770			
27. I am allowed to provide input on my performance	.748			
28. My supervisor's guidance enables me to perform	.806			
29. Feedback received from my supervisor is specific	.686			
31. My supervisor is a high performer	.559			
32. My supervisor allows me to transfer what I have learned to the workplace	.622			
1. I cope with the complexity of my tasks		.636		
2. I cope with my workload		.579		
3. My supervisor is satisfied with my performance		.553		
9. I feel that my performance is above average		.601		
10. I do more than what is required of me at work		.545		
11. I take responsibility for the successful completion of tasks		.623		
15. My knowledge and skills help me to perform better in my job		.463		
16. I usually look for ways to improve my performance		.437		
17. Bonuses and pay increases differentiate between levels of performance			.357	
18. Employees who excel in their work are recognized			.572	
19. I feel performance management supports the overall strategy of the organization			.724	

Item	Supervisor role	Employee role	Recognition	Organisation support
20. Performance management contributes towards my development			.823	
21. Performance reviews are accurate and fair			.629	
22. I have a personal development plan in place			.377	
23. Performance management leads to better performance			.477	
33. Performance discussions make provision for identifying training needs			.307	
5. The training I receive helps me to perform in my job				.449
6. I have a clearly defined job description				.659
7. I know exactly what is expected of me in my job				.821
8. My supervisor is very subjective when reviewing performance				.502
12. I receive feedback from my supervisor on my performance				.462
13. I have the necessary resources to do my job				.606
14. I am motivated by the feedback from my supervisor				.511

### 6.2.2 Summary: Factor Analysis

Table 6.6 summarises the findings of the factor analysis. It indicates the factors extracted from the graduate employability and work performance sections of the questionnaire, a brief description of the factors and items included in each factor.

**Table 6.6: Summary of Factor Analysis**

	<b>Dimension name</b>	<b>Dimension description</b>	<b>Items per dimension</b>
<b>Graduate employability</b>			
<b>Factor 1</b>	<b>Career self-management drive</b>	The tendency to pro-actively manage one's own career and to believe in one's ability to cope with demands in different contexts.	36, 37, 38, 39, 40, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55 & 56  Total = 18
<b>Factor 2</b>	<b>Cultural competence</b>	One's ability to successfully work with people across different culture groups.	10, 13, 14, 15, 16, 17 & 18  Total = 7
<b>Factor 3</b>	<b>Career resilience</b>	Refers to a high degree of adaptability; openness towards change; self-confidence and a believe in one's control over events no matter the circumstances.	22, 23 & 27  Total = 3
<b>Factor 4</b>	<b>Emotional literacy</b>	The ability to manage one's own emotions as well as those of others to successfully cope with environmental demands.	28, 29, 30, 31 & 32  Total = 5
<b>Factor 5</b>	<b>Career literacy</b>	The proficiency to make an informed decision about one's career in order to achieve career goals.	1, 2, 3, 6, 7 & 8  Total = 6
<b>Factor 6</b>	<b>Self-efficacy</b>	An individual's belief in one's ability to succeed in a specific situation.	24, 41, 42 & 43  Total = 4
	<b>Total number of items:</b>		43
<b>Work performance</b>			
<b>Factor 1</b>	<b>Supervisor role</b>	The support received from the supervisor to assist employees in performing well.	25, 26, 27, 28, 29, 31 & 32  Total = 7
<b>Factor 2</b>	<b>Employee role</b>	The role employees play in their own performance.	1, 2, 3, 9, 10, 11, 15 & 16  Total = 8

	Dimension name	Dimension description	Items per dimension
Factor 3	Recognition	Refers to the feedback and measures implemented to reward and recognise performance.	17,18, 19, 20, 21, 22, 23 & 33 Total = 8
Factor 4	Organisation support	The support provided by the organisation to assist employees in performing to the best of their ability.	5, 6, 7, 8, 12, 13 & 14 Total = 7
	<b>Total number of items:</b>		30

### 6.3 RELIABILITY

The Cronbach's alpha coefficients of each factor identified in the exploratory factor analysis were analysed to determine the reliability of the scale. The required reliability criteria was set at .60 for this study. All the factors met this requirement. The internal consistency reliability of the different scales of the questionnaire are reported in Table 6.7.

**Table 6.7: Internal Consistency Reliability of the questionnaire**

	Dimension name	Cronbach's Alpha	No of items
<b>Graduate employability</b>			
Factor 1	Career self-management drive	.93 <i>*item 43 deleted</i>	18
Factor 2	Cultural competence	.87	7
Factor 3	Career resilience	.75 <i>*items 10,17,54,56 deleted</i>	3
Factor 4	Emotional literacy	.79 <i>*item 24 deleted</i>	5
Factor 5	Career literacy	.79	6
Factor 6	Self-efficacy	.70	4
	Total number of items:		43
<b>Work performance</b>			
Factor 1	Supervisor role	.89	7
Factor 2	Employee role	.86	8
Factor 3	Recognition	.85 <i>*item 25 deleted</i>	8
Factor 4	Organisation support	.85 <i>*item 18 deleted</i>	7
	Total number of items:		30

Table 6.7 shows the Cronbach's alpha coefficients for each section of the questionnaire. In the section on graduate employability, the Cronbach's alpha ranged between .70 and .93, which was within the predetermined reliability range set for this study (.70). In order to improve the reliability of the factors identified, certain items had to be deleted from the factor analysis, as indicated in Table 6.7. In the section on work performance, the Cronbach's alpha coefficients ranged between .85 and .89 which was indicative of high internal consistency reliability.

Given that the purpose of this study was not to make individual predictions based on the questionnaire, but rather to explore general trends and relationships between variables, the questionnaire was considered to be psychometrically acceptable for the purpose of the study.

#### **6.4 DESCRIPTIVE STATISTICS**

After the internal consistency reliability of the questionnaire was established, descriptive analysis was conducted to investigate the distribution of the scores. The means (*M*), standard deviations (*SD*), skewness and kurtosis were computed for each scale as part of the preliminary analysis. Table 6.8 below indicates the descriptive statistics for each of the factors. The descriptions of the scales were used to help with the interpretation of the descriptive statistics. The highest scale option (4) indicated that the participant regarded the particular item as always true, while the lowest scale option (1) indicated that the participant considered the item as never true.

In terms of graduate employability the factor with the highest mean score was career resilience ( $M = 3.39$ ,  $SD = .57$ ), and the lowest score was for cultural competence ( $M = 2.99$ ,  $SD = .61$ ). In terms of work performance, the factor with the highest mean score was employee role ( $M = 3.26$ ,  $SD = .50$ ) and the factor with the lowest mean was recognition ( $M = 3.05$ ,  $SD = .57$ ). This indicates that work performance management should focus more on involving employees than providing recognition. There is only a marginal difference between the mean score for recognition ( $M = 3.05$ ) and supervisor role ( $M = 3.06$ ).

The skewness values indicated that, with regard to both graduate employability and work performance, the scores were positively skewed (bounded to the left). It is stated that, for a normal distribution to take place, skewness values must fall within the range of -1 to +1 to be considered acceptable ( Leedy & Ormrod, 2015). The skewness of all factors ranged from -.81 to -.15, which is within the normal acceptability range of -1 to +1. The kurtosis values for all sections ranged between -.69 to .05, which is considered normal.



**Table 6.8: Means, Standards Deviation, Skewness and Kurtosis**

Construct	Mean (M)	Standard Deviation (SD)	Skewness	Kurtosis
<b>Graduate employability</b>				
Career self-management	3.17	.49	-.34	-.07
Cultural competence	2.99	.61	-.31	-.36
Career resilience	3.39	.57	-.81	-.09
Emotional literacy	3.10	.57	-.15	-.61
Career literacy	3.15	.54	-.49	-.16
Self-efficacy	3.11	.56	-.39	-.32
<b>Work performance</b>				
Supervisor role	3.06	.63	-.46	.02
Employee role	3.26	.50	-.35	-.43
Recognition	3.05	.57	-.32	.05
Organisation support	3.19	.57	-.30	-.69

## 6.5 CORRELATIONAL STATISTICS

After the reliability statistics and the descriptive analysis of the data were completed, a correlation analysis was performed. These correlations identified the direction and strength of the relationship between graduate employability and work performance factors as presented in table 6.9 below.

**Table 6.9: Correlation analysis: graduate employability and work performance**

	Career self-management drive	Cultural competence	Career resilience	Emotional literacy	Career literacy	Self-efficacy
<b>Supervisor role</b>	.524**	.453**	.384**	.397**	.447**	.333**
<b>Employee role</b>	.723**	.545**	.593**	.587**	.579**	.581**
<b>Recognition</b>	.574**	.510**	.419**	.446**	.445**	.365**
<b>Organisational support</b>	.585**	.457**	.499*	.447**	.497**	.362**

Note: N = 350, \*\* p ≤ .01, \* p ≤ .05, r = .10 ≤ .29 are practically significant (small effect). r ≥ .30 ≤ .49 are practically significant (medium effect). r = .50 ≤ 1.0 are practically significant (large effect)

All the graduate employability factors displayed strong positive correlations with the work performance variables. The correlation coefficients indicated medium to large practical

significant effects. The relationship between graduate employability and work performance of employees in the mining industry in South Africa support findings of earlier studies on graduate employability that emphasized the responsibility people take for their own performance and career advancement. These results indicate that employees who take responsibility for their careers and actively manage their careers are also actively involved with work performance issues that may influence their careers.

## 6.6 INFERENCE STATISTICS

This section addresses research aims 3, 4 and 5 through the use of inferential statistics. Research aim 3, which deals with understanding the predictors of employability, was addressed by means of multiple regression analyses. Research aim 4, which sought to determine the statistical differences between different biographical categories, was addressed by means of tests for significant mean differences and ANOVAs. Research aim 5, which deals with recommendations as regards to employability and work performance in the mining industry in South Africa, was addressed by interpreting and integrating the research results.

### 6.6.1 Graduate employability and work performance

The six graduate employability factors were each divided into three groups: low, medium and high and then correlated with work performance to determine the relationship between the various variables.

#### Career self-management drive

To determine if there was a relationship between career self-management drive and work performance, an independent Samples T-test was used. Table 6.10 below indicates that career self-management drive plays a significant role in how a person regards work performance. There is a significant difference in the mean scores of the various career self-management drive groups thus indicating that the groups differ significantly as regards to work performance with  $p < 0.001$  recorded in all the cases.

**Table 6.10: T-test values for career self-management drive and work performance**

Career self-management drive	Levene's Test for Equality of Variances		t-test for Equality of Means	
	F	Sig (2-tailed)	t	df
Supervisor role	.919	.000	-9.938	343
Employee role	7.910	.000	-11.138	343
Recognition	.111	.000	-10.453	343
Organisation support	20.775	.000	-11.708	343

### Cultural competence

The Kruskal-Wallis test was used to determine the relationship between cultural competence and work performance. The Kruskal-Wallis test revealed a statistically significant difference at the 5% level of significance between the various cultural competence groups and work performance. The significant values were as follows: supervisor role ( $p=.000$ ), employee role ( $p=.000$ ), recognition ( $p=.000$ ) and organisational support ( $p=.000$ ). According to the mean ranks, group 3 (high) of cultural competence ranked the highest compared to groups 1 (low) and 2 (medium) as regards to all the dimensions of work performance. The results are reported below in Table 6.11.

**Table 6.11: Relationship between cultural competence and work performance**

Cultural competence		Asymp.Sig	N	Mean Rank
Supervisor role	Low	0.000	24	109.82
	Medium		243	161.63
	High		82	236.62
Employee role	Low	0.000	24	102.28
	Medium		243	158.09
	High		82	249.42
Recognition	Low	0.000	24	102.14
	Medium		243	157.84
	High		82	250.20
Organisational support	Low	0.000	24	118.66
	Medium		243	158.31
	High		82	243.77

### Career resilience

The Kruskal-Wallis test was used to determine the relationship between career resilience and work performance. The Kruskal-Wallis test revealed a statistically significant difference at the 5% level of significance between career resilience groups with regard to supervisor role ( $p=.000$ ), employee role ( $p=.000$ ), recognition ( $p=.000$ ) and organisational support ( $p=.000$ ). According to the mean ranks, group 3 (high) of career resilience ranked the highest compared to groups 1 (low) and 2 (medium) in all the dimensions of work performance. Employees who thus scored high on career resilience tended to score high on work performance. The results are reported below in Table 6.12.

**Table 6.12: Relationship between career resilience and work performance**

Career resilience		Asymp Sig	N	Mean Rank
Supervisor role	Low	0.000	17	96.91
	Medium		155	140.32
	High		178	213.64
Employee role	Low	0.000	17	62.56
	Medium		155	134.27
	High		178	222.19
Recognition	Low	0.000	17	81.79
	Medium		155	145.51
	High		178	210.57
Organisational support	Low	0.000	17	70.76
	Medium		155	139.02
	High		178	217.27

**Emotional literacy**

The Kruskal-Wallis test was used to determine the relationship between emotional literacy and work performance. The Kruskal-Wallis test revealed a statistically significant difference at the 5% level of significance between emotional literacy groups with regard to supervisor role ( $p=.000$ ), employee role ( $p=.000$ ), recognition ( $p=.000$ ) and organisational support ( $p=.000$ ). According to the mean ranks, group 3 (high) of emotional literacy ranked the highest compared to groups 1 (low) and 2 (medium) in all the dimensions of work performance. The group with a high score on the ability to successfully manage one's own emotions as well as those of others i.e. emotional literacy scored high on all the work performance factors indicating a direct relationship between emotional literacy and work performance. The results are reported below in Table 6.13.

**Table 6.13: Relationship between emotional literacy and work performance**

Emotional literacy		Asymp Sig	N	Mean Rank
Supervisor role	Low	0.000	16	113.88
	Medium		244	157.80
	High		90	234.45
Employee role	Low	0.000	16	77.56
	Medium		244	151.73
	High		90	257.35
Recognition	Low	0.000	16	107.41
	Medium		244	154.29
	High		90	245.10
Organisational support	Low	0.000	16	116.34
	Medium		244	152.67
	High		90	247.91

### Career literacy

The Kruskal-Wallis test was used to determine the relationship between career literacy and work performance. The Kruskal-Wallis test revealed a statistically significant difference at the 5% level of significance between career literacy groups with regard to supervisor role ( $p=.000$ ), employee role ( $p=.000$ ), recognition ( $p=.000$ ) and organisational support ( $p=.000$ ). According to the mean ranks, group 3 (high) of career literacy ranked the highest compared to groups 1 (low) and 2 (medium) in all the dimensions of work performance. The group with a high score on the ability to make an informed decision about one's career in order to achieve career goals also scored high on the work performance factors as revealed by the Kruskal-Wallis test. The results are reported below in Table 6.14.

**Table 6.14: Relationship between career literacy and work performance**

Career literacy		Asymp Sig	N	Mean Rank
Supervisor role	Low	0.000	15	95.97
	Medium		258	159.77
	High		77	243.71
Employee role	Low	0.000	15	69.70
	Medium		258	157.17
	High		77	257.51
Recognition	Low	0.000	15	108.53
	Medium		258	156.60
	High		77	251.86
Organisational support	Low	0.000	15	85.70
	Medium		258	157.23
	High		77	254.21

### Self-efficacy

The Kruskal-Wallis test was used to determine the relationship between self-efficacy and work performance. The Kruskal-Wallis test revealed a statistically significant difference at the 5% level of significance between self-efficacy groups with regard to supervisor role ( $p=.000$ ), employee role ( $p=.000$ ), recognition ( $p=.000$ ) and organisational support ( $p=.000$ ). According to the mean ranks, group 3 (high) of self-efficacy ranked the highest compared to groups 1 (low) and 2 (medium) in all the dimensions of work performance. The group with a high score on the ability to make an informed decision about one's career and belief in their ability to succeed in achieving career goals also recorded a higher mean rank than the other groups as regards to work performance. The results are reported in table 6.15 below.

**Table 6.15: Relationship between self-efficacy and work performance**

Self-efficacy		Asymp Sig	N	Mean Rank
Supervisor role	Low	0.000	18	131.53
	Medium		263	163.34
	High		69	233.32
Employee role	Low	0.000	18	72.75
	Medium		263	160.70
	High		69	258.72
Recognition	Low	0.000	18	121.00
	Medium		263	163.74
	High		69	234.54
Organisational support	Low	0.000	18	132.47
	Medium		263	164.35
	High		69	229.21

As part of research aim 3, the statistical analysis also analysed the relationship between graduate employability and work performance. The regression results revealed the following:

### Supervisor role

Tables 6.16 and 6.17 below provide details about the influence of graduate employability on the importance of the role of the supervisor as regards to work performance.

**Table 6.16: Regression analysis: supervisor role and graduate employability**

	R Square	F	Sig
ANOVA Regression	3.18	26.619	.000 <sup>b</sup>

**Table 6.17: ANOVA Coefficients for supervisor role and graduate employability**

	Unstandardised Coefficients		Standardised Coefficients	T	Sig
	B	Std. Error	Beta		
Career self-management drive	.403	.102	.312	3.952	.000
Cultural competence	.200	.062	.193	3.228	.001
Career resilience	.040	.068	.036	.590	.556
Emotional literacy	-.024	.073	-.022	-.330	.741
Career literacy	.181	.072	.154	2.519	.012
Self-efficacy	-.026	.067	-.023	-.387	.699

A regression analysis was performed to assess the impact of a number of graduate employability factors on the work performance of respondents. The model contained six independent variables (career self-management drive, cultural competence, career resilience, emotional literacy, career literacy and self-efficacy). The full model containing all predictors was statistically significant, ( $R^2=.318$ ,  $p<.001$ ), indicating that the model was able to confirm the importance of graduate employability factors on the role of supervisors in work performance. The model explained 31.8% of the variance in supervisor role. Only three of the independent variables made a unique statistically significant contribution to the model (career self management drive, cultural competence and career literacy). The strongest predictor of the supervisor role in work performance was career self-management drive ( $\beta=.312$ ). This indicated that respondents who had a strong career self-management drive were more likely to value support from a supervisor as regards to their work performance.

### Employee role

Tables 6.18 and 6.19 below provide details about the influence of graduate employability on the role of the employee as regards to work performance.

**Table 6.18: Regression analysis: employee role and graduate employability**

	R Square	F	Sig
ANOVA Regression	.590	82.263	.000 <sup>b</sup>

**Table 6.19: ANOVA Coefficients for employee role and graduate employability**

	Unstandardised Coefficients		Standardised Coefficients	t	Sig
	B	Std. Error	Beta		
Career self-management drive	.359	.063	.349	5.708	.000
Cultural competence	.095	.038	.115	2.489	.013
Career resilience	.124	.042	.142	2.967	.003
Emotional literacy	.052	.045	.059	1.153	.250
Career literacy	.103	.044	.111	2.332	.020
Self-efficacy	.142	.041	.158	3.458	.001

A regression analysis was performed to assess the impact of a number of graduate employability factors on the work performance of respondents. The model contained six

independent variables (career self-management drive, cultural competence, career resilience, emotional literacy, career literacy and self-efficacy). The model containing all predictors was statistically significant, ( $R^2=.590$ ,  $p<.001$ ), indicating that the model was able to report on the importance of graduate employability factors on the role of employees in work performance. The model explained 59.0% of the variance in employees' role. Five of the independent variables made a unique statistically significant contribution to the model (career self-management drive, cultural competence, career resilience, career literacy and self-efficacy). The strongest predictor of the employee role in work performance was career self-management drive ( $\beta=.349$ ). This indicated that respondents who had a strong career self-management drive were more likely to value the critical role employees play in their own work performance.

### Recognition

Tables 6.20 and 6.21 below provide details about the influence of graduate employability on the role of recognition as regards to work performance.

**Table 6.20: Regression analysis: recognition and graduate employability**

	R Square	F	Sig
ANOVA Regression	.375	34.359	.000 <sup>b</sup>

**Table 6.21: ANOVA Coefficients for recognition and graduate employability**

	Unstandardised Coefficients		Standardised Coefficients	t	Sig
	B	Std. Error	Beta		
Career self-management drive	.416	.089	.354	4.687	.000
Cultural competence	.225	.054	.239	4.176	.000
Career resilience	.048	.059	.048	.809	.419
Emotional literacy	.004	.063	.004	.068	.946
Career literacy	.086	.063	.080	1.374	.170
Self-efficacy	-.020	.058	-.020	-.353	.724

A regression analysis was performed to assess the impact of a number of graduate employability factors on the work performance of respondents. The model contained six



independent variables (career self-management drive, cultural competence, career resilience, emotional literacy, career literacy and self-efficacy). The model containing all predictors was statistically significant, ( $R^2=.375$ ,  $p<.001$ ), indicating that the model was able to report on the importance of graduate employability factors on the role of recognition in work performance. The model explained 37.5% of the variance as regards to recognition. Only two of the independent variables made a unique statistically significant contribution to the model (career self-management drive and cultural competence). The strongest predictor of the role of recognition in work performance was career self-management drive ( $\beta=.354$ ). This indicated that respondents who had a strong career self-management drive were more likely to acknowledge and value recognition as key to their work performance.

### Organisation support

Tables 6.22 and 6.23 below provide details about the influence of graduate employability on the role of organisation support as regards to work performance.

**Table 6.22: Regression analysis: organisation support and graduate employability**

	R Square	F	Sig
ANOVA Regression	.394	37.111	.000 <sup>b</sup>

**Table 6.23: ANOVA Coefficients for organisation support and graduate employability**

	Unstandardised Coefficients		Standardised Coefficients	t	Sig
	B	Std. Error	Beta		
Career self-management drive	.385	.087	.329	4.423	.000
Cultural competence	.120	.053	.128	2.282	.023
Career resilience	.174	.058	.174	3.006	.003
Emotional literacy	-.003	.062	-.003	-.053	.957
Career literacy	.169	.061	.158	2.747	.006
Self-efficacy	-.062	.057	-.061	-1.090	.277

A regression analysis was performed to assess the impact of a number of graduate employability factors on the work performance of respondents. The model contained six independent variables (career self-management drive, cultural competence, career resilience,

emotional literacy, career literacy and self-efficacy). The model containing all predictors was statistically significant, ( $R^2=.394$ ,  $p<.001$ ), indicating that the model was able to report on the importance of graduate employability factors on the role of organisation support in work performance. The model explained 39.4% of the variance as regards to organisation support. Four of the independent variables made a unique statistically significant contribution to the model (career self-management drive, cultural competence, career resilience and career literacy). The strongest predictor of the role of organisation support in work performance was career self-management drive ( $\beta=.329$ ). This indicated that respondents who had a strong career self-management drive were more likely to value organisation support as regards to their work performance.

The results discussed above indicate that career self-management drive is the strongest predictor of work performance and thus plays a critical role in how employees value supervisor and organisation support, strives for recognition and take responsibility for their own performance.

#### **6.6.2 Biographical information and graduate employability/work performance**

The biographical information was correlated with graduate employability and work performance factors to determine if any statistical significance relationship exists between the various employee groups as regards to graduate employability and work performance.

##### **Gender**

Gender (male/female) was compared as regards to graduate employability and work performance. The results are reported in table 6.24 below.

As regards to graduate employability, no statistical significant difference between men and women was found. With reference to work performance, a statistical significant difference between men and women were reported with regard to employee role ( $p=.002$ ). The average mean score of men was 3.1998 and the average mean score of women was 3.3719. This indicates that women feel strongly about the important role employees play in their own work performance and it seems that women, as opposed to men, accept greater accountability for work performance.

**Table 6.24: Gender differences as regards to graduate employability and work performance**

Graduate employability		N	Mean	Sig		
Career self-management drive	Male	229	3.152	.254		
	Female	121	3.215			
Cultural competence	Male	229	2.992	.873		
	Female	121	3.003			
Career resilience	Male	229	3.391	.826		
	Female	121	3.377			
Emotional literacy	Male	229	3.069	.188		
	Female	121	3.153			
Career literacy	Male	229	3.163	.683		
	Female	121	3.137			
Self-efficacy	Male	229	3.083	.168		
	Female	121	3.169			
Work performance		N	Mean			
Supervisor role	Male	229	3.053	.790		
	Female	121	3.072			
Employee role	Male	229	3.199	<b>.0002</b>		
	Female	121	3.371			
Recognition	Male	229	3.020	.186		
	Female	121	3.109			
Organisational support	Male	229	3.189	.712		
	Female	121	3.213			
Graduate employability		Levene's Test for Equality of Variances		T-test for Equality of Means		
		F	Sig.	t	df	Sig. (2-tailed)
Career self-management drive	Equal variances assumed	3.101	.079	-1.142	348	.254
	Equal variances not assumed			-1.100	220.562	.272
Cultural competence	Equal variances assumed	.435	.510	-.161	348	.873
	Equal variances not assumed			-.158	233.461	.875
Career resilience	Equal variances assumed	1.386	.240	.220	348	.826
	Equal variances not assumed			.214	226.842	.831

Graduate employability		Levene's Test for Equality of Variances		T-test for Equality of Means		
		F	Sig.	t	df	Sig. (2-tailed)
Emotional literacy	Equal variances assumed	.036	.849	-1.318	348	.188
	Equal variances not assumed			-1.316	243.020	.190
Career literacy	Equal variances assumed	4.443	.036	.430	348	.667
	Equal variances not assumed			.408	211.385	.683
Self-efficacy	Equal variances assumed	.275	.600	-1.380	348	.168
	Equal variances not assumed			-1.379	243.818	.169
Work performance		Levene's Test for Equality of Variances		t-test for Equality of Means		
		F	Sig.	t	df	Sig. (2-tailed)
Supervisor role	Equal variances assumed	2.544	.112	-.267	348	.790
	Equal variances not assumed			-.258	222.355	.797
Employee role	Equal variances assumed	.189	.664	-3.087	348	.002
	Equal variances not assumed			-3.087	244.523	.002
Recognition	Equal variances assumed	4.154	.042	-1.385	348	.167
	Equal variances not assumed			-1.326	216.395	.186
Organisational support	Equal variances assumed	4.218	.041	-.383	348	.702
	Equal variances not assumed			-.370	220.741	.712

### Staff level

With reference to staff levels, the aim was to determine whether there was any significant difference between the various staff levels as regards to graduate employability and work performance. The different staff levels were divided into five categories: 1) administrative staff, 2) entry level, 3) middle management, 4) senior management and 5) supervisory level. The results are presented in table 6.25 below.

**Table 6.25: Work performance and staff levels**

Work performance		N	Mean	ANOVA Sig
Supervisor role	Administrative staff	103	3.1193	.511
	Entry level	21	2.8639	
	Middle management	78	3.0659	
	Senior management	30	2.9905	
	Supervisory level	118	3.0557	
Employee role	Administrative staff	103	3.2816	.365
	Entry level	21	3.3333	
	Middle management	78	3.1587	
	Senior management	30	3.3125	
	Supervisory level	118	3.2797	
Recognition	Administrative staff	103	3.1104	<b>.026</b>
	Entry level	21	2.7798	
	Middle management	78	3.1426	
	Senior management	30	2.8667	
	Supervisory level	118	3.0339	
Organisational support	Administrative staff	103	3.2635	<b>.012</b>
	Entry level	21	2.8299S	
	Middle management	78	3.1905	
	Senior management	30	3.0571	
	Supervisory level	118	3.2458	

As regards to graduate employability, there were no statistically significant differences between the various staff levels.

With reference to work performance it is only recognition and organisation support that recorded statistically significant differences amongst the various staff levels (recognition  $p=.026$ , organisation support  $p=.012$ ). According to the Tukey Post Hoc test the entry level and middle management groups differ in terms of recognition. Employees on middle management are more concerned about recognition than entry level employees ( $p=.026$ ). Entry level employees are still in the orientation phase of their careers and might not be concerned about recognition in the early stages of their career. In terms of organisation

support, employees on entry level differed statistically significant from administrative employees ( $p=.012$ ). Administrative employees had the highest mean score with reference to organisation support which could indicate that administrative employees are very dependent on organisation support with reference to their performance.

### Educational qualification

The ANOVA test was used to determine if there was a statistically significant relationship between graduate employability and educational qualifications. Educational qualification was divided into two groups namely: under-graduate and post-graduate. The results of the ANOVA for educational qualification are provided in Table 6.26 below.

**Table 6.26: Graduate employability and educational qualification**

Educational qualification		F	Sig			
Career self-management drive	Between groups	1.068	.363			
	Within group					
Cultural competence	Between groups	.040	.989			
	Within group					
Career resilience	Between groups	.100	.960			
	Within group					
Emotional literacy	Between groups	1.112	.344			
	Within group					
Career literacy	Between groups	2.494	.060			
	Within group					
Self-efficacy	Between groups	.856	.464			
	Within group					
		Levene's Test for Equality of Variances		T-test for Equality of Means		
		F	Sig.	t	df	Sig. (2-tailed)
Career self-management drive	Equal variances assumed	.017	.895	-.295	348	.769
	Equal variances not assumed			-.296	301.87	.768
Cultural competence	Equal variances assumed	.703	.402	-.296	348	.768
	Equal variances not assumed			-.300	312.44	.764
Career resilience	Equal variances assumed	.883	.348	.216	348	.829
	Equal variances not assumed			.219	312.14	.827

		Levene's Test for Equality of Variances		T-test for Equality of Means		
		F	Sig.	t	df	Sig. (2-tailed)
Emotional literacy	Equal variances assumed	.005	.946	-1.037	348	.300
	Equal variances not assumed			-1.033	293.89	.303
Career literacy	Equal variances assumed	2.514	.114	-.677	348	.499
	Equal variances not assumed			-.661	273.69	.509
Self-efficacy	Equal variances assumed	1.246	.265	-.039	348	.969
	Equal variances not assumed			-.039	303.34	.969

The results revealed no statistically significant differences between undergraduate and postgraduate groups as regards to graduate employability. Employees with certificates, diplomas and degrees are thus not less employable than employees with postgraduate degrees.

### Performance rating during most recent performance review

To test for statistical differences between groups with difference performance ratings during the most recent performance review, an ANOVA test was used. To conduct the ANOVA test, performance ratings were divided into three groups: 1) does not meet expectations, 2) meet expectations and 3) exceed expectations. The results are reported in Table 6.27 below.

**Table 6.27: Performance rating as regards to graduate employability and work performance**

Graduate employability		N	Mean	ANOVA Sig
Career self-management drive	Does not meet expectations	29	3.1054	.052
	Meet expectations	184	3.1265	
	Exceed expectations	137	3.2530	
Cultural competence	Does not meet expectations	29	2.7685	<b>.048</b>
	Meet expectations	184	2.9790	
	Exceed expectations	137	3.0678	
Career resilience	Does not meet expectations	29	3.3448	.786
	Meet expectations	184	3.3750	
	Exceed expectations	137	3.4112	
Emotional literacy	Does not meet expectations	29	3.1655	.194

	Meet expectations	184	3.0457	
	Exceed expectations	137	3.1547	
Career literacy	Does not meet expectations	29	2.9540	<b>.0002</b>
	Meet expectations	184	3.1024	
	Exceed expectations	137	3.2676	
Self-efficacy	Does not meet expectations	29	2.9483	.211
	Meet expectations	184	3.1114	
	Exceed expectations	137	3.1496	
<b>Work performance</b>		<b>N</b>	<b>Mean</b>	
Supervisor role	Does not meet expectations	29	2.7488	<b>.009</b>
	Meet expectations	184	3.0481	
	Exceed expectations	137	3.1408	
Employee role	Does not meet expectations	29	3.0948	<b>.035</b>
	Meet expectations	184	3.2303	
	Exceed expectations	137	3.3330	
Recognition	Does not meet expectations	29	2.7716	<b>.003</b>
	Meet expectations	184	3.0190	
	Exceed expectations	137	3.1533	
Organisational support	Does not meet expectations	29	3.0296	.196
	Meet expectations	184	3.1925	
	Exceed expectations	137	3.2398	
<b>Graduate employability</b>		<b>F</b>	<b>Sig</b>	
Career self-management drive	Between groups	2.974	.052	
	Within group			
Cultural competence	Between groups	3.069	.048	
	Within group			
Career resilience	Between groups	.240	.786	
	Within group			
Emotional literacy	Between groups	1.650	.194	
	Within group			
Career literacy	Between groups	6.099	.002	
	Within group			
	Total			
Self-efficacy	Between groups	1.565	.211	
	Within group			
<b>Work performance</b>		<b>F</b>	<b>Sig</b>	
Supervisor role	Between groups	4.768	.009	
	Within group			
Employee role	Between groups	3.385	.035	
	Within group			
Recognition	Between groups	6.062	.003	
	Within group			
Organisational support	Between groups	1.638	.196	
	Within group			

As regards to graduate employability, differences in cultural competence ( $p=0.048$ ) and career literacy ( $p=0.0002$ ) had a significant impact on the self-performance rating of an employee.



In terms of work performance, the supervisor had a statistical significant impact on the performance rating of employees. Statistically significant differences were reported between groups who did not meet performance expectations, those who did meet performance expectations and those who exceeded performance expectations. Employees who exceeded work expectations recorded the highest mean scores as regards to supervisor role (M=3.1408), employee role (M=3.3330) and recognition (M=3.1533). The importance of external influences such as supervisor support and recognition can thus not be underestimated in motivating employees to perform.

## 6.7 INTEGRATION AND INTERPRETATION OF RESULTS

In this section, the results are discussed in terms of the research aims. Each research aim, with its corresponding statistical findings, is presented and analysed. Table 6.28 presents an overview of the research aims that were formulated for the purposes of this study as well as the statistical procedures and statistics that were performed to investigate the research aims.

**Table 6.28: Summary of research aims and statistical procedures**

<b>Empirical research aim</b>	<b>Statistical procedure</b>	<b>Statistics</b>
Research aim 1: To determine the factors that constitutes graduate employability in the mining industry in South Africa.	Exploratory factor analysis	Cronbach alpha Means, standard deviations, skewness, kurtosis and frequencies
Research aim 2: To determine the factors that constitutes work performance in the mining industry in South Africa.	Exploratory factor analysis	Cronbach alpha Means, standard deviations, skewness, kurtosis and frequencies
Research aim 3: To determine the relationship between graduate employability and work performance in the mining industry in South Africa.	Correlation	Pearson product-moment correlation coefficient

<b>Empirical research aim</b>	<b>Statistical procedure</b>	<b>Statistics</b>
Research aim 4: To determine the relationship between biographical information and graduate employability/work performance.	Inferential statistics	T-test ANOVA Kruskal-Wallis
Research aim 5: To make recommendations regarding graduate employability and work performance in the mining industry in South Africa and identify issues for future research based on the empirical findings of the research.	Interpretation and integration of research findings	

### 6.7.1 Research aim 1

The results provided evidence to support research aim 1: To determine the factors that constitutes graduate employability in the mining industry in South Africa.

This research aim was investigated by means of exploratory factor analysis, descriptive statistics and the frequency distributions of items. The different factors are discussed below. Section B of the questionnaire focused on graduate employability.

Six factors were extracted from the data as regards to graduate employability, namely:

- **Career self-management drive**

The tendency to pro-actively manage one's own career and to believe in one's ability to cope with demands in different contexts.

- **Cultural competence**

One's ability to successfully work with people across different culture groups.

- **Career resilience**

Refers to a high degree of adaptability; openness towards change; self-confidence and a believe in one's control over events no matter the circumstances.

- **Emotional literacy**

The ability to manage one's own emotions as well as those of others to successfully cope with environmental demands.

- **Career literacy**

The proficiency to make an informed decision about one's career in order to achieve career goals.

- **Self-efficacy**

An individual's belief in your ability to succeed in a specific situation.

The factors that emerged are in line with the graduate employability factors identified by the GEM tool as developed by Mareli Bezuidenhout (2011) and confirms the reliability of the GEM tool.

The eigenvalues of the six factors all exceed 1.0, cumulatively explaining 45.1% of the variance in the data for the graduate employability section of the questionnaire. The Kaiser-Meyer-Olkin Measure of Sampling Adequacy indicated a value of 0.944. Factor analysis was considered as appropriate with the statistical approximate chi-square ( $p < .000$ ) for the Bartlett's test of sphericity. The graduate employability factors fall within the reliability range of .60 with Cronbach Alpha values ranging between .70 and .93.

As regards to the descriptive statistics for graduate employability, career resilience reported the highest mean score ( $M = 3.39$ ,  $SD = .57$ ) with cultural competence ( $M = 2.99$ ,  $SD = .61$ ) as the lowest. The skewness values are normal with all factors ranging between -.81 (career resilience) to -.15 (emotional literacy). A normal range is considered as being within -1 to +1. The kurtosis values ranged between -.08 (career self-management drive) to -.61 (emotional literacy) which is normal.

The above findings are crucial to this study and are supported by the various employability models identified in Chapter 2. By portraying the graduate employability factors, employees will sustain life long employability as identified by Watts (2006) in his view of sustainable employability as another form of employability. The normal score on the kurtosis values is in line with Bridgstock's model which advocated the importance of skills in enhancing graduate employability (Bridgstock, 2009). The findings of this study is also in line with Bezuidenhout's research which confirmed the importance of resilience as regards to graduate employability (Bezuidenhout, 2011). Individuals with resilience feels in control of their career destiny and are confident and open to change at work.

Globalisation has forced companies to change the way in which they do business resulting in employees to be more flexible and in a position to identify new opportunities for themselves. Employees need high levels of career resilience in order to adjust their strategies to exploit

new opportunities and to survive in a turbulent work environment (Richardson, 2009). In terms of globalisation, employees realise the importance of career resilience, ongoing training and high levels of adaptability as critical to their career success.

The low mean score of cultural competence, when compared to the other graduate employability factors, is concerning taking into account that most of the “big players” in the mining industry (i.e. Anglo American, African Rainbow Minerals, South 32, BHP) have global roots and operate in different locations (Cascio & Aguinis, 2005). Most South African mining companies have to compete with global companies, therefore employees need to display high levels of cultural competence in order for them to perform in a multicultural work environment.

Employees in the mining industry do have control over the labour process despite automation in certain areas of the mining process. Employees thus remain autonomous, displaying career self-management drive to mediate the impact of technology on their work practices (Allsop & Calveley, 2009).

Considering the high levels of job losses in a mining industry aimed at saving costs by cutting on overhead costs, the six graduate employability factors (i.e. career self-management drive, cultural competence, career resilience, emotional literacy, career literacy and self-efficacy) are important to employees who wish to manage their careers in an ongoing changing work environment.

The graduate employability factors were all strongly positively related.

### **6.7.2 Research aim 2**

The results provided evidence to support research aim 2 which aimed to determine the factors that constitute work performance in the mining industry in South Africa.

This research aim was investigated by means of exploratory factor analysis, descriptive statistics and the frequency distributions of items.

Four factors were extracted from the data regarding work performance, namely:

- **Supervisor role**

The support received from the supervisor with reference to the performance of an employee.

- **Employee role**

The role the employee plays in his/her own performance.

- **Recognition**

The feedback and rewards received in order to enhance work performance.

- **Organisation support**

The support provided by the organisation to promote work performance.

The eigenvalues of the four factors explained cumulatively 47% of the variance in the data for the work performance section of the questionnaire as they all exceeded 1.0. A value of 0.944 was reported by the Kaiser-Meyer-Olkin Measure of Sampling Adequacy. Factor analysis was considered as appropriate with the statistical approximate chi-square ( $p < .000$ ) for the Bartlett's test of sphericity. The Cronbach Alpha values ranged between .85 and .89 which was well within the reliability range of .60.

As regards to the descriptive statistics for work performance, employee role ( $M = 3.26$ ,  $SD = .50$ ) reported the highest mean score and recognition ( $M = 3.05$ ,  $SD = .57$ ) the lowest. The skewness values were all within a normal range of -1 to +1 with values for all factors ranging between -.30 (organisation support) to -.46 (supervisor role). The kurtosis values were also normal ranging between .05 (supervisor role) and -.60 (organisation support).

Findings of this study are linked with research done by Colville and Millner (2011). According to Colville and Millner certain elements should be considered before a performance management roll-out can be implemented in an organization. It is of the utmost importance that an organisation understands the current state of the organisation. Performance management capability and behavioural skills of managers (supervisor role), generational constitution of the organisation (organisation support) and current engagement levels of the employees (employee role) all play a role in the performance management process. Performance criteria should also be determined to stipulate the weighting of performance behaviour. This element links to recognition in the performance management process.

The two most common purposes of performance management were identified by Bohlander and Snell (2013) as being administrative and developmental. Performance management enables organisations to gather data that can be used for staffing decisions such as promotions, transfers, layoffs and pay decisions. This forms part of the administrative purpose of performance management. In order for employees to receive the expected recognition (i.e. promotions, transfers and monetary rewards) they have to work hard and recognise their role in the performance management process. The supervisor plays an equal important role in providing feedback to employees on their work performance. This will enable supervisors and employees to put development plans in place on how to close any performance gaps.

According to Paauwe (Paauwe *et al*, 2013) the sustainability of performance management is dependent on whether the interest of all parties are served (i.e. the organisation, stakeholders as well as employees). Three work performance factors identified in this study (i.e. supervisor role, employee role and organisation support) should thus form part of a successful performance management process.

Recognition is a key factor in the performance management process. Bohlander and Snell (2013) found that employees will go the extra mile when the interests of both the employee and the organisation are aligned, given that employees are recognised for their performance.

According to research by Kotze and Visser (2012), performance management has not yet been implemented to its full potential within various mining companies in the South African mining industry. Performance goals should be determined according to the cost reduction strategy, which links with the business strategy. The focus of the performance management system should focus on:

- 1) Cost reduction: Employees, supported by the organization, play a vital role in working together to reduce costs.
- 2) Creation of opportunities for improvement: Employees and supervisors both play a significant role in creating opportunities for improvement.
- 3) Provisioning of feedback: Constructive and efficient feedback by supervisors are critical for performance.

Research conducted by Brown and Latham (2000) revealed that unions are very supportive of performance management when the focus is on employee development. With mining companies in South Africa being strongly unionized, the role of the supervisor becomes of critical importance. Supervisors should thus focus on providing developmental feedback to employees and creating opportunities for development of employees.

### **6.7.3 Research aim 3**

Research aim 3 focused on determining the relationship between graduate employability and work performance.

For the purpose of this research aim, the six graduate employability factors identified were correlated with the four work performance factors and all the factors were highly correlated.

#### **6.7.4 Research aim 4**

The results provided partial support for research aim 4 which investigated the relationship between biographical information and graduate employability/work performance.

Analysis of variance was used to determine whether there were any significant differences between the employees from different gender, staff level, qualification and performance rating groups as regards to graduate employability and work performance. Inferential statistics were conducted by means of a t-test for independent samples (gender and educational qualification) and the ANOVA (staff level and performance rating). It should be noted that the sample consisted of young graduate male and female employees between the ages of 18 – 30 years who are employed in the mining industry in South Africa.

#### **Gender**

In terms of gender, no statistically significant differences between men and women were reported as regards to graduate employability. With reference to work performance, employee role showed a statistical significant difference between men and women ( $p=.002$ ). The average mean score of men was 3.1998 and the average mean score of women was 3.3719. This is an indication that women feel strongly about employees taking responsibility for their own work performance and this might have implications as regards to accountability issues.

#### **Staff level**

No statistical significant difference was reported between the different staff levels in terms of graduate employability. Statistically significant differences were found amongst the different staff levels as regards to work performance. The Tukey Post Hoc test indicated that the entry level and middle management groups differ in terms of recognition. Employees on middle management are more concerned about recognition than entry level employees ( $p=.026$ ). In terms of organisation support, employees on entry level differed statistically significant from administrative employees ( $p=.012$ ). The assumption can be made that entry level employees are still new in the company and do not fully understand the role that recognition and organisation support play in work performance. Administrative employees and supervisors have a better understanding of how different factors may influence an employee's performance.

#### **Educational qualification**

The results showed that qualifications had no statistically significant influence on graduate employability. Employees with an undergraduate qualification are thus not more or less employable than employees with a postgraduate qualification.

### **Performance rating during most recent performance review**

In terms of the role played by a supervisor in work performance, statistical significant differences were found between groups who did not meet performance expectations, those who did meet performance expectations and those who exceeded performance expectations. As regards to supervisor role (M=3.1408) and recognition (M=3.1533), the highest mean scores were reported by employees who exceeded work expectations. External influences such as supervisor support and recognition thus play a meaningful role in helping employees exceed performance expectations.

#### **6.7.5 Research aim 5**

In the next chapter recommendations based on the findings of the study will be provided.

### **6.8 SUMMARY**

This chapter discussed the factor analysis and descriptive, correlational and inferential statistics relevant to the study in order to integrate the findings of the literature study with the findings of the empirical research. The results confirm that the empirical research aims of the study were reached.



## **CHAPTER 7: FINDINGS AND RECOMMENDATIONS**

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The aim of the concluding chapter is to provide a conclusive and holistic view of the research study.

### **7.1 INTRODUCTION**

A brief review of the reasons why this research was conducted is given to provide a complete assessment of the research. Based on the findings of this research, the conclusion of the study will be followed with a discussion of the implications for the field of human resource management and the mining industry in South Africa. Recommendations are accordingly made to guide future studies on the topic. Thereafter the limitations of the study are reported. The chapter and study concludes with an overall analysis of the contribution of the study and a final summary of the chapter.

This chapter addresses research aim 5; namely to make recommendations regarding graduate employability and work performance in the mining industry in South Africa, and to identify issues for future research based on the empirical findings of the research.

### **7.2 REASONS FOR UNDERTAKING THE RESEARCH**

The new world of work has brought many changes and challenges to the workplace. These changes and challenges include globalisation, the changing nature of work, technological advances, job losses, a changing workforce and work-life balance. A country with 7% of university graduates and 33% of Technical Vocational Education and Training (TVET) college graduates being unemployed, indicates a mismatch between the education system and the world of work (Business Day, 22 January 2018). For graduates to turn around the youth unemployment rate of 38%, they should have an understanding of the new world of work in order to ensure employability.

Various employability models were discussed with the focus on the Graduate Employability Model (designed by Bezuidenhout in 2011). This model defined employability as a psychosocial construct representing a combination of attributes (dispositions, values, attitudes and skills), that promote proactive adaptability in changing environments and enhancing an individual's suitability for employment and the likelihood of obtaining career success. The Graduate Employability Model of Bezuidenhout consists of the following dimensions: (a)

career self-management drive; (b) sociability; (c) cultural competence; and (d) personal dispositions for employability consisting of (i) career-related core self-evaluations, (ii) entrepreneurial orientation, (iii) career resilience, (iv) proactivity; and (v) openness to change. Graduates need to adopt a more proactive stance towards their careers by drawing on their career self-management skills and career resilience (Bezuidenhout, 2011; Schreuder & Coetzee 2011; Savickas, 2011).

Employees in the mining industry often lose their jobs due to technology advancements and new mining practices. The remaining workforce are thus forced to become multi-skilled, highly adaptable and flexible to ensure they display employability skills that will prepare them for unpredictable and ever-changing work environments.

For organisations to thrive in an increasingly uncertain and turbulent economic climate, performance management should play a central role. The overall goal of performance management is for all employees to work together to increase the organisation's efficiency and effectiveness and hence achieve the overall organisation goals (Bothma, 2014). Though performance management measures past performance, it is also forward-looking with the focus on learning, improvement and development. According to Gilmore and Williams (2009), the focus of performance management should be on improving performance rather than on reporting performance.

As indicated previously, the focus of a performance management system within the mining industry should be on reducing costs, outlining opportunities for improvement and providing feedback to employees (Kotze & Visser, 2012). In addition, development as a key factor of performance management is needed to ensure the participation of unions and its members. The mining industry in South Africa is highly unionized with unions viewing performance management as a subjective process and a tool used by management to serve their own goals at the expense of union goals (Verma, 2005 as cited in Brown & Warren, 2011).

The pace of change in the mining industry has accelerated with the emphasis on volatility. Fluctuation in commodity prices, automation, job losses, productivity and innovation are all contributing factors in making the mining industry unpredictable. According to Bloomberg (29 November 2017), robots will run mines within the next decade. Anglo is betting on computerised drills that operate as good as any human. BHP Billiton has begun work aimed at implementing autonomous trains along its 1300 kilometer rail network. Employees will thus have no option other than to ensure that they are equipped with skills that prepare them for

unforeseen, ever changing work environments. This they can only achieve by becoming multi-skilled, highly adaptable and flexible and display the necessary graduate employability skills.

The above is a brief background to the reasons for undertaking this research. This study was viewed from a graduate employability and work performance perspective, with special attention on the mining industry in South Africa.

### **7.3 CONCLUSIONS BASED ON RESEARCH FINDINGS**

The nature of this study was exploratory and provided valuable insights into the relationship between graduate employability and work performance in the mining industry in South Africa. This section concentrates on the conclusions drawn from the empirical study. The statistical results provided support for the research aims that were set out in Chapter 1. The findings in terms of each of the research aims that merit discussion are now presented as conclusions.

#### **7.3.1 Conclusions drawn from Research Aim 1**

**Research aim 1:** To determine the factors that constitutes graduate employability.

Research aim 1 focused on graduate employability. The researcher believes that by accurately determining the factors that constitute graduate employability, mining companies could incorporate these factors into their recruitment strategies to gain a competitive advantage and recruit the most suitable graduates.

Exploratory factor analysis, descriptive statistics and the frequency distributions of items were used to investigate research aim 1.

The following six factors with regard to graduate employability, were identified in the study and are in line with the Graduate Employability Model of Bezuidenhout, confirming the reliability of the GEM tool:

- **Career self-management drive**

The tendency to pro-actively manage one's own career and to believe in one's ability to cope with work demands in different contexts.

- **Cultural competence**

One's ability to successfully work with people across different culture groups.

- **Career resilience**

Refers to a high degree of adaptability; openness towards change; self-confidence and a believe in one's control over events no matter the circumstances.

- **Emotional literacy**

The ability to manage one's own emotions as well as those of others, to successfully cope with environmental demands.

- **Career literacy**

The proficiency to make an informed decision about one's career in order to achieve career goals.

- **Self-efficacy**

Individuals' belief in their ability to succeed in a specific situation.

These factors correlated well and indicated very good reliability. The reliability analysis indicated Cronbach alpha coefficients that ranged between .70 and .93 for the sample (N=350), which are regarded as good. This indicated that the factors measured a similar underlying construct, that is, employability.

Employees need to remain autonomous and mediate the impact of technology and automation on their working practices by being able to manage their own career through career self-management drive. With most mining companies having a footprint in the global space, it is important for workers to have the ability to successfully work with people across different culture groups. Career resilience enables employees to have self-confidence and an openness towards change. They will thus be in control of their career destiny. It is important for employees to display emotional literacy and manage one's own emotions as well as the emotions of others midst in the ongoing changes in the mining industry. This means that employees need to make informed decisions and be open-minded about their careers.

With significant changes within the next decade awaiting the mining industry, the six graduate employability factors (i.e. career self-management drive, cultural competence, career resilience, emotional literacy, career literacy and self-efficacy) are important for employees to manage their careers and ensure life-long employment in an ongoing changing working environment.

### 7.3.2 Conclusions drawn from Research Aim 2

**Research aim 2:** To determine the factors that constitutes work performance.

The focus of research aim 2 was on work performance. By including the factors identified as part of performance management, mining companies would be able to align employee performance management towards company strategy.

This research aim was investigated by means of exploratory factor analysis, descriptive statistics and the frequency distribution of items.

Employees regarded the following factors as critical in the management of their performance:

- **Supervisor role**

The supervisor role refers to the support provided by a supervisor regarding the performance of an employee.

- **Employee role**

The employee role refers to how employees experience and view the role they play in their own performance.

- **Recognition**

Recognition refers to how employees value recognition in terms of their own performance.

- **Organisation support**

Organisation support refers to the importance of organisation support in enhancing employees' performance.

Strong, positive correlations between the various work performance factors were evident, thus confirming reliability. The various Cronbach alpha coefficients were considered reliable, ranging between .85 and .89 for the sample (N=350). This indicated that the factors measured a similar underlying construct, that is, work performance.

It is important to consider the interest of all parties (employees and the organisation) for performance management to be successful. The supervisor plays an essential part by

providing feedback to the employee in terms of development areas. In addition to this, the supervisor should also play a developmental role in guiding the employee to close any performance gaps. Employees need to take on a collaborative role to ensure they perform successfully. They have to be open for feedback as well as asking for support to perform at an optimum level. The organisation should render the necessary support to employees in order to develop them to perform in such a manner that company strategy and goals are achieved. The necessary support should also be provided to managers in fulfilling their role as mentors to employees. The study emphasized the role played by effective feedback and recognition in enhancing performance.

### **7.3.3 Conclusions drawn from Research Aim 3**

**Research aim 3:** To determine the relationship between graduate employability and work performance.

Research aim 3 focused on determining a relationship between graduate employability and work performance. Employees who manage and take responsibility for their own careers will also accept responsibility and accountability for their own work performance to ensure career progression.

This research aim was investigated by means of correlational statistics.

The graduate employability factors were divided into three groups: low, medium and high and then correlated with work performance to determine the relationship between the various variables. All the graduate employability factors reported a significant relationship with work performance.

Regression analysis was used to assess the impact of a number of graduate employability factors on the work performance of respondents. With reference to the supervisor role, respondents with a strong career self-management drive were likely to value support from a supervisor as regards to their work performance. Respondents with a strong career self-management drive also valued the role of employees in their own work performance. Respondents displaying a strong career self-management drive valued recognition as meaningful to their work performance. Respondents with a high level of career self-management drive, regarded organisation support as invaluable as regards to their work performance.

Strong, positive correlations were thus reported between graduate employability and work performance with career self-management drive being the strongest predictor of work performance.

#### **7.3.4 Conclusions drawn from Research Aim 4**

**Research aim 4:** To determine the relationship between biographical information and graduate employability/work performance.

A fourth aim of the research was to investigate whether biographical variables such as gender, staff level, educational qualification and performance rating during most recent performance review impacted on graduate employability and work performance. Inferential statistics were conducted and the results showed no statistically significant difference between men and women with reference to graduate employability. As regards to work performance, women obtained higher mean scores than men with regard to the importance of an individual in determining his/her own performance. This indicates that women accept greater accountability for work performance as they feel strongly about the important role individuals play in their own work performance.

No statistically significant differences between the various staff levels were reported as regards to graduate employability. With reference to work performance, it is only recognition and organisation support that indicated statistically significant differences between the various staff levels. Employees on middle management are more concerned about recognition than entry level employees. Employees on entry level also differed statistically significant from administrative employees in terms of organisation support. The assumption is made that employees in the early stages of their career are not particularly concerned about recognition and the support provided by the company. Early career stage employees initially focus on their own role and once settled in their jobs, start seeing the bigger picture of all the role players.

No statistically significant differences were found between undergraduate and post-graduate groups (educational qualification) as regards to graduate employability.

With reference to graduate employability, cultural competence and career literacy had a significant impact on the performance rating of an employee. Employees able to successfully work with people across different cultural groups and make informed decisions about their careers, were rated as high performers. External influences such as the role played by supervisors and recognition had a direct influence on the work performance of employees.

### **7.3.5 Conclusions drawn from Research Aim 5**

**Research aim 5:** To make recommendations regarding graduate employability and work performance in the mining industry in South Africa and identify issues for future research based on the empirical findings of the research.

#### **Recommendations for the mining industry in South Africa**

- The GEM tool can be used to empower graduates and employees by making them aware of the attributes that are important for employability. This will assist them to work towards life-long employment in an ever changing work environment and manage their careers.
- An increased awareness of the importance of graduate employability should promote the development of career self-management drive which has a direct relationship with work performance.
- The GEM tool should be considered as a recruitment tool to select individuals that have a well-developed career self-management drive.
- Graduate employability factors may provide insight into the developmental needs of employees and assist with the design of training programmes.
- The employability factors may also be used in selecting individuals for international assignments and cross-cultural projects, given that high levels of cultural competence are directly related to high performance in the mining industry.
- By including the identified work performance factors as part of the performance management process, the organisation will be able to align employee performance with organisation goals such as cost reduction, development opportunities and providing feedback to employees.
- The performance management factors could be used in the design of supervisory training programmes so that supervisors are equipped with the skills to support and provide constructive and developmental feedback to employees.
- Women in the mining industry feel strongly about the role they play in their own performance. Women should therefore be provided with meaningful tasks and opportunities to develop their skills. The mining industry will then reap the reward of transforming into an industry that employs and develops female employees in a previously male-dominant industry.
- The study confirmed the important role played by recognition in performance management. Organisations should thus endeavour to implement various forms of recognition.



## **7.4 RECOMMENDATIONS FOR FUTURE RESEARCH**

This research could also be conducted on an international level in mining industries with a global footprint. This would allow the findings of the research to be applied much more broadly and provide a better understanding of graduate employability and work performance when measured in a broader context.

Further studies on developing female employees in the mining industry would be beneficial for organisations, since they would provide widespread recommendations for retaining female employees and transforming the male-dominant mining industry.

It is suggested that, in the context of graduate employability and work performance, the importance of educational qualifications should be explored in detail.

Further studies should focus on what factors make top performers more employable.

## **7.5 CONTRIBUTION**

The conclusions drawn from each research aim have been discussed. This now leads to a brief overview of how the study has contributed to research in the field of human resource management in the mining industry.

From an empirical point of view, this study made the following contributions:

- Identified the factors that constitute graduate employability.
- Identified the factors that constitute work performance.
- Established a relationship between graduate employability and work performance.
- Recognised that gender is a predictor of work performance in terms of how the individual regards his/her own role.
- Recognised that employees in the early stages of their career, initially focus on their own roles and after having settled in their jobs, they consider the role of external influences.
- Recognised that external influences such as supervisor role and recognition play an important role towards the performance of employees.

From a general point of view, this study made the following contributions:

- The literature review provided insights into the various concepts and theoretical models of employability and performance management.

- The findings of the empirical study outlined the relationship between graduate employability and work performance.

## **7.6 LIMITATIONS**

The study was conducted in the mining industry in South Africa only. It therefore may not be applicable to graduate employability and work performance in other industries, or in other countries.

Another limitation relates to the original data collection process, which yielded only a fair response rate of 22.3%. This may largely be due to the questionnaire being too long with Section B of the questionnaire consisting of 56 items and Section C of 33 items.

The questionnaire on work performance was a self-assessment which should have been made clear to respondents.

Respondents were employees with a formal post-matric qualification (i.e. degree, diploma, certificate, N6). The results of the study are therefore only applicable to a specific group and may not be generalised to all employees employed by mining companies in South Africa. Respondents were also part of a specific age category – between the ages of 18 to 30 years. The rationale for this limitation relating age was based on the fact that graduates not older than 30 years were still actively working towards their careers and employability. The results of the study are therefore only applicable to the sample used in this research.

## **7.7 SUMMARY**

The overall purpose of this study was to examine the relationship between graduate employability and work performance in the mining industry in South Africa.

This chapter was introduced with a brief review of the reasons for undertaking the research, providing a holistic assessment from where the research began to where it finally concluded. Thereafter, the conclusions drawn from the research findings were discussed briefly. Recommendations for the field of human resource management, with specific reference to graduate employability and work performance in the mining industry in South Africa, were presented. Recommendations for further research were tabled. The contribution of the study was offered followed by the limitations of the research.

It is my belief that the results of this study can be used to contribute to the academic community as well as the mining community in South Africa by providing valuable insight into the relationship between graduate employability and work performance in the mining industry in South Africa. The results will enable employees to actively manage their careers. This study will also enable organisations to adjust their performance management systems in such a way that graduateness and work performance are enhanced.

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**APPENDIX A: QUESTIONNAIRE**

**A PERSONAL PARTICULARS (please fill in/tick the appropriate block)**

1	GENDER	Male		Female	
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2	ETHNICITY	Black	
		White	
		Coloured	
		Indian	

3	AGE (years)		
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4	MARITAL STATUS	Single (incl divorced, widowed)		Married (incl living together)	
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5	CURRENT POSITION (job title)	
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6	NUMBER OF YEARS' SERVICE IN CURRENT POSITION (Part of a year is regarded as a year)		
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7	NUMBER OF YEARS' SERVICE AT COMPANY (Part of a year is regarded as a year)		
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8 STAFF LEVEL

Senior management	
Middle management	
Supervisory level	
Administrative staff	

9 HIGHEST EDUCATIONAL QUALIFICATION

Certificate (1 year)		Honours degree	
Diploma (3 years)		Master's degree	
Degree		Doctor's degree	

10 MONTHLY GROSS SALARY (benefits excluded)

5 001 - 10 000		25 001 - 30 000	
10 001 - 15 000		30 001 - 35 000	
15 001 - 20 000		35 001 - 40 000	
20 001 - 25 000		More than 40 000	

11 NUMBER OF CHILDREN

0		1		2		3		4+	
---	--	---	--	---	--	---	--	----	--

12 NUMBER OF ELDERLY YOU TAKE CARE OF

0		1		2		3		4+	
---	--	---	--	---	--	---	--	----	--

13 HOW MANY CHILDREN IN THE DIFFERENT AGE GROUPS

PRE-SCHOOL	
PRIMARY SCHOOL	
SECONDARY SCHOOL	
STUDENT OR AT HOME (financially dependent on you)	

14 PERFORMANCE RATING DURING MOST RECENT PERFORMANCE REVIEW

UNSATISFACTORY	
DOES NOT FULLY MEET EXPECTATIONS	
CONSISTENTLY MEETS EXPECTATIONS	
FREQUENTLY EXCEEDS EXPECTATIONS	
CREATES EXCEPTIONAL VALUE	

## **INSTRUCTIONS:**

- Try to answer the questions as honestly as you can and work quickly.
- Avoid extreme ratings except in situations in which you clearly have strong feelings in one direction or the other.
- There is no right or wrong answers. Please give the response that best describes you.

## **B EMPLOYABILITY**

Complete the table below by indicating how true each statement is for you. The higher the number, the more true that item is for you in terms of your current behaviour.

		<b>1</b> <b>Never true</b>	<b>2</b> <b>Occasionally true</b>	<b>3</b> <b>Often true</b>	<b>4</b> <b>Always true</b>
1	I regularly reflect on what my career aspirations are.	1	2	3	4
2	I know what skills I need to be successful in my career.	1	2	3	4

3	I regularly seek information regarding what a specific career involves.	1	2	3	4
4	I regularly ask others' opinions regarding my strengths and weaknesses.	1	2	3	4
5	I actively seek feedback from others to make progress in my career.	1	2	3	4
6	I have clearly formulated career goals and action plans on how to achieve them.	1	2	3	4
7	I know what I must do to make a success of my career.	1	2	3	4
8	I know what I want to accomplish in my career.	1	2	3	4
9	I can easily establish and maintain interpersonal relationships.	1	2	3	4
10	I find it easy to adapt to different social situations.	1	2	3	4
11	I have built a network of friendships with people that can advance my career.	1	2	3	4
12	I can use my networks to find new job opportunities.	1	2	3	4
13	I know the customs of other cultures.	1	2	3	4
14	I am confident in my ability to communicate inter-culturally.	1	2	3	4
15	I understand the values and beliefs of other cultures.	1	2	3	4
16	I can easily initiate and maintain relationships with people from different cultures.	1	2	3	4
17	I enjoy working with people from different cultures.	1	2	3	4
18	I change my non-verbal behaviour in different cultural circumstances.	1	2	3	4
19	I am generally satisfied with myself.	1	2	3	4

20	I am capable and worthy compared to others.	1	2	3	4
21	I have many good qualities.	1	2	3	4
22	I take responsibility for my decisions.	1	2	3	4
23	I am responsible for my own successes and failures in my career.	1	2	3	4
24	When I achieve something, it is because of my own effort.	1	2	3	4
25	When I attempt something I am usually successful.	1	2	3	4
26	I am confident that I can successfully carry out my plans.	1	2	3	4
27	I generally persist in a difficult task and do not easily give up.	1	2	3	4
28	It is easy for me to identify the emotions of others.	1	2	3	4
29	I generally know what emotions I am feeling.	1	2	3	4
30	When I am in a good mood I am better able to persist with challenges.	1	2	3	4
31	I can easily understand why I feel a certain way.	1	2	3	4
32	I know what to do to be in a good mood.	1	2	3	4
33	I find it easy to cheer someone up who is sad.	1	2	3	4
34	I know how to control my own emotions.	1	2	3	4
35	I find it easy to disarm an emotionally explosive situation.	1	2	3	4
36	I tend to think about how things can be done differently.	1	2	3	4

37	I enjoy discovering original solutions to tasks.	1	2	3	4
38	It is essential to regularly seek out new ways of doing things in my career.	1	2	3	4
39	I am generally willing to take risks.	1	2	3	4
40	I generally set challenging targets for myself.	1	2	3	4
41	I enjoy working independently to reach my goals.	1	2	3	4
42	I am comfortable in uncertain situations.	1	2	3	4
43	I like to make my own decisions.	1	2	3	4
44	I continuously look into new business opportunities.	1	2	3	4
45	I adapt easily to changes in my environment.	1	2	3	4
46	I anticipate and take advantage of changes in my career environment.	1	2	3	4
47	I am able to adapt to changing circumstances in my career.	1	2	3	4
48	I am able to persevere even in the face of difficult career circumstances.	1	2	3	4
49	I can generally identify a good opportunity before other people can.	1	2	3	4
50	I spend a lot of time enhancing my knowledge and skills to benefit my career.	1	2	3	4
51	I continuously seek out improved ways of doing things.	1	2	3	4
52	I pay a great deal of attention to regularly develop myself.	1	2	3	4
53	I regularly keep up with the latest development concerning my type of job or career.	1	2	3	4



54	I am curious about new things.	1	2	3	4
55	I feel changes at work or in my studies have positive implications.	1	2	3	4
56	I am generally willing to consider new ideas.	1	2	3	4

## **C WORK PERFORMANCE**

To what extent are the following statements on your performance in the workplace applicable?

		Never true	Occasionally true	Often true	Always true
1	I cope with the complexity of my tasks.	1	2	3	4
2	I cope with my workload.	1	2	3	4
3	My supervisor is satisfied with my performance.	1	2	3	4
4	My performance depends on the performance of others.	1	2	3	4
5	The training I receive helps me to perform in my job.	1	2	3	4
6	I have a clearly defined job description.	1	2	3	4
7	I know exactly what is expected of me in my job.	1	2	3	4

		<b>Never true</b>	<b>Occasionally true</b>	<b>Often true</b>	<b>Always true</b>
8	My supervisor is very subjective when reviewing performance.	1	2	3	4
9	I feel that my performance is above average.	1	2	3	4
10	I do more than what is required of me at work.	1	2	3	4
11	I take responsibility for the successful completion of tasks.	1	2	3	4
12	I receive feedback from my supervisor on my performance.	1	2	3	4
13	I have the necessary resources to do my job.	1	2	3	4
14	I am motivated by the feedback from my supervisor.	1	2	3	4
15	My knowledge and skills help me to perform better in my job.	1	2	3	4
16	I usually look for ways to improve my performance	1	2	3	4
17	Bonuses and pay increases differentiate between levels of performance.	1	2	3	4
18	Employees who excel in their work are recognized.	1	2	3	4
19	I feel performance management supports the overall strategy of the organisation.	1	2	3	4
20	Performance management contributes towards my development	1	2	3	4
21	Performance reviews are accurate and fair	1	2	3	4
22	I have a personal development plan in place	1	2	3	4
23	Performance management leads to better performance	1	2	3	4
24	Performance management is a waste of time	1	2	3	4
25	Performance expectations are realistic.	1	2	3	4
26	My supervisor is fair when evaluating my performance.	1	2	3	4

		<b>Never true</b>	<b>Occasionally true</b>	<b>Often true</b>	<b>Always true</b>
27	I am allowed to provide input on my performance.	1	2	3	4
28	My supervisor's guidance enables me to perform.	1	2	3	4
29	Feedback received from my supervisor is specific.	1	2	3	4
30	I would like to receive feedback more regularly.	1	2	3	4
31	My supervisor is a high performer.	1	2	3	4
32	My supervisor allows me to transfer what I have learned to the workplace.	1	2	3	4
33	Performance discussions make provision for identifying training needs.	1	2	3	4

**THANK YOU FOR COMPLETING THE QUESTIONNAIR**

