The influence of individual attitudes on work performance in the South African coal mining industry

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Abstract

Title: The influence of individual attitudes on work performance in the South African coal mining industry

Keywords: Individual work performance, organisational work performance, job satisfaction, job involvement, organisational citizenship behaviour, organisational commitment, coal mining industry

South Africa as a country is amongst one of the main producers and exporters of coal in the world. The country's coal-producing capacity experiences infrastructural constraints especially in its ability to export due to limited rail and coal seaport capacities. Productivity for volumes currently produced is at worryingly low levels in comparison to other coal producing countries despite the use of similar production and mining techniques. The causes of the poorer and declining employee performance levels; resulting in more employees required for the same work volume; are largely attributed to shorter working days, skill levels, logistical constraints and choice of extraction methods among others.

The purpose of this study is to bring to the fore the influence of individual attitudes on work performance in the South African coal mining industry. Current research indicates that there exists a relationship between work performance, and job satisfaction, job involvement, organisational commitment, and organisational citizenship behaviour.

Empirical study results indicated that individual work performance is statistically and practically significantly related (large effect size) to organisational citizenship behaviour and job involvement. Job satisfaction was found to be statistically and practically significantly related (medium effect size) to individual work performance.

Organisational commitment was found to be statistically and practically significantly inversely related to individual work performance. Organisational citizenship behaviour was found to be a significant predictor of individual work performance.

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1. Chapter 1 – Scope of Study

1.1 Introduction

This study focuses on the investigation into the influence of individual attitudes on work performance in the South African coal mining industry. In this chapter a brief background into the history of the South African coal mining industry is given. Further to this, the problem statement, research objectives and purpose, research methodology, and study assumptions and limitations are discussed.

1.2 Background

South Africa currently contributes approximately 3.3% to global coal production and is the sixth largest coal exporter in the world (Chamber of Mines of South Africa, 2016). It produces approximately 260 million tons annually. Eskom and Sasol accounts for a significant part of the 180 – 190 million tons annual inland sales. Approximately 70 million tons is exported through the Richards Bay Coal Terminal (Chamber of Mines of South Africa, 2016). The Richards Bay Coal Terminal has a capacity of 91 million tons which has not been fully utilised to date due to; among other factors, internal railing capacity constraints (Chamber of Mines of South Africa, 2016). Transnet has 580km of railway lines traversing the Mpumalanga Province landscape to take coal to the Richards Bay Coal Terminal using two hundred wagon trains stretching 2.5km (Spoornet, 2016).

The coal mining industry has grown from employing just over 50,000 employees in 2004 to just under 88,000 in 2013 (Chamber of Mines of South Africa, 2014:14). This represents a 76% increase in labour over the period. Coal production increased modestly by approximately 5% from 243 million tons to 256 million tons over the

same period (Chamber of Mines of South Africa, 2014:20). From the aforementioned it can be deduced that South African coal mining industry labour productivity; which is normally measured in tons produced per employee per year; fell over the same period from 4,860 tons per employee per year to 2,909 tons per employee per year. This represents a 40% drop in labour productivity over the period. Australian Coal Mining Industry produced 527 million tons of coal from its 54,900 employees compared to South Africa's 258 million tons from 83,000 employees in year 2013 (Minerals Council of Australia, 2016). It can be deduced from the aforementioned that Australian Coal Mining Industry's labour productivity for year 2013 was 9,600 tons per employee compared to South Africa's 3,108 tons per employee. Comparably South Africa's coal mining industry labour productivity is less than half that of the Australian coal mining industry. Global mining companies such as Anglo American who have operations in both Australia and South Africa, and are able to conduct direct comparison on their operations' outputs reach the same conclusion. Anglo American asserts that labour productivity at their South African coal operations is half that of their Australian operations despite it having experienced a drop in recent years (Creamer, 2014). The company attributes this to shorter working days as a result of labour unrests, skill levels, logistical constraints (rail and coal harbour capacity), and choice of extraction methods (Creamer, 2014).

Coal is a result of a wide variety of plants; much different from currently predominant plant species; which over time become covered with water, clay, silt and shale, and under severe pressure and high temperatures transformed into what we know today as coal. The majority of coal in South Africa was laid down horizontally but in some areas does slope up to 10 degrees (Thompson, 2005:2-3).

Figure 1.1 indicates that South African Coalfields occur predominantly in the Mpumalanga, Gauteng, Kwazulu-Natal and Limpopo provinces. The Mpumalanga Coalfield extends to the Free State province border. Coal has different qualities depending on the predominant conditions during its formation (Thompson, 2005:6). South Africa has approximately 32 billion tons of coal reserves and majority,

approximately 70%, of which is found in the Waterberg, Witbank, Ermelo and Highveld coalfields of the Mpumalanga and Limpopo provinces. These reserves are sufficient to; at a current annual production rate of 250 to 300 million tons, last another 50 to 100 years (South African National Energy Development Institute, 2011:1).

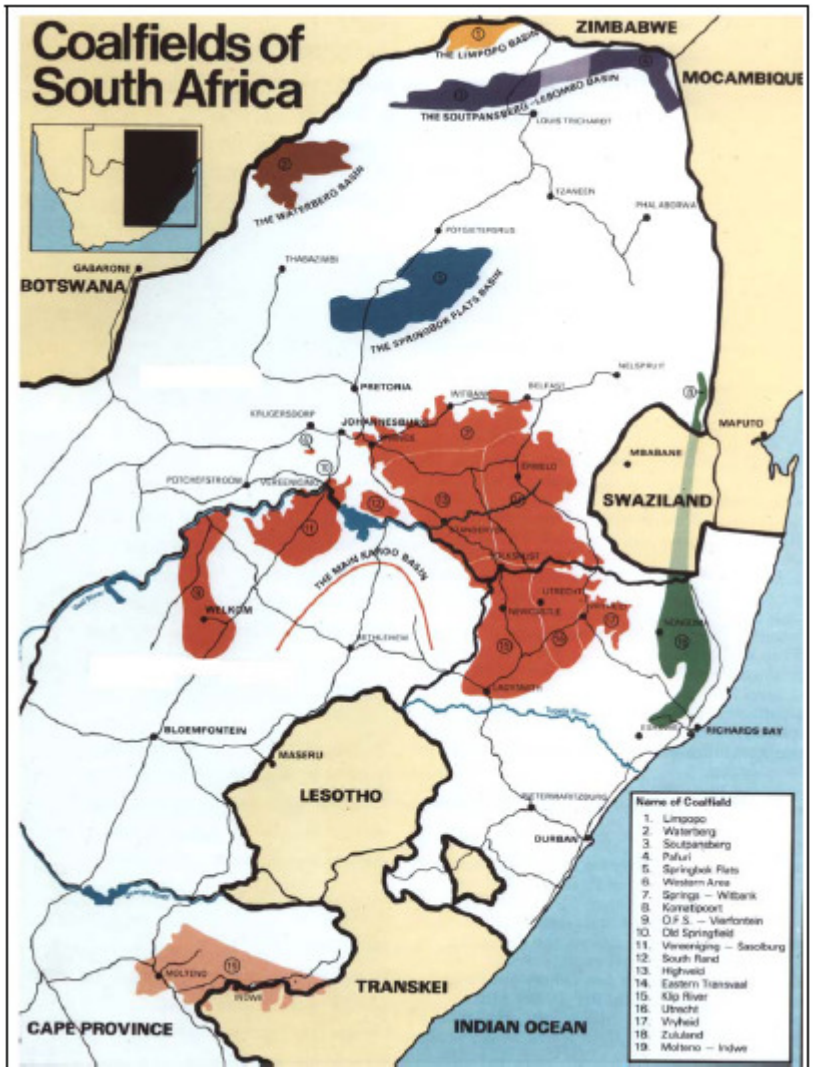

Figure 1.1 Principal South African Coalfields (Source Thompson, 2005:6)

Coal contributes 81% of Eskom's electricity production mix. Eskom and Sasol are accountable for 122 million tons and 40 million tons of inland coal sales respectively (Chamber of Mines of South Africa, 2016).

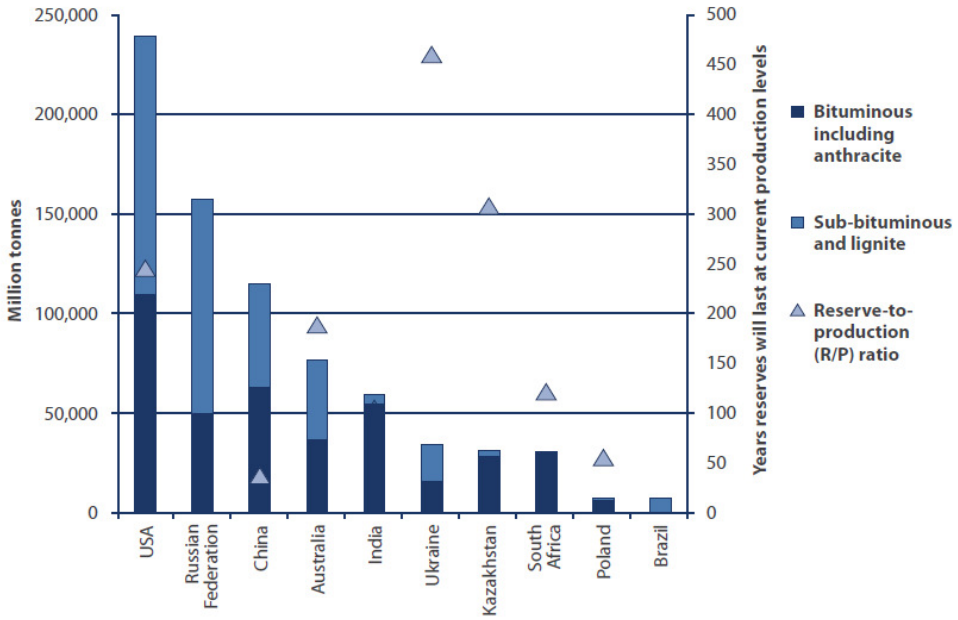

Figure 1.2 World Coal reserves (Source South African National Energy Development Institute, 2011:6)

South Africa has the world's 8th largest coal reserves (see figure 1.2). It is estimated that there is approximately 1 trillion tons of coal reserves globally sufficient to last the world at least 100 years. The top three countries with the highest coal reserves are the USA, followed by Russia and China (South African National Energy Development Institute, 2011:6).

	Country	Output		Country	Output
1	PR China	2,971 Mt	6	South Africa	247 Mt
2	USA	919 Mt	7	Russia	229 Mt
3	India	526 Mt	8	Kazakhstan	96 Mt
4	Australia	335 Mt	9	Poland	78 Mt
5	Indonesia	263 Mt	10	Colombia	73 Mt

Table 1.1 World Main Coal Producers (Source South African National Energy Development Institute, 2011:6).

South Africa being the 6th largest annual producer of coal in the world lags behind China; the world's number 1 coal producer; by over 2.5 billion tons annually (see table 1.1). Table 1.2 indicates that South Africa is the 5th largest exporter of coal in the world (South African National Energy Development Institute, 2011:8).

Top Coal Exporters (2009)				Top Coal Importers (2009)			
	Total	Steam	Coking		Total	Steam	Coking
Australia	259 Mt	134 Mt	125 Mt	Japan	165 Mt	113 Mt	52 Mt
Indonesia	230 Mt	200 Mt	30 Mt	PR China	137 Mt	102 Mt	35 Mt
Russia	116 Mt	105 Mt	11 Mt	South Korea	103 Mt	82 Mt	21 Mt
Colombia	69 Mt	69 Mt	-	India	67 Mt	44 Mt	23 Mt
South Africa	67 Mt	66 Mt	1 Mt	Chinese Taipei	60 Mt	57 Mt	3 Mt
USA	53 Mt	20 Mt	33 Mt	Germany	38 Mt	32 Mt	6 Mt
Canada	28 Mt	7 Mt	21 Mt	UK	38 Mt	33 Mt	5 Mt

Table 1.2 World's Coal Exporting Countries (Source South African National Energy Development Institute, 2011:8)

In the calendar year 2013, South Africa's mineral sales grossed approximately R385 billion of which R101 billion were from coal sales (Chamber of Mines of South Africa, 2014:5). South Africa's contribution to global coal production has dropped from 14% to 8% in the ten years to 2013. The country maintained its coal production levels of 2008 and prior years in the midst of global coal production growth to 2014 (Chamber of Mines of South Africa, 2014:20). Stagnant infrastructural development, especially in the area of rail and export coal terminal capacity, is amongst one of the causes of the stagnating export growth in the South African Coal Mining Industry. The slight to modest growth realised over the ten year period to 2013 was mainly driven by inland thermal and petrochemical markets. The lack of investment in rail and port infrastructure for coal is normally blamed on a chicken egg situation whereby the rail operator Transnet is of the view there is less than an adequate commitment to warrant heavy investment and the industry is of the view there are insufficient rail and port capacity to warrant export coal investment.

Post-1994 many of South Africa's mining companies started expanding globally and were able to conduct a direct comparison between their South African and global operations from a labour productivity point of view. Many of these companies indicate that local mining productivity rates far lags behind Australian operations. According to 2013 figures, Australian coal mining industry's labour productivity in tons per employee per year was 9,600 compared to South Africa's 2,909 (Chamber of Mines of South Africa, 2014:20; Minerals Council of Australia, 2016). South Africa's coal production growth remains marginal and industry is unable to attract necessary investment and capital for rail and port infrastructure upgrade due to, among others, low productivity levels of South Africa coal assets in comparison to competing coal producing countries (Creamer, 2014). Employee levels increased significantly ten years to 2013 with very little production increase.

Hardman (1996:300) advocates that South Africa's coal mining industry labour productivity performance is lagging behind countries such as the United States and Canada, despite the use of similar mining methods and mining technology. He further stated that an average productivity level performance of a South African coal mining employee is less than half that of their Australian and United States counterparts. This view is shared by Mark Cutifani; Anglo American Chief Executive Officer (CEO); who is of the view that despite gradual drop in coal mining productivity levels (measured in tons produced per employee) of an average Australian Coal Mining employee, South Africa's coal mining productivity performance within the Anglo American coal division remains less than half that of its Australian operations (Creamer, 2014).

Heizer and Render (2014:49) describe productivity as comparing the output to input resources in the production of goods and services. Outputs are referred to as goods and services, and inputs as labour, capital and management. The more effective the use of inputs in generating outputs the more productive and the more value is added

to the transformation process of turning inputs into goods and services (Heizer & Render, 2014:49). Productivity essentially measures how well input resources are used to generate goods and services. The most commonly used measure of labour productivity in the coal mining industry is tons produced per employee per year. High productivity results in more coal being produced per unit labour input. If productivity is low, fewer tons are produced per unit labour input. It can be deduced that productivity improvement is achievable through "reducing inputs while keeping outputs constant or increasing outputs while keeping inputs constant". South African Coal Mining industry has over the past ten years been increasing inputs (labour) for the relatively same output (coal volume). Current statistics indicate that employee levels are increased by 74% from 2004 to 2013 for a 5% production increases (Chamber of Mines of South Africa, 2014:20). This indicates that the increases in labour did not result in proportionate production increase. This disproportionate increase in labour is attributable to emergence in ownership of mines by investment and financial institutions coupled by increase in use of contractors in carrying out mining activities (Human Sciences Research Council, 2011:11).

As a result of low productivity levels, South Africa's Coal Mining Industry has not been able to attract sufficient investment and take full advantage of the 91 million tons annual export capacity of its Richards Bay Coal Terminal (RBCT) and RBCT rail line capacity. Exports are currently just below 70 million tons per annum. Transnet has been hesitant to invest in RBCT line capacity mainly due to low confidence in investment commitment from coal mining industry players in comparison to hefty capital injection required (Chamber of Mine of South Africa, 2016; South African National Energy Development Institute, 2011:54).

Significant focus has been paid to equipment, machinery, infrastructure and training aspects of productivity impact and little attention paid to the influence of individual attitudes in unlocking potential within the current operating conditions. Accuracy of drilling and blasting, precision of short-term planning input factors, grade control and quantification, minimization of mining losses and control over material short term

planning by supervisors are examples of some of the technical interventions individual operations (in this case a platinum operation) use to address productivity and efficiency (Lawrence, 1974:402; Neingo & Cawood: 2014:183).

This study emphasises that employee capability to efficiently and effectively produce coal is not limited to infrastructural and technical constraints but can also be influenced by individual attitudes. Current coal volume levels can be attainable with use of less labour if full benefits of individual attitudes can be realised. Attention has been paid to technology, processes and infrastructure in the past in addressing productivity to the neglect of employee attitudes. Sufficient research studies exist on the influence of employee attitudes on work performance. These studies suggest that there is a need to pay attention to individual attitudes and that this plays a complementary role and is equally a part of factors contributing to labour productivity improvement. This study proposes that work related individual attitudes play an important role in individual task and work performance, ultimately organisational performance (McShane & Von Glinow, 2010:17; McShane & Von Glinow, 2010:110). Robbins (2003:72), and McShane and Von Glinow (2010:17) identify the work-related attitudes as job satisfaction, job involvement, organisational commitment, corporate citizenship and counterproductive work behaviours.

This study views individual work performance as central to optimal organisational performance. The relationship between individual attitudes and work performance is studied. Past empirical researchers have shown that job satisfaction, job involvement, organisational commitment and organisational citizenship result in fewer absenteeism, lower resignation rates, and cooperation and helpfulness among employees which in turn positively impacts task and organisational performance (McShane & Von Glinon, 2010:110; Robbins, 2003:72).

1.3 Problem statement

The purpose of this study is to bring to the fore the influence of individual attitudes on work performance in the South African coal mining industry. South African coal mining industry attribute the declining employee performance levels (from 4,860 tons per employee per year in 2004 to 2,909 tons per employee per year in 2013) to shorter working days (labour unrests, higher number of holidays and statutory restrictions on Sunday work for underground mines), skill levels, logistical constraints and choice of extraction methods (Creamer, 2014). This view is shared by many industry leaders including those of multinational companies. This observation and conclusion is noteworthy when taking into consideration that the industry leaders of multinational companies can directly compare local and international operations' performance within one stable.

Statistics from other commodities, within mining industry in South Africa, such as gold indicates a similar trend in productivity drop but under different conditions. Gold production has steady reduced over the period from 342 000 kgs to 167 000 kgs over the 2004 to 2013 period with labour also dropping from 178 000 to 132 000. This is attributable to drop in gold grade from 4.72 to 2.91 grams per million tons, a 38% drop, over same period (Chamber of Mines of South Africa, 2014:14 - 30). The drop in South Africa's gold production is despite the increase in global production from 2 540 000 kgs to 3 022 000 kgs over the same period (Chamber of Mines of South Africa, 2014:28). Productivity, expressed in kilograms of fine gold per employee per year, dropped from 1.92 kg per employee per year to 1.27 kg per employee per year. This represents a 34% drop in productivity mainly due to a proportionate drop in gold grade.

The aim of this study is to indicate and advocate that the productivity ills of the South African coal mining industry, and perhaps mining industry at large, need not be solely addressed by technical and infrastructural fixes but there is a fairly sizeable

contribution individual attitudes can play. There is strong empirical research evidence that warrants an investigation into the influence individual attitudes have on the industry, organisational and individual performance. Current research indicates that there generally exists a relationship between work performance, and job satisfaction, job involvement and organisational commitment, and organisational citizenship behaviour (Rizwan, Khan, & Saboor ,2011:81; McShane & Von Glinow, 2010:112; Podsakoff, Whiting, Podsakoff, & Blume, 2009:129).Lawrence (1974:403) in a Journal to the South African Institute of Mining and Metallurgy asserted that competence, rewards, opportunity and enrichment are crucial to higher productivity within any mining system. Work by Lawrence is amongst few papers that touch directly to topic under study. Neingo and Cawood (2014:182) on their study on productivity trends on platinum mines in South Africa found that productivity fluctuates and is unique to conditions and circumstances under which operations are carried out. Their study focused on technical and related aspects of productivity improvement. Each operation would have certain operational and related aspects to attend to for optimal work performance.

A positive relationship between work performance and individual attitudes will afford organisations to know what to focus on from an individual attitude point of view to positively impact both individual and organisational performance. This is over and above gains from paying attention to technical and related aspects of work. The industry would have to create an environment where appropriate employee behaviours and attitudes are allowed to flourish to get the best out of employees and achieve optimal performance.

1.4 Research Objectives

The primary objective of the study is to investigate work performance and individual attitudes in the South African coal mining industry. The secondary objectives are as follows:

- To determine the relationship between individual work performance and organisational citizenship,
- To determine the relationship between individual work performance and job satisfaction,
- To determine the relationship between individual work performance and job involvement,
- To determine the relationship between individual work performance and organisational commitment, and
- The role of organisational citizenship behaviour, job satisfaction, job involvement and organisational commitment on work performance.

1.5 Research Purpose

This study is aimed towards contributing to the understanding of the influence of individual attitudes on work performance in the South African coal mining industry. Significant emphasis and effort have been placed on technical and resources aspects of work in addressing performance and productivity related issues in the past. Both reports and studies by Lawrence (1974:403), and Neingo and Cawood (2014:182) indicate intervention at technical level in addressing productivity and efficiency. Accuracy of drilling and blasting, precision of short-term planning input factors, grade control and quantification, minimization of mining losses and control over material short term planning by supervisors are amongst some of the technical interventions mentioned to address productivity and efficiency (Lawrence, 1974:402; Neingo & Cawood, 2014:183). At coal mining industry level, mention is made of need to unlock potential by attending to railing and coal ports logistical constraints by ensuring the two are always aligned and maximises capacity. In 2013 70 million tons of coal export sales were achieved through Richard Bay Coal Terminal (Chamber of Mines, 2014:21). The 70 million tons represented record coal railing by Transnet Freight Rail.

1.6 Research Methodology

1.6.1 Literature study

The literature study comprises published and unpublished research articles, mining statistics reports (non-academic and unpublished), academic dissertations and published textbooks on work performance, job satisfaction, job involvement, organisational commitment and organisational citizenship behaviour. Search engines such as Ebscohost and Google scholar were used.

1.6.2 Empirical Study

The study followed a non-experimental quantitative research approach. The non-experimental design followed was one of correlational design whereby a sample was haphazardly drawn from a population of South African coal mining industry personnel who can read and write the English language, and that the researcher has immediately and convenient access to. In total, the South African coal mining industry employs approximately 90,000 people. Non-probability convenience sampling technique is best suited for the study. The geographic area of focus will be the Mpumalanga province and in particular Emalahleni town where the researcher currently resides. Emalahleni is home to some of the coal mining operations owned by major industry players such as Anglo American, South 32, Glencore and Exxaro. It is planned that at least 200 responses would be sufficient for the study.

1.6.3 Measuring instruments

- Generic Job Satisfaction Scale developed by MacDonald and McIntyre in 1997 was used to measure job satisfaction of employees. The scale is a 10

item instrument and a 5-point Likert scale with 1 as strongly disagree and 5 as strongly agree. MacDonald and McIntyre (1997:11) obtained a Cronbach's Alpha reliability of 0.77 in their study on Job Satisfaction Scale Development and its Correlates. An example of an item on the scale includes; "I receive recognition for a job well done".

- Organisational Citizenship Behaviour Scale developed by Sharma and Jain in 2014 was used to measure organisational citizenship behaviour of employees. The scale is a 36-item instrument developed by Sharma and Jain (2014:59) in their study on organisational citizenship behaviour measuring scale in the manufacturing sector and has a Cronbach's Alpha reliability of 0.89. An example of an item on the scale includes; "I create a healthy and cheerful environment at the workplace".

- The Job Involvement Scale developed by Kanungo in 1982 was used to measure employee level of job involvement. The instrument is a 10-item scale with a Cronbach's Alpha of 0.8 (Kanungo cited by Khan, Jam, Akbar, Khan, & Hijazi, 2011:256). An example of an item on the scale includes; "The most important things that happened to me involve my present job".

- The Organisational Commitment Scale developed by Meyer and Allen in 1990 will be used for the study to measure the organisational commitment of employees. The instrument is a 24 item scale, uses a 5-point Likert scale with 1 as strongly disagree and 5 as strongly agree, and has a reliability Cronbach's Alpha of an average of 0.8 according to a study conducted by Meyer and Allen (Meyer & Allen cited by Brown, 2003:41). An example of an item on the scale includes; "I would be happy to spend the rest of my career in this organisation".

- The 18 items Individual Work Performance Questionnaire developed by Koopmans, Bernaards, Hildebrant, Van Buuren, De Vet, and Van der Beek in 2014 was used to measure work performance. The instrument uses the Likert scale of 0 – 4 with 0 being never and 4 being always. The scale will be adjusted to 1 – 5 to align with the scale from other instruments for ease of use. The scale as developed by Koopmans, Bernaards, Hildebrant, Van

Buuren, De Vet, and Van der Beek (2014:331) in their study to develop the instrument achieved a reliability range of 0.78 – 0.84. An example of an item on the scale includes; “I managed to plan my work so that it was done on time”.

1.7 Statistical Analysis

The North-West University Statistical Department was approached for assistance with statistical analysis. Descriptive statistical analysis was used to determine values for mean, variance and standard deviation. Cronbach alpha coefficients were used to assess the reliability of the instruments. Correlations were used to measure the relationship between the variables. A practical significance cut-off point of 0.3 was set (Cohen, 1988). Use was made of regression analysis to determine the proportion of variance in the dependent variable that was predicted by the independent variables (employee behaviour and attitudes). The effect size in the case of multiple regressions is given by the formula $f^2 = R^2/1\text{-}R^2$ (Steyn, 1999). The following parameters were set for practical significance of f^2 (Steyn, 1999):

- 0.01 (small effect),
- 0.1 (medium effect), and
- 0.35 (large effect)

1.8 Assumptions and limitations

The study was conducted on a sample that the researcher had easy access to which might affect the generalisation of the results. The sample frame was the entire coal mining industry in South Africa which comprises of approximately 90,000 people.

An assumption is made that self-assessment by an individual is fairly representative of the actual individual performance and that good performance by individual has a direct effect on organisational performance. Correlation between employee self-assessment and supervisor/managerial assessment is moderate. However, it is worth noting that other aspects of work such as assessment of behaviours that are more personal in nature such as counterproductive behaviours are better left to employees to self-assess themselves. Supervisor assessment of such will be merely a perception (Koopmans, Bernaards, Hildebrandt, van Buuren, van der Beek, & De Vet, 2012:25).

1.9 Summary

This chapter introduced and gave a brief overview of the study. Study objectives, assumptions and limitations were outlined. Research methodology of how the study will be conducted was also outlined. In the subsequent chapters literature review, research methods, empirical study results, conclusions, limitations, recommendations and references are discussed.

2. Chapter 2 - Literature Review

2.1 Literature Review

2.1.1 Work Performance

Campbell cited by Koopmans *et al*. (2012:7) describes individual work performance (IWP) as "behaviours or actions that are relevant to the goals of the organisation". These are also behaviours and actions that are important in ensuring and will see an organisation ultimately reach its goals. High-performing individuals are crucial for the achievement of organisational goals (Sonnentag & Frese, 2002:4).

Rotundo and Sackett (2002:66) describe job performance as "actions and behaviours under the control of the individual that contribute to the achievement of organisational".

Individual Work Performance; though limited to actions by individuals; has found wide application as an outcome measure for work studies in occupational environments (Koopmans *et al*., 2014:160).

Current research into work performance indicates that Individual Work Performance should not only be a function of task performance but also of contextual performance, counterproductive work behaviour and adaptive performance (Rotundo & Sackett, 2002:78; Viswesvara & Ones, 2000:218). Contextual performance is described as those behaviours that must prevail for technical functions to occur. These may be social and psychological in nature (Borman & Motowidlo, 1993:73). Counterproductive Work Behaviours are behaviours such as absenteeism, off-task behaviour, theft, and substance abuse that negatively impacts on organisational

performance (Rotundo & Sackett, 2002:69; Koopmans *et al*., 2012:7). Adaptive performance sees to it that change and adaptability element of individual work performance are catered for (Koopmans *et al*., 2012:7).

Task performance is one of the dimensions of individual work performance that is regarded as behaviours necessary to support the planning and execution of transformation of raw input materials into goods and services by an organisation (Borman & Motowidlo, 1993:92). Similarly Rotundo and Sackett (2002:67) describe task performance as those behaviours instrumental in completion of tasks and contribute to the production of goods and provision of services.

Individual Work Performance is a self-report performance tool. It is viewed as providing a subjective appraisal of self and that it might not be as accurate as appraisal by a supervisor or one's manager. As a result individuals will be inclined to view themselves in a positive light (Van der Heijden & Nijhof, 2004:5-6).

Levine (1980:261) advocates for use of self-appraisal urging that people directly deal with consequence of their actions, receive judgements of their actions from others and that they have time to reflect on their performance, feelings and actions.

Berry, Carpenter, and Barratt (2012:625) assert that self-report have been used extensively and are more applicable in the case of measurement of employee's counterproductive behaviour. They further assert that use of both self and supervisor assessment are comparable and researchers often make use of both when measuring counterproductive behaviour.

2.1.2 Job Satisfaction and Work Performance

Robbins (2001:78) defines job satisfaction as “a general attitude an individual has towards his or her job”. McShane and Von Glinow (2010:108) describe job satisfaction as “an appraisal of perceived job characteristics, work environment and emotional experiences at work”. Gibson, Donnelly, Ivancevich and Konopaske (2011:102) similarly define job satisfaction as “attitudes; resulting from job perceptions, work environment factors, supervisor’s management style, policies and procedures, working conditions group affiliations, working conditions and fringe benefits; that employees have about their jobs”. Job satisfaction is further described as succeeding positive evaluation of job characteristics, work environment and emotional experiences (McShane & Von Glinow, 2010:108).

Dissatisfied employees express their dissatisfaction in the following ways:

- *Exit* - this involves an employee leaving the employ of his/her organisation and or requesting to be moved to another unit within an organisation. This normally builds over time until such time that the employee is motivated enough to take the bold step and engage in exit behaviour. Some employees engage in more abrupt exit behaviours normally as result of a perceived unfair practice by management or a conflict situation (Mitchell, Holtom, & Lee, 2001:97-102).
- *Voice* - this deals with some ways by which an employee may try to change, escape and or remedy a dissatisfying situation. Employees may resort to counterproductive behaviours to voice their dissatisfaction (McShane and Von Glinow, 2010:110).
- *Loyalty* - in this case, an employee stays on, maintains positive behaviour and hopes the dissatisfying situation will improve and that management will do right by the circumstance (Robbins, 2001:82).

- *Neglect* - in this case, employees let loose of the care and respect for work, and engage in negative behaviours such as increased absenteeism, poor punctuality and disregard for work output (McShane & Von Glinow, 2010:110).

Gibson *et al.* (2011:102) identify the following as having an impact in creating a work environment where job satisfaction thrives and these are also continually measured by many organisations through surveys to determine ways of improving employee attitudes:

- *Pay* - relates to the remuneration received for work done and also whether or not the remuneration is consummate for the job.
- *Job* - relates to the interest the job sparks and the opportunities it provides for learning and growth.
- *Promotion opportunities* - relate to the opportunities the job provides for one's career advancement prospects.
- *Supervisor* - relates to the interest shown by a supervisor in the wellbeing of his/her employees.
- *Co-workers* - relates to the conduciveness of the work environment in relations to co-worker support and friendliness.

It is widely believed that happy employees are productive employees. The empirical research to support this view is little. Literature does however point to existence of common antecedents; such as effort, compensation, supervision and clarity of roles, between job performance and job satisfaction (Christen, Iyer & Soberman, 2006:138). The reverse of the study tend to be studied more. Christen *et al.* (2006:138) found that there is a positive relationship between job performance and job satisfaction when effort is taken into account.

Gibson *et al.* (2011:104) indicate that there is a moderate relationship between job satisfaction and work performance, and that also when adding other factors such as job complexity the strength of the relationship is enhanced. Both directions of the

relationship between work performance and job satisfaction continue to be studied with varying outcomes.

Many conclude that the relationship is influenced by other factors such as personality, success and achievement, positive mood and performance rewards contingency (Judge, Thoresen, Bono & Patton, 2001:380). Most managers continue, despite research evidence of non-significant relationship between job satisfaction and work performance, to encourage job satisfaction in the workplace and hold the belief that a satisfied employee is a productive and performing employee. This allows managers to reap benefits such as Organisational Citizenship Behaviour whereby employees are inclined to engage in behaviours such as assisting a colleague to complete a job, making positive comments about a company, going an extra mile on tasks and not making problems greater than they appear (Gibson *et al*., 2011:105). Other benefits such as low turnover and absenteeism continue to be realised by management about employee satisfaction (Gibson *et al*., 2011:106).

Robbins (2003:80) asserts that there is evidence emerging that, if attention is diverted from an individual to an organisation about the study of the relationship between job satisfaction and work performance, a happy organisation is a productive organisation when taking interactions and work process complexities into account. In contrast to findings by others and popular belief, other studies find that there is a negative relationship between satisfaction and absenteeism especially when there are outside factors involved (Robbins, 2003:80). These outside factors include among others whether or not there is a penalty involved should one not come to work. The studies found that the absenteeism levels of highly satisfied employees were the same as for dissatisfied employees in cases where both were at liberty to choose for themselves whether or not to come to work when external factors such as adverse weather and liberal leave policies were present. Similarly and against popular belief, other studies are finding that there is a negative relationship between satisfaction and turnover except in the case of high employee performance (Spencer & Steers, 1981:511). An actual decision as to whether one leaves his/her job is

heavily dependent on factors such as labour market conditions, alternative job opportunities and length of tenure with the organisation (Hulin, Roznowski & Hachiya ,1985:233). Job satisfaction is much more important in the retention of poorly performing employees than for high performing employees as the latter are lured to stay by pay raises, praise, recognition and promotion opportunities given to them by organisations (Robbins, 2001:81). Robbins (2001:83) indicates that studies point to a positive relationship between satisfaction and organisational citizenship behaviour. Employees would as a result be inclined to engage; as popularly held; in behaviours such as going beyond the call of duty, helping others and talking positively about the organisation.

2.1.3 Job Involvement and Work Performance

Paullay, Alliger & Stone -Romero (1994:224) describes job involvement as the "degree to which one is preoccupied, engaged and concerned about his or her job". Kahn *et al.* (2011:252) further define job involvement as the "degree to which employees are involved in their jobs and partake in the making of decisions" and further describes job satisfaction, job commitment and employee job performance as outcomes of job involvement. Employee empowerment and participation in decision-making on job-related matters are important factors of job involvement. These create a sense of ownership among employee which enhances employee performance (Kahn *et al.*, 2011:252).

Lawler cited by Kahn *et al.* (2011:253) describes job involvement as having a significant impact on both employee and organisational performance. Job involvement links and emphasises importance of work to one's life. The importance of work to one's life has a bearing on one's loyalty to an organisation which in turn has a bearing on individual work performance (Chughtai, 2008:169).

Khan *et al*. (2011:257) asserts that job involvement increases organisational citizenship behaviour, work performance, and reduce turnover intentions and work stress. Employees low in job involvement are likely to be less satisfied with their jobs and have high turnover intentions (Rizwan *et al*., 2011:79).

Job involvement provides an indication of whether or not an individual is likely to perform well in his or her job. Highly involved people tend to perform better than those who are less involved (Chughtai, 2008:178). Highly involved people tend to be more motivated, committed to their jobs and put more effort in their job performing better than those who are less involved. Job involvement tends to be high amongst permanent employees than part-time and contractor employees (Martin & Hafer, 1995:330). It also follows that low turnover intentions tend to be amongst full-time than part-time employees. It is therefore important that organisations create an environment where job involvement is encouraged in order to fully benefit from outcomes of job involvement such as job satisfaction, job commitment and employee job performance.

Effort plays a mediating role on the relationship between job performance and job involvement. It renders the relationship to a statistically non-significant level (Chughtai, 2008:170).

Organisations should seek to empower employees on decisions regarding swiftness of work, quality of product and job-related abilities and resources to foster job involvement amongst employees (Khan *et al*., 2011:257).

Rizwan *et al.* (2011:81) identified the following element as important in enhancing job involvement in the workplace:

- *Empowerment* relates to the degree to which employees are allowed to participate in decision-making and have autonomy in their jobs in an organisation.
- *Information* relates to the extent to which employees are informed of different aspects of business such as revenues and profitability. This also includes information on employees' performance.
- *Knowledge* relates to employee training and development necessary to enable the employee to manipulate company data and draw inferences for enhancement of both individual and organisational performance.
- *Rewards* relate to benefits organisations offer to employees which serve as motivation and a tool for employee job involvement.

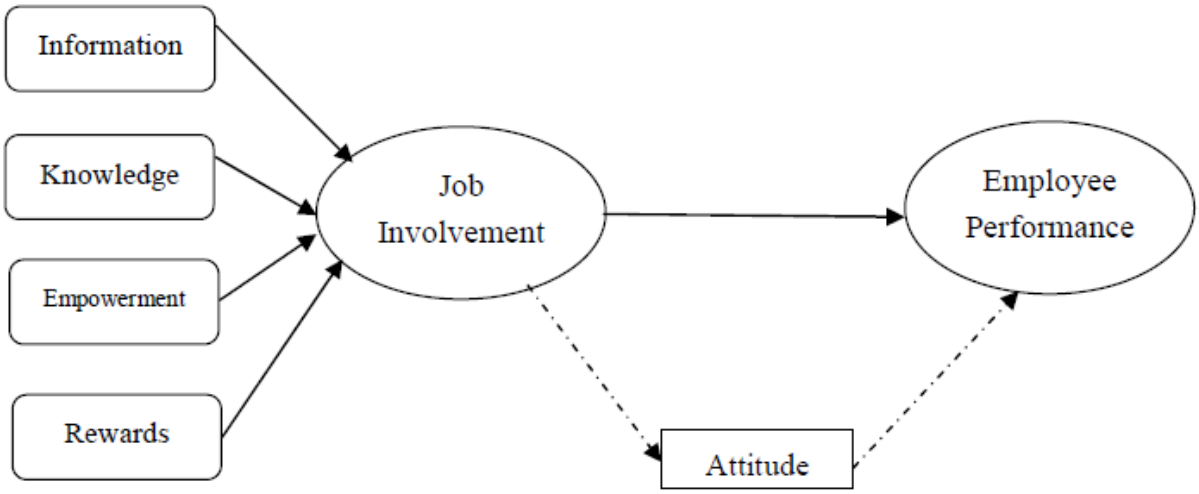

Figure 2.1 Model depicting relationship between job involvement, its elements and employee performance (source Rizwan *et al.*, 2011:81)

Figure 2.1 above highlights job involvement as one important tool that can be used to enhance employee performance. The more involved employees are the more they produce positive results for the organisation. They also tend to be happier and satisfied with their jobs. They exert enormous effort in getting their job tasks and organisational goals achieved, and also avoid undesirable behaviours that stand in the way of organisational goals (Rizwan *et al.*, 2011:81).

2.1.4 Organisational Commitment and Work Performance

In as much as job involvement is concerned with one's identity with one's job so is an organisational commitment to one's organisation and its goals (Robbins, 2003:72). Gibson *et al*. (2011:182) identify commitment to an organisation as involving three attitudes namely; "feeling of involvement in organisational duties, sense of identity with organisational goals, and feeling of loyalty towards an organisation". Organisational commitment tends to be a better forecaster of turnover as compared to job satisfaction, and this is owed to the fact that organisational commitment is more global and focuses on the organisation as a whole (Porter, Steers & Mowday, 1974:603). This is further explained by Robbins (2003:72) whereby he advocates that it is possible for one to be unhappy with one's job but not with the organisation leading to one not having the intention to leave. The tendency of employees wanting to stay with one employer for as long as possible is fast eroding, and the relationship between either job satisfaction or job involvement on the turnover as we know it from research could soon be obsolete. A new form of commitment is likely to arise, and commitment could soon be viewed as an occupational commitment than organisation commitment as we know it due to the rise of workforce fluidity (Robbins, 2003:73). Gibson *et al*. (2011:182) assert that the following behaviours are indicative of committed people:

- Less likelihood of high turnover,
- Little supervision required, and
- See individual and organisational goals as linked and identifies with them.

Organisational commitment can be broken down into affective and continuance commitment. Affective commitment is more related to emotional attachment type of loyalty to an organisation, whereas continuance commitment is more related to calculative attachment type of loyalty to an organisation whereby an employee is obliged to stay with the organisation no matter what as it might be costly or impractical or unrewarding to quit (McShane & Von Glinow, 2010:112). Employees

with high affective organisational commitment tend to have fewer turnover intentions, less likelihood of absenteeism, higher motivation, higher organisational citizenship and better job performance (McShane & Von Glinow, 2010:112). This implies that employees high in continuance organisational commitment tend to be low performers and often exhibit low organisation citizenship behaviours. High continuance organisational commitment normally manifests itself in high levels of formal grievances in the resolution of employee matters as compared to constructive engagement in problem-solving that is normally associated with affective organisation commitment (Meyer, 1989:152 – 154). There is a tendency by most employers to strive for and treat continuance organisational commitment as employee loyalty missing pitfalls that come with this type of loyalty. This on the part of the organisation is normally evident through extrinsic reward strategies such as salary and wages, fringe benefits and promotion (Gibson *et al*., 2011:177). For employers to be assured of a productive workforce, it is in the organisations' interest to rather strive to win employees' hearts and engage on a more affective than continuance organisational commitment (McShane & Von Glinow, 2010:112). Intrinsic rewards such as job completion (important to some individuals), achievement of challenging goals, participation in decision-making (autonomy) and personal growth are important in developing organisational commitment in employees (Malhotra, Budhwar & Prowse, 2007:2095-2096).

McShane and Glinow (2010:113) identify the following as actions and behaviours an organisation can engage in to build organisational commitment and loyalty in the workplace:

- *Justice and support* - organisational justice is highly regarded by employees with affective commitment. Organisations ought to fulfil their employer obligations and create an environment where fairness, courtesy and integrity prevail.
- *Shared values* - employees with affective commitment identify and believe that organisational values are aligned with theirs. It is important that organisations have a strong show of commitment to its values. This

gives employees a sense of comfort and predictability of how the organisation will handle workplace matters.

- *Trust* - employees are committed to organisations they can trust. Organisational trust is exhibited by trust employees have on an organisation's leadership.
- *Organisational comprehension* - Employees commit to organisations with clear strategic intents and social dynamics. This is important for affective commitment as employees need to identify and have a clear picture of what the organisation is about.
- *Employee involvement* - employees are more committed to organisations where they participate in decisions that are critical to the running of and steers the organisation into the future.

2.1.5 Organisational Citizenship Behaviour and Work Performance

Organisational Citizenship Behaviour is a spontaneous behaviour linked to an employee going beyond the call of duty by supporting and assisting his or her fellow colleagues on tasks that might not necessarily form part of his or her daily tasks without any expectation of a reward (Sharma & Jain, 2014:57). It is also defined as behaviour that is discretionary and directed towards a person, mostly an acquaintance, with no expectation of extrinsic reward (Sharma & Jain, 2014:57). This behaviour promotes "effectiveness and efficient running of an organisation" (Organ, 1988:4). Robbins (2003:25) adds that "Organisational Citizenship Behaviour is exhibited when employees are willing to do work that is not in their job description". McShane and Von Glinow (2010:17) describe organisational citizenship behaviour as central to organisation performance. Organisations need to convert raw resources into goods and services and also manage stakeholders, and this requires that employees go beyond the boundaries of their formal duties providing assistance; technical or psychological; for those who need it, encourage a conducive and supportive environment for others to thrive and share work resources among others. Lee and Allen (2002:132) add that the support need not only be directed towards individuals but can also be directed towards the organisation by enhancing

companies' public image, taking steps to avoid pitfalls, and offer ideas for continuous improvement.

Organisations are a means that humanity uses to achieve goals and objectives in an orderly manner. Achievement of these goals and objectives needs more than individuals and small groups of people but many people that are like minded and would exhibit behaviours that are relevant and add to organisational performance. As managers are tasked with giving direction to people under their charge in the achievement of organisational goals and objectives, it is important that managers to some extent learn human behaviours to allow them to be able to predict and manage employee behaviours to ensure they stay relevant and in touch with what the organisation needs to succeed (Sharma & Jain, 2014:60). Robbins (2003:25) adds that for organisations to be successful, and overcome team and work dynamics; employees need to be engaged in citizenship behaviours such as "making constructive statements about work teams, avoid unnecessary conflicts, care for the organisation's property, obey rules, and tolerate occasional work related nuisances".

Organ (1988:1) initially categorised discretionary behaviour and the way it contributes to efficiency into five and later added two more, and these are elaborated on below:

- *Altruism* – participant's discretionary behaviour that is targeted towards helping others perform in their jobs leading to overall improvement in efficiency of an organisation with no expectation of a reward for the time spent.
- *Conscientiousness* – "thoughtful use of time to improve organisational and individual efficiency with more time and effort given beyond what is normally required".
- *Sportsmanship* – time spent on counterproductive behaviours is reduced and more time is spent on organisational activities.

- *Courtesy* – “concentrates on prevention of problems and, constructive and efficient use of time”.
- *Civic virtues* – “interests of the organisation are advanced and voluntary participation in organisational activities and functions upheld”.
- *Cheerleading* – achievements are celebrated and serve as positive reinforcement that will see positive actions repeated.
- *Peace-making* – intervention by individuals in heated circumstances allowing parties involved time to recollect their thoughts and reconsider their actions.

A study by Podsakoff, Ahearne & McKenzie (1997:266) on a manufacturing plant indicated that organisational citizenship behaviour is positively related to work performance. Their study revealed that amongst the discretionary behaviours, civic virtue was found to have no relationship with performance. Another study by Podsakoff *et al*. (2009:129) indicated a strong relationship between organisational citizenship behaviour, task performance and organisational outcomes. Podsakoff *et al*. (2009:134) assert that individuals high in organisational citizenship behaviour receive high managerial/supervisor ratings.

2.2 Summary

The chapter gave a background into relationship between work performance and employee attitudes from past literature.

3. Chapter 3 – Research Methods

3.1 Introduction

This chapter explains the research methodology that was used to conduct the research. The research study aims to investigate the influence of individual attitudes on work performance in the South African coal mining industry. In this chapter the research objectives and purpose, the research methodology, and the study assumptions and limitations are discussed.

3.2 Research Objectives

The primary objective of the study is to investigate the influence of individual attitudes on work performance in the South African coal mining industry. The secondary objectives are as follows:

- To determine the relationship between individual work performance and organisational citizenship,
- To determine the relationship between individual work performance and job satisfaction,
- To determine the relationship between individual work performance and job involvement,
- To determine the relationship between individual work performance and organisational commitment, and
- The role of organisational citizenship behaviour, job satisfaction, job involvement and organisational commitment on work performance.

3.3 Research Purpose

This study aims to contribute to the understanding of the influence of individual attitudes on work performance in the South African coal mining industry. Significant emphasis and effort have thus far been placed on addressing technical and infrastructural aspects of productivity and performance related problems to much neglect of employee behaviours and attitudes. Current empirical studies indicate that there is a relationship between performance and employee individual attitudes. This relationship will be studied and the strength of the relationship, and attitudes that best explain variation in work performance (dependent variable) determined.

3.4 Research Methodology

3.4.1 Empirical Study

3.4.1.1 Research design

The study follows a non-experimental quantitative research approach. The non-experimental design will be one of correlational design whereby a sample will be haphazardly drawn from a population of coal mining industry personnel who can read and write the English language, and are easily accessible to the researcher.

3.4.1.2 Sampling method and collection

The sampling frame for coal mining industry employees in South Africa is approximately 90,000 people. The cost for the research would be fairly enormous with the use of other techniques. A non-probability convenience sampling technique was followed in the study as it allows for the researcher only to focus on those employees that he has easy access to (Welman, Kruger & Mitchell, 2005:69). The

study sample will concentrate on coal mining operations in the Emalahleni town, and its immediate surrounding areas, of the Mpumalanga Province. This is where the researcher also resides and the town also hosts quite a number of the mining operations owned by many of the coal mining industry players. This sampling method is ideal from a cost effectiveness and efficiency point of view but prone to being less representative.

At least 200 questionnaire responses are planned for the study. A questionnaire (see Appendix A) was developed using measuring instruments for constructs under study. This is elaborated on under the "measuring instruments" section below. A Likert scale of 1 – 5 was used. The Likert scale range was defined as follows:

- A score of 1 would mean that behaviours or actions are never displayed, or the respondents are strongly disagreeable to the listed behaviours or actions.
- A score of 2 would mean that the respondents seldom display the behaviour or are disagreeable to the listed behaviours or actions.
- A score of 3 would mean that the respondents sometimes display the behaviours or are neither disagreeable nor agreeable to the listed behaviours or actions.
- A score of 4 would mean that the respondents often display the behaviours and actions or are agreeable to the listed behaviours or actions.
- A score of 5 would mean that the respondents always display the behaviours and actions or are more than agreeable or are strongly agreeable to the listed behaviours or actions.

Three field workers were appointed to assist the researcher with the distribution of the questionnaires. The field workers were trained on the questionnaire and its contents to enable them to handle questions participants might ask. A significant number of the questionnaires were distributed at Vlakfontein Mine where the researcher works. The field workers also work for the mine. Permission was obtained from mine management for the questionnaire to be distributed on the operation. Outside of Vlakfontein Mine, questionnaires were distributed to coal mining industry

employees known to both the researcher and the field workers. Emails were used for remote participants. A register was kept of the email participants, and both the researcher and field workers followed up on the responses through email and SMS reminders.

Platforms such as mining shows and other forms of gathering where coal mining industry employees gather were used for distribution of the questionnaires. Responses for this type of distribution were very low.

The referral method was encouraged whereby a participant may take one or more questionnaires for coal mining industry employees that he/she knows and this proved to be effective.

Approximately 320 questionnaires were made available for distribution. 251 responses were received. No cost was incurred on field workers. The assistance provided was voluntary.

3.4.1.3 Measuring instruments

- Generic Job Satisfaction Scale developed by MacDonald and McIntyre in 1997 was used to measure job satisfaction of employees. The scale is a 10 item instrument and a 5-point Likert scale with 1 as strongly disagree and 5 as strongly agree. MacDonald and McIntyre (1997:11) obtained a Cronbach's Alpha reliability of 0.77 in their study on Job Satisfaction Scale Development and its Correlates. An example of an item on the scale includes; "I receive recognition for a job well done".
- Organisational Citizenship Behaviour Scale developed by Sharma and Jain in 2014 was used to measure organisational citizenship behaviour of

employees. The scale is a 36-item instrument developed by Sharma and Jain (2014:59) in their study on organisational citizenship behaviour measuring scale in the manufacturing sector and has a Cronbach's Alpha reliability of 0.89. An example of an item on the scale includes; "I create a healthy and cheerful environment at the workplace".

- The Job Involvement Scale developed by Kanungo in 1982 was used to measure employee level of job involvement. The instrument is a 10-item scale with a Cronbach's Alpha of 0.8 (Kanungo cited by Khan *et al*., 2011:256). An example of an item on the scale includes; "The most important things that happened to me involve my present job".

- The Organisational Commitment Scale developed by Meyer and Allen in 1990 will be used for the study to measure the organisational commitment of employees. The instrument is a 24 item scale, uses a 5-point Likert scale with 1 as strongly disagree and 5 as strongly agree, and has a reliability Cronbach's Alpha of an average of 0.8 according to a study conducted by Meyer and Allen (Meyer & Allen cited by Brown, 2003:41). An example of an item on the scale includes; "I would be happy to spend the rest of my career in this organisation".

- The 18 items Individual Work Performance Questionnaire developed by Koopmans *et al*. in 2014 was used to measure work performance. The instrument uses the Likert scale of 0 – 4 with 0 being never and 4 being always. The scale will be adjusted to 1 – 5 to align with the scale from other instruments for ease of use. The scale as developed by Koopmans *et al*. (2014:331) in their study to develop the instrument achieved a reliability range of 0.78 – 0.84. An example of an item on the scale includes; "I managed to plan my work so that it was done on time".

3.5 Statistical Analysis

Assistance from North-West University Statistics Department was sought to manipulate data using Statistical Package for Social Sciences (SPSS) software. Descriptive statistical analysis was used to determine values for mean, variance and standard deviation. Cronbach alpha coefficient was used to assess the reliability of the instruments. Cronbach's alpha coefficient of 0.7 to 0.95 was used as a threshold for acceptable reliability of measuring instruments (Tavakol & Dennick, 2011:54). Correlation analysis was used to measure the relationship between the variables. Correlations results were expressed as coefficients ranging from "-1 to 1" where "-1" means a perfect inverse relationship, "0" no relationship and "1" meaning a direct perfect relationship (Welman *et al*., 2005:234). A Practical significance cut-off point of 0.3 was set (Cohen, 1988). Regression analysis was used to determine the proportion of variance in the dependent variable that is predicted by the independent variables (employee attitudes). The effect size in the case of multiple regressions is given by the formula $f^2 = R^2/1\text{-}R^2$ (Steyn, 1999). The following parameters were set for practical significance of f^2 (Steyn, 1999):

- 0.01 (small effect),
- 0.1 (medium effect), and
- 0.35 (large effect).

3.6 Assumptions and limitations

The population for the study is wide and covers approximately 90,000 people covering provinces of Limpopo, Mpumalanga, Free State, KwaZulu-Natal and Gauteng. The study was conducted in Emalahleni town and immediate surrounding areas in the Mpumalanga province by a sample the researcher has easy access to.

An assumption is made that individual work performance self-assessment is fairly representative of the actual performance by an employee. Though there is a

moderate correlation between self-assessment and manager appraisal of employees, evaluation of behaviours such counterproductive behaviours are better evaluated by employees themselves as they are of a personal nature (Koopmans *et al.*, 2012:25). It is assumed that behaviours measured by Individual Work Performance translate into organisational outcomes and assists in ensuring that the organisational goals are met.

3.7 Summary

Research methodology used in carrying out the study is elaborated on in more detail. Research design, sampling and collection methods, measuring instruments and statistical techniques used are explained. Assumptions and limitations of the study are also elaborated on.

4. Chapter 4 – Empirical Study Results

4.1 Introduction

This chapter covers the results of the empirical study. The results cover demographic characteristics, descriptive statistics, correlation and regression analysis.

Industry demographics are discussed below. It draws attention to limitations on study conclusions and recommendations. The demographic information was obtained from Mining Qualification Authority database on skills levy registry.

Highest Qualification	Number of Employees	% of Employees
No Schooling	15 239	2.7%
Pre-ABET	7 992	1.4%
ABET 1	20 753	3.6%
ABET 2 / Std 3, Grade 5	28 285	4.9%
ABET 3 / Std 5, Grade 7	38 605	6.7%
ABET 4 / Std 7, Grade 9	31 249	5.5%
Std 8 / Grade 10, NATED 1 / NCV Level 1	41 703	7.3%
Std 9 / Grade 11, NATED 2 / NCV Level 2	48 586	8.5%
Std 10 / Grade 12, NATED 3 / NCV Level 3	143 811	25.1%
National Certificate/Diploma/Advanced Certificate/NATED 4 - 6	20 449	3.6%
National/Higher Certificate	35 835	6.3%
National Certificate/ Advanced Diploma/ B Tech Degree/ Bachelor's Degree	9 203	1.6%
National Certificate/Master's Degree/Master's Diploma	1 529	0.3%
Bachelor Honour's Degree/Postgraduate Diploma/Bachelor's Degree(480 credits)	5 418	0.9%
Doctoral Degree & Post-doctoral Degree	231	0.0%
Undefined	123 630	21.6%
	572518	**100%**

Table 4.1 Highest Educational qualification of employees in the mining sector 2013/2014 (source Mining Qualification Authority, 2014:5)

Table 4.1 above indicate that 12.6% of employees in the mining sector have zero to very little schooling. Only 25.1% attained a matric qualification. 9.9% attained post matric national certificates. Only 1.6% have diplomas/degrees and 1.2% master's degrees and postgraduate diplomas.

	Female	%	Male	%	Grand Total
1: Managers	2 261	15%	12 416	85%	14 677
2: Professionals	8 189	31%	18 190	69%	26 379
3: Technicians and Associate Professionals	8 431	14%	52 432	86%	60 864
4: Clerical Support Workers	11 366	49%	11 786	51%	23 152
5: Service and Sales Workers	1 723	27%	4 599	73%	6 322
6: Skilled Craft and Related Trades Workers	2 061	6%	34 924	94%	36 985
7: Plant and Machine Operators and Assemblers	12 514	5%	231 822	95%	244 335
8: Elementary Occupations	19 543	13%	131 071	87%	150 614
Grand Total	**68 544**	**12%**	**503 974**	**88%**	**572 518**

Table 4.2 Mining sector gender distribution according to occupational group (Source Mining Qualification Authority, 2014:7)

Table 4.2 above indicate that women represent 12% of the entire mining industry workforce. It is worth noting that women are more dominant in the professional (31%), clerical support (49%), and sales and service work fields (27%).

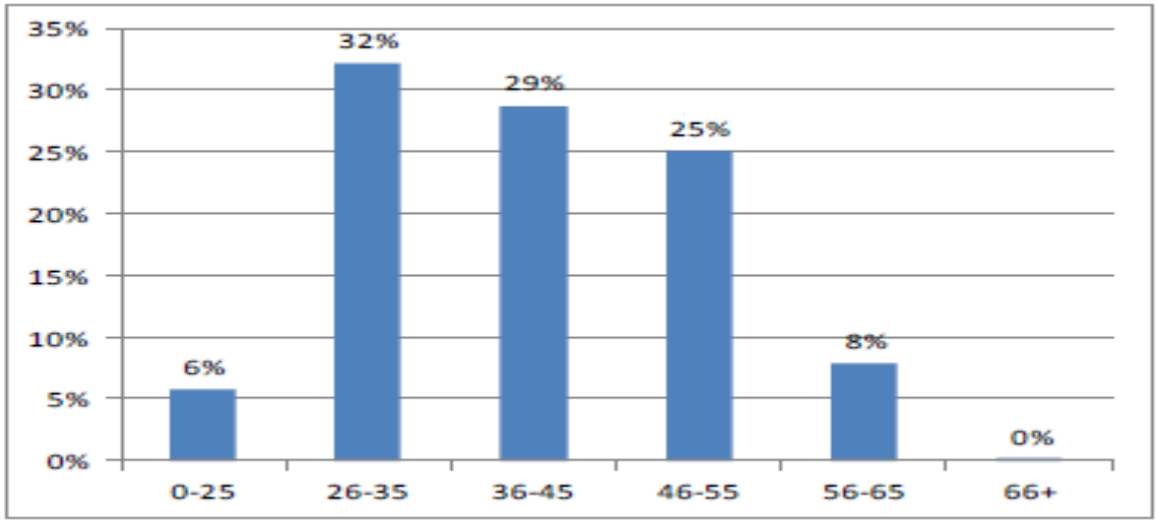

Table 4.3 Mining sector age distribution of employees (Source Mining Qualification Authority, 2014:7)

Table 4.3 above indicate that age 38% of the employees are below the age of 35 years. 55-65 age group accounts for 8% of the workforce. 86% of the workforce is between the ages of 26 and 55 years.

	0-49		50-149		150-4999		5000+		Grand Total	
	Num Emp	%	Num Emp	%	Num Emp	%	Num Emp	%	Num Emp	%
Cement, Lime, Aggre	677	13%	2 308	16%	14 270	5%	-	0%	17 256	3%
Coal Mining	463	9%	2 124	14%	50 984	19%	9 293	3%	62 864	11%
Diamond Mining	137	3%	786	5%	10 293	4%	-	0%	11 216	2%
Diamond Processing	117	2%	683	5%	571	0%	-	0%	1 372	0%
Gold Mining	91	2%	300	2%	33 390	12%	122 990	44%	156 771	27%
Jewellery Manufactu	420	8%	685	5%	-	0%	-	0%	1 104	0%
Other Mining	1 707	33%	4 281	29%	67 248	25%	28 635	10%	101 871	18%
PGM Mining	47	1%	328	2%	55 780	20%	119 424	43%	175 579	31%
Services Incidental to	1 496	29%	3 363	23%	39 626	15%	-	0%	44 485	8%
Grand Total	5 156	100%	14 858	100%	272 162	100%	280 342	100%	572 518	100%

Table 4.4 Mining sector employment distribution by employee size (Source Mining Qualification Authority, 2014:15)

Table 4.4 above indicate that 60277 of the 62 864 (95.9%) work for medium size to very large companies. This accounts for companies that have 150 employees and more.

		Eastern_	Free_State	Gauteng	Kwazulu_Natal	Limpopo	Mpumalanga	North_West	Northern_Cape	Western_Cape	Grand Total
Cement, Lime,	Num	754	230	6 489	2 088	748	921	2 740	1 253	2 035	17 256
Aggregates and Sand	%	4%	1%	38%	12%	4%	5%	16%	7%	12%	100%
	Num	90	2 147	3 845	3 509	4 047	49 221	1	2	1	62 864
Coal Mining	%	0%	3%	6%	6%	6%	78%	0%	0%	0%	100%
	Num	-	1 219	1 946	-	1 568	-	532	5 316	634	11 216
Diamond Mining	%	0%	11%	17%	0%	14%	0%	5%	47%	6%	100%
	Num	-	-	1 269	-	74	-	-	29	-	1 372
Diamond Processing	%	0%	0%	93%	0%	5%	0%	0%	2%	0%	100%
	Num	-	40 829	83 205	5	1 822	5 312	25 599	-	-	156 771
Gold Mining	%	0%	26%	53%	0%	1%	3%	16%	0%	0%	100%
Jewellery	Num	23	13	486	15	1	17	2	-	547	1 104
Manufacturing	%	2%	1%	44%	1%	0%	2%	0%	0%	50%	100%
	Num	1 096	443	22 588	4 418	22 283	11 385	20 563	17 158	1 938	101 871
Other Mining	%	1%	0%	22%	4%	22%	11%	20%	17%	2%	100%
	Num	-	7	11 529	-	41 860	1	122 123	58	-	175 579
PGM Mining	%	0%	0%	7%	0%	24%	0%	70%	0%	0%	100%
Services Incidental	Num	60	1 148	14 207	348	4 719	3 679	19 041	855	427	44 485
to Mining	%	0%	3%	32%	1%	11%	8%	43%	2%	1%	100%
Grand Total		**2 023**	**46 037**	**145 565**	**10 382**	**77 121**	**70 535**	**190 601**	**24 672**	**5 581**	**572 518**

Table 4.5 Mining sector provincial distribution of employees according to subsector (Source Mining Qualification Authority, 2014:17)

Table 4.5 above indicate that 78% of the coal mining industry employees work in coal mines in the Mpumalanga province.

	African		Coloured		Indian		White		Grand Total
Occupational Group	Number	% of Occupation	Number	% of Occupation	Number	% of Occupation	Number	% of Occupation	
1: Managers	5 031	1%	502	4%	487	17%	8 656	12%	14 677
2: Professionals	13 604	3%	1 103	8%	781	27%	10 891	15%	26 379
3: Technicians and Associate Professionals	38 698	8%	1 944	14%	529	19%	19 693	28%	60 864
4: Clerical Support Workers	14 865	3%	1 331	10%	419	15%	6 537	9%	23 152
5: Service and Sales Workers	5 382	1%	207	2%	24	1%	709	1%	6 322
6: Skilled Agricultural, Forestry, Fishery, Craft and Related Trades Workers	20 066	4%	1 810	13%	258	9%	14 852	21%	36 985
7: Plant and Machine Operators and Assemblers	235 107	48%	4 260	31%	194	7%	4 775	7%	244 335
8: Elementary Occupations	145 082	30%	2 202	16%	74	3%	3 256	5%	150 614
Grand Total	**485 210**		**13 763**		**2 855**		**70 690**		**572 518**

Table 4.6 Mining sector racial distribution of employees according to occupational group (Source Mining Qualification Authority, 2014:6)

Table 4.6 above breaks down the distribution of mining industry employees by occupational grouping and race. It can be deduced from the table that 14677 out of 572518 (2.56%) employees are in managerial positions, 26379 out of 572518 (4.6%) are in professional positions, 60864 out of 572518 (10.6%) are in technician or associate professional roles, clerical and sales positions accounted for 29474 out of 572518 (5.2%), trader workers accounted for 36985 out of 572518 (6.5%), and operators and elementary positions accounted for 394949 of out 572518 (69%) of mining industry employees. Blacks account for 85% of coal mining industry workforce. Coloureds account for 2.4% of the workforce. Indians and Whites account for 0.5% and 12.1% respectively.

Row Labels	Female	% Females	Male	Grand Total
Cement, Lime, Aggregates and Sand (CLAS)	2 854	17%	14 402	17 256
Coal Mining	9 527	15%	53 337	62 864
Diamond Mining	1 824	16%	9 392	11 216
Diamond Processing	757	55%	615	1 372
Gold Mining	16 157	10%	140 614	156 771
Jewellery Manufacturing	595	54%	509	1 104
Other Mining	12 721	12%	89 150	101 871
PGM Mining	18 514	11%	157 065	175 579
Services Incidental to Mining	5 595	13%	38 890	44 485
Grand Total	**68 544**	**12%**	**503 974**	**572 518**

Table 4.7 Mining sector female employment according to subsector (Source Mining Qualification Authority, 2014:8)

Table 4.7 above indicate that female and male employees accounted for 15% and 85% of coal mining industry employees respectively.

4.2 Demographic results

4.2.1 Respondents' distribution by Gender

Gender	Frequency	Percentage	Cumulative Percentage
Female	101	40.2%	40.2%
Male	150	59.8%	100.0%
	251	100.0%	

Table 4.8 Respondents' distribution by Gender

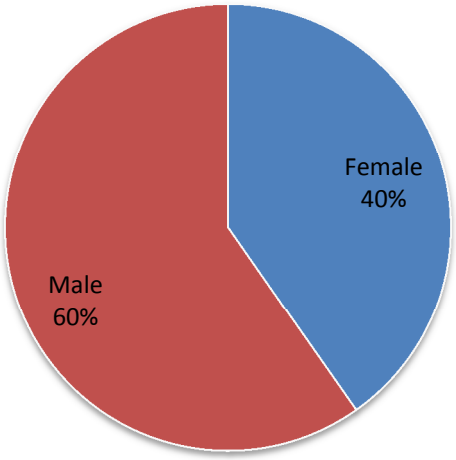

Figure 4.1 Respondents' distribution by Gender

Table 4.8 and figure 4.1 above depict respondents' distribution by gender. 40.2% and 59.7% of the respondents were females and males respectively. Female and male representation in the coal mining industry is 15% and 85% respectively (Mining Qualification Authority, 2014:8). The sampling method chosen for the study is one of convenient sampling. This method limits the researcher to those industry participants that the researcher has easy access to and are willing to participate. The variance in gender representation presents limitations to the conclusions that can be drawn out of the views expressed by respondents. Higher participation of women is indicative of high research participation by women in clerical (49%), sales (27%) and professional (31%) roles where they are well represented. Women only constitute 5% and 13% of operator and elementary positions respectively (Mining Qualification Authority, 2014:22).

4.2.2 Respondents' distribution by Age

Age (years)	Frequency	Percentage	Cumulative Percentage
Less than 25	12	4.8%	4.8%
25 to 35	98	39.0%	43.8%
36 to 45	98	39.0%	82.9%
More than 45	43	17.1%	100.0%
	251	100%	

Table 4.9 Respondents' distribution by Age

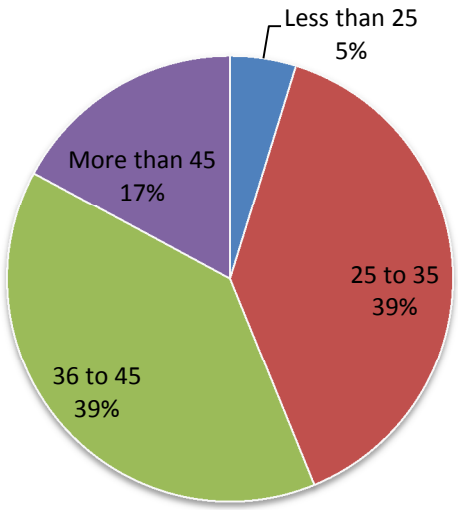

Figure 4.2 Respondents' distribution by Age

Table 4.9 and figure 4.2 above depict respondents' distribution by age. 4.8% of respondents were less than 25 years of age. 39% of respondents were 25 to 35 years of age. 39% of respondents were 36 to 45 years of age, and only 17.1% were above 45 years of age. Those 45 years and less constituted 82.9% of respondents. Mining Qualification Authority (2014:7) indicate that 67% of mining industry employees are 45 years and below by age. This is in contrast with research

respondents' age demographics but does indicate that this age group is in the majority. This should enhance quality of views expressed by respondents.

4.2.3 Respondents' distribution by Coal Mining Experience

Experience in Coal Mining (years)	Frequency	Percentage	Cumulative Percentage
less than 3	27	10.8%	10.8%
3 to 8	94	37.5%	48.2%
9 to 13	71	28.3%	76.5%
more than 13	59	23.5%	100.0%
	251	100%	

Table 4.10 Respondents' distribution by Coal Mining Experience

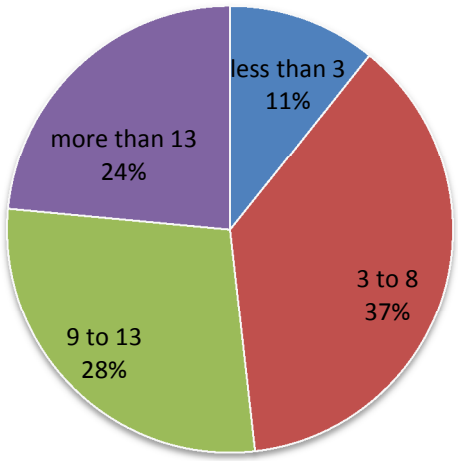

Figure 4.3 Respondents' distribution by Coal Mining Experience

Table 4.10 and figure 4.3 above depict respondents' distribution by coal mining experience. 10.8% of respondents had less than three years of experience. 37.5% and 28.3% of respondents have coal mining experience of 3 to 8 years and 9 to 13 years respectively. 23.5% of respondents had coal mining experience of more than 13 years. Coal Mining experience demographic results are comparable to

respondents' age information. The information suggests that there were some employees that joined the coal mining industry late in their careers. This is illustrated by a fairly higher number of employees (10.8%) with less than three years' experience when compared to only 4.8% of employees below the age of 25 years. Respondents could have perhaps worked in other mining sectors and or came from the non-mining related sector.

4.2.4 Respondents' distribution by Race

Race	Frequency	Percentage	Cumulative Percentage
Black	159	63.3%	63.3%
Coloured	23	9.2%	72.5%
White	58	23.1%	95.6%
Indian	11	4.4%	100.0%
Other	0	0.0%	100.0%
	251	100%	

Table 4.11 Respondents' distribution by Race

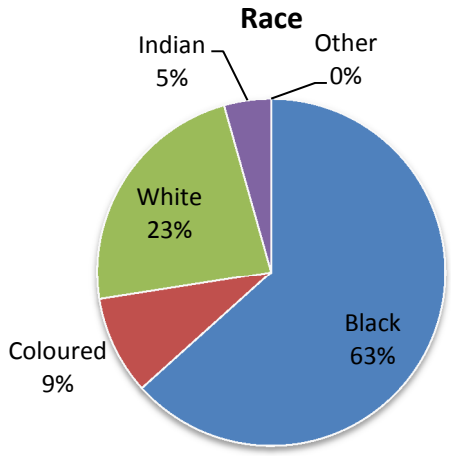

Figure 4.4 Respondents' distribution by Race

Table 4.11 and figure 4.4 above depict respondents' distribution by race. 63.3% of respondents were Blacks. 9.2% of respondents were Coloured. 23.1% of respondents were Whites, and 4.4% were of Indian descent. Mining Qualification Authority (2014:19) indicates that blacks accounts for 85%, whites 12%, coloureds 2% and Indians 1% of the mining industry workforce. The respondents' race distribution is not entirely reflective of South African mining industry race demographic but does corroborate the order of racial majority. This should assist in enhancing quality of conclusions drawn from respondents' views.

4.2.5 Respondents' distribution by Organisational Position

Position	Frequency	Percentage	Cumulative Percentage
Skilled	23	9.2%	9.2%
Junior Management	68	27.1%	36.3%
Middle Management	88	35.1%	71.3%
Senior Management and higher	72	28.7%	100.0%
	251	100%	

Table 4.12 Respondents' distribution by organisational position

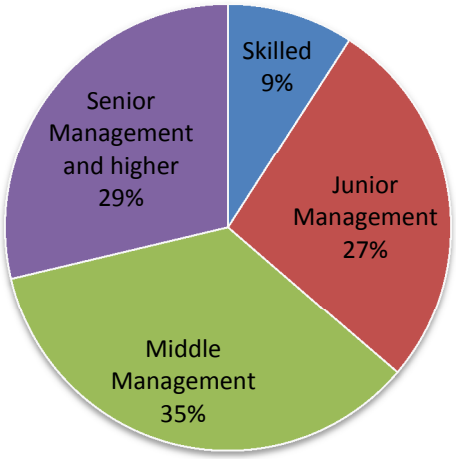

Figure 4.5 Respondents' distribution by organisational position

Table 4.12 and figure 4.5 above depict respondents' distribution by organisational positions held. 9.2% of respondents held skilled level positions. 27.1% of the respondents held junior management positions. 35.1% of respondents held middle management positions and only 28.7% held senior management and higher positions. Mining Qualification Authority (2014:7) indicate that 431934 out of 572518 (76%) skills levy registered employees are at organisational roles of skilled labour and below. It further indicate that only 29474 out of 572518 (5%) are in junior management roles, 87243 out of 572518 (15%) are in middle management roles and 14677 out of 572518 (3%) are in management and higher roles. The respondents' distribution by organisational position is not congruent with the coal mining industry's organisational position demographics with regards to skilled and lower category employees. This can be attributed to willingness to participate and the exclusive use of the English language which might have deterred skilled and lower category from participating in the survey. Mining Qualification Authority (2014:5) indicates that 62% of the mining industry workforce has a less than matric qualification.

4.2.6 Respondents' distribution by Department

Department	Frequency	Percentage	Cumulative Percentage
Production	57	22.7%	22.7%
Maintenance	33	13.1%	35.9%
Finance	38	15.1%	51.0%
Technical	49	19.5%	70.5%
Administration	53	21.1%	91.6%
Other	21	8.4%	100.0%
	251	100%	

Table 4.13 Respondents' distribution by Department

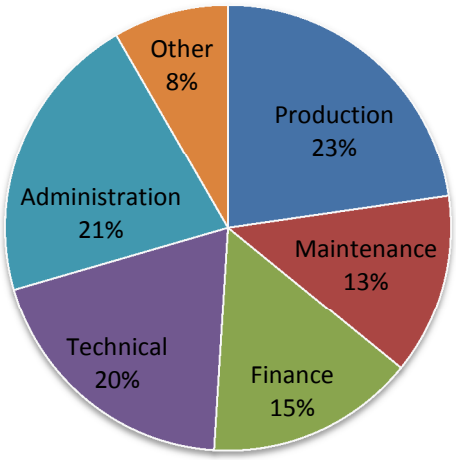

Figure 4.6 Respondents' distribution by Department

Table 4.13 and figure 4.6 above depict respondents' distribution by department. 22.7% of the respondents work in the production department. 13.3% of the respondents work in the maintenance department. 15.1% of the respondents work in the finance department. 19.5% work in the technical department. Administration and other departments account for 29.5% of responses. Mining Qualification Authority (2014:7) indicate that production, maintenance and technical personnel account for approximately 85% of the total workforce. This is in agreement, from a majority order

point of view, with the respondents' distribution by department which indicates that respondents in these departments accounts for 56% of respondents. These departments are the most instrumental in organisational performance and will bring credibility to the conclusions made.

4.2.7 Respondents' distribution by Type of Coal Mining

Type of Coal Mining	Frequency	Percentage	Cumulative Percentage
Opencast/Surface	133	53.0%	53.0%
Underground	67	26.7%	79.7%
Both	51	20.3%	100.0%
	251	100%	

Table 4.14 Respondents' distribution by type of coal mining

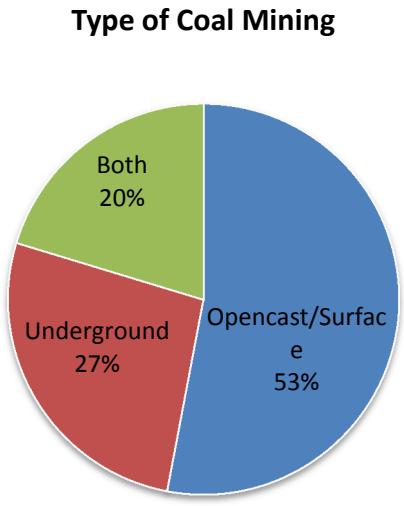

Figure 4.7 Respondents' distribution by type of coal mining

Table 4.14 and figure 4.7 above depict respondents' distribution by type of coal mining. 53% work or worked in the Opencast/Surface environment. 26.7% work or

worked in the underground environment and 20.3% work or worked in both environments.

4.2.8 Respondents' distribution by Company Revenue

Company Revenue	Frequency	Percentage	Cumulative Percentage
Less than R200m	16	6.4%	6.4%
R200m to R750m	107	42.6%	49.0%
R751m to R1.5b	61	24.3%	73.3%
More than R1.5b	67	26.7%	100.0%
	251	100%	

Table 4.15 Respondents' distribution by company revenue

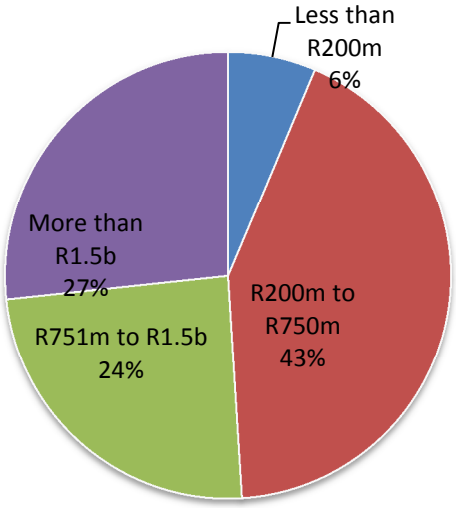

Figure 4.8 Respondents' distribution by company revenue

Table 4.15 and figure 4.8 depict respondents' distribution by company revenue. 6.4% work or worked for companies with revenue of less than R200million. 42.6% of respondents work or worked for companies with revenue of R200million to R750million. 24.3% of the respondents work or worked for companies with revenue of R751million to R1.5billion. 26.7% of the respondents work or worked for companies with revenue of R1.5billion and above. Human Science Research Council (2011:11) indicates that increase in use of contractors and ownership of mines by investment banks resulted in disproportionate increase in labour in comparison to volume coal mining volume increases for the 10 year period to 2013. Category of mines where there is extensive use of contractors are normally those with revenues of R200m and less. These account for 6% of respondents and represent an area where employee productivity is generally at its lowest. These may also be faced with both technical and employee attitudes challenges on equal scale other than medium to large corporations who generally have a good handle on technical challenges. This is congruent with mining industry demographics which indicate that approximately 3% of organisations fall in this category (Mining Qualification Authority, 2014:15).

4.2.9 Respondents' distribution by Number of Employees (company size)

Number of Employees	Frequency	Percentage	Cumulative Percentage
Less than 100	44	17.5%	17.5%
100 to 250	40	15.9%	33.5%
251 to 599	42	16.7%	50.2%
600 to 1000	40	15.9%	66.1%
1000 and more	85	33.9%	100.0%
	251	100%	

Table 4.16 Respondents' distribution by number of employees (company size)

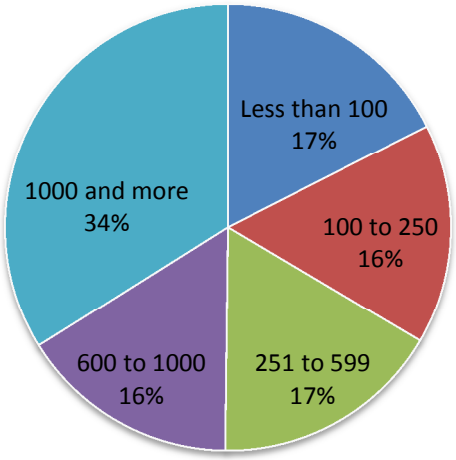

Figure 4.9 Respondents' distribution by number of employees (company size)

Table 4.16 and figure 4.9 above depict company size from some employees' point of view the respondents work or worked for. 17.5% work or worked for companies with 100 and less employees. 33.5% of respondents work or worked for companies with 100 to 250 employees. 16.7% of respondents work or worked for companies with 251 to 599 employees. 15.9% of respondents work or worked for companies with 600 to 1000 employees. 33.9% of respondents work or worked for companies with 1000 and more employees. This is congruent with industry demographics; from a majority order point of view, whereby a large majority of employees work for medium to large mining organisations (Mining Qualification Authority, 2014:15).

4.3 Descriptive Analysis

The descriptive analysis covers the calculation of means and standard deviations for each of the constructs. A score of 1 would mean that behaviours or actions are never displayed, or the respondents are strongly disagreeable to the listed behaviours or actions. A score of 2 would mean that the respondents seldom display the behaviours and actions or are disagreeable to the listed behaviours or actions. A

score of 3 would mean that the respondents sometimes display the behaviours and actions or are neither disagreeable nor agreeable to the listed behaviours or actions. A score of 4 would mean that the respondents often display the behaviours and actions or are agreeable to the listed behaviours or actions. A score of 5 would mean that the respondents always display the behaviours and actions or are more than agreeable or are strongly agreeable to the listed behaviours or actions.

Descriptive analysis of the constructs is elaborated on below.

Individual Work Performance	**Mean**	**Standard Deviation**
I managed to plan my work so that it was done on time	4.07	.771
My planning is optimal	3.93	.748
I kept in mind the results that I had to achieve in my work	4.18	.796
I was able to separate main issues from side issues at work	4.14	.785
I was able to perform any work well with minimal time and effort	4.01	.764
I took on extra responsibilities	4.08	.765
I started new tasks myself when my old ones were finished	4.10	.774
I took on challenging work tasks, when available	4.11	.738
I worked at keeping my job skills up to date	4.12	.726
I came up with creative solutions to new problems	4.07	.748
I kept looking for new challenges in my job	4.05	.755
I actively participated in work meetings	4.09	.759
I complained about unimportant matters at work	2.86	1.149
I made problems greater than they were at work	3.13	1.118
I focused on the negative aspects of a work situation, instead of on the positive aspects	3.22	1.123
I spoke with colleagues about the negative aspects of my work	3.03	1.131
I spoke with people from outside the organisation about the negative aspects of my work	3.21	1.145
Mean	**3.79**	**0.60**

Table 4.17 Respondents' descriptive analysis on Individual Work Performance

Table 4.17 above indicates that respondents scored themselves a mean of 3.79. This implies that level of individual work performance of respondents; as self-assessed; is between "sometimes to often" with regards to the display of the individual work performance behaviours but leans more towards "often" display of behaviours. A standard deviation of 0.6 was achieved. It is worth noting that the respondents scored lower on average on the counterproductive behaviours. In conclusion, the score implies that respondents are more inclined to engage in behaviours such as planning optimally, keep end results in mind when performing work, take on extra responsibilities, come up with creative solutions, not focus on negative aspects of work and not complain about unimportant things. These are behaviours that add to improved organisational performance. The respondents' distribution by role indicated that only 9% of the respondents were in the skilled and less role category in comparison to this category representing 76% of the labour workforce. However viewing this representation by respondents' distribution by department; production, technical and maintenance departments' majority (56%) surfaces which brings some credibility to the respondents' view of their individual performance. It is worth considering that the performance views expressed here are in the context of current performance expectations from industry which in itself are inherently less than adequate from a global and potential perspective.

Job satisfaction	**Mean**	**Standard Deviation**
I receive recognition for a job well done	3.60	.825
I feel close to the people at work	3.72	.826
I feel good working for this company	3.87	.732
I feel secure about my job	3.75	.767
I believe management is concerned about me	3.64	.867
On the whole, I believe work is good for my physical health	3.90	.842
My wages are good	3.57	.906
All my talents and skills are used at work	3.57	.932
I get along with my supervisors	3.81	.812
I feel good about my job	3.90	.776
Mean	3.73	0.61

Table 4.18 Respondents' descriptive analysis on Job satisfaction

Table 4.18 above indicate that the respondents scored themselves a mean of 3.73. This implies that level of job satisfaction of respondents is between “neither agree nor disagree to agree” with regards to being satisfied with their jobs but leans more towards “agreeable” display of such belief. A standard deviation of 0.61 was achieved. This implies that the respondents are more inclined to belief that they are secured about their jobs, management is concerned about them and that their skills and talents are put to good use. The respondents’ view provides a near adequate coverage from distribution by role point of view whereby 56% of the respondents are from production, maintenance and technical departments. Respondents’ distribution congruence with industry demographic is also evident in the area of number of employees, company revenue, age and race. The lower levels; skilled and lower, are inadequately represented with only 9% of respondents representing this category in comparison to industry demographic figure of 76%. Women representation is incongruent with industry demographic whereby 40.2% of women responded compared to 15% industry representation. Conclusions drawn and recommendations made will take this into account.

Organisational Commitment	**Mean**	**Standard Deviation**
I would be happy to spend the rest of my career in this organisation	3.08	1.145
I enjoy discussing my organisation with people outside it	3.52	0.914
I really feel as if this organisation's problem are my own	3.25	0.843
I think that I could easily become as attached to another organisation as I am to this one	3.14	0.904
I do not feel like part of the family at my organisation	2.39	0.980
I do not feel emotionally attached to this organisation	2.31	0.946
This organisation has a great deal of personal meaning to me	3.33	0.815
I do not feel a strong sense of belonging to my organisation	2.35	0.983
I am not afraid of what might happen if I quit my job without having another one lined up	2.13	1.239
It would be very hard for me to leave my organisation right now, even if I wanted to	3.14	1.082
Too much in my life would be disrupted if I decided to leave my organisation now	3.23	1.012

It would not be too costly for me to leave my organisation	3.00	1.088
Right now, staying with my organisation is a matter of necessity as much as desire	3.06	1.068
I feel that I have very few options to consider leaving this organisation	2.69	1.091
One of the few serious consequences of leaving this organisation would be the scarcity of available alternatives	2.96	1.136
One of the major reasons I continue to work for this organisation is that leaving would require considerable personal sacrifice-another organisation may not match the overall benefit I have here	2.86	1.124
I think that people these days move from company to company too often	3.51	0.961
I do not believe that a person must always be loyal to his or her organisation	3.01	1.004
Jumping from organisation to organisation does not seem at all unethical to me	3.36	1.015
One of the major reasons I continue to work in this organisation is that I believe loyalty is important and therefore feel a sense of moral obligation to remain	2.90	1.062
If I got another offer for a better job elsewhere I would not feel it was right to leave my organisation	2.76	1.120
I was taught to believe in the value of remaining loyal to one organisation	3.16	1.215
Things were better in the days when people stayed in one organisation for most of their careers	3.11	1.028
I do not think that to be a company man or company women is sensible anymore	3.22	1.015
Mean	3.20	0.50

Table 4.19 Respondents' descriptive analysis on Organisational commitment

Table 4.19 above indicate that the respondents scored themselves a mean of 3.20. This implies that level of organisational commitment of respondents is between "neither agree nor disagree to agree" with regards to the display of the organisational commitment behaviours but leans more towards the neutral display of behaviours. A standard deviation of 0.5 was achieved. This implies that there is a little over 50%

chance that respondents will display affective commitment behaviours such as feeling an emotional attachment to the organisation, feeling part of the organisation and staying with the organisation even if there are other options outside of the organisation. The respondents' view provides a near adequate coverage from distribution by role point of view whereby 56% of the respondents are from production, maintenance and technical departments. Respondents' distribution congruence with industry demographic is also evident in the area of number of employees, company revenue, age and race. The lower levels; skilled and lower, are inadequately represented with only 9% of respondents representing this category in comparison to industry demographic figure of 76%. Women representation is incongruent of industry demographic whereby 40.2% of women responded compared to 15% industry representation. Conclusions drawn and recommendations made will take this into account.

Organisational Citizenship Behaviour	**Mean**	**Standard Deviation**
I create health and cheerful atmosphere at workplace	3.98	.787
I listen to co-workers problems and try to suggest solutions	4.08	.747
I try to improve the working conditions	4.02	.687
I volunteer to take additional tasks, not part of work	3.96	.703
I spread goodwill in the organisation	3.89	.678
I help co-workers when required	3.93	.723
I give constructive suggestions for improvement	4.03	.737
I do not complain about insignificant things at workplace	3.92	.981
I am enthusiastic about my job	4.10	.769
I am enthusiastic about my co-worker's welfare	4.00	.713
I self-develop myself as per the changes taking place	3.94	.772
I help subordinates to develop required skills	4.03	.772
I put extra effort into my job	4.09	.775
I take feedback from my co-workers and superiors	4.18	.729

I use cheaper resources during tours to save organisational resources	3.90	.893
I oppose favouritism in the organisation	4.13	.853
I encourage family members to patronise our organisation	1.84	1.311
I boost my organisation's image	4.04	.744
I promote my organisational products and services	4.05	.747
I project a good image of my organisation to the people	4.12	.703
I praise the working conditions of my organisation	4.03	.756
I provide suggestions to co-workers related to their work	4.11	.749
I encourage co-workers to give suggestions for improving our productivity/efficiency	4.06	.729
I consult my colleagues whenever possible	3.98	.660
I follow my organisation's rules even when not watched	4.08	.733
I welcome good change without resistance	3.98	.681
I take the initiative for assignments	4.03	.678
I help new employees adjust to new working environment	4.04	.781
I do not take personal credit for teamwork	4.12	.826
I protect the organisational resources	4.22	.778
My actions are such that they do not create problems for co-workers or hurt me	4.17	.767
I switch off/close the tap, without waiting for a person to come	4.06	.841
I am ready to buy shares of my company at market place	3.75	.922
I am ready to send my children to this company	3.53	.943
I emotionally blackmail my co-workers for desirable results	2.78	1.247
I always feel that my company is best in industry to work for	3.68	.904
Mean	3.97	0.44

Table 4.20 Respondents' descriptive analysis on Organisational citizenship behaviour

Table 4.20 above indicates that the respondents scored themselves a mean of 3.97. This implies that level of organisational citizenship of respondents is between "neither agree nor disagree to agree" with regards to the display of the organisational commitment behaviours but leans more towards "agreeable" display of behaviours. A standard deviation of 0.44 was achieved. Respondents scored highest in this construct. This implies that respondents are more inclined to engage in behaviours such as creating a conducive work environment for others at work, help others develop skills, protect organisational resources and promote the company's image. The respondents' view provides a near adequate coverage from distribution by role point of view whereby 56% of the respondents are from production, maintenance and technical departments. Respondents' distribution congruence with industry demographic is also evident in the area of number of employees, company revenue, age and race. The lower levels; skilled and lower, are inadequately represented with only 9% of respondents representing this category in comparison to industry demographic figure of 76%. Women representation is incongruent of industry demographic whereby 40.2% of women responded compared to 15% industry representation. Conclusions drawn and recommendations made will take this into account.

Job Involvement	**Mean**	**Standard Deviation**
The most important things that happen to me involve my present job	3.56	.955
To me, my job is only a small part of who I am	3.34	1.074
I am very much involved personally in my job	3.73	.901
I live, eat and breathe my job	3.22	.978
Most of my interests are centred around my job	3.49	.931
I have strong ties with my present job which would be very difficult to break	3.49	.922
Usually, I feel detached from my job	2.41	1.147
Most of my personal life goals are job oriented	3.47	.939
I consider my job to be very central to my life	3.57	.916
I like to be really involved in my job most of the time	3.90	.864
Mean	3.42	0.58

Table 4.21 Respondents' descriptive analysis on Job involvement

Table 4.21 above indicates that the respondents scored themselves a mean of 3.42. This implies that level of job involvement of respondents is between “neither agree nor disagree to agree” with regards to the display of the job involvement behaviours but leans more towards the centre of “neither agree nor disagree to agreeable” display of behaviours. A standard deviation of 0.58 was achieved. This implies that respondents are inclined to display behaviours of being involved in their jobs, having their jobs inseparable from their lives, and live, eat and breathe their jobs. The respondents’ view provides a near adequate coverage from distribution by role point of view whereby 56% of the respondents are from production, maintenance and technical departments. Respondents’ distribution congruence with industry demographic is also evident in the area of number of employees, company revenue, age and race. The lower levels; skilled and lower, are inadequately represented with only 9% of respondents representing this category in comparison to industry demographic figure of 76%. Women representation is incongruent of industry demographic whereby 40.2% of women responded compared to 15% industry representation. Conclusions drawn and recommendations made will take this into account.

4.4 Correlation Analysis

	Cronbach's Alpha	Mean	Standard Deviation	1	2	3	4
1. Individual Work Performance	0.90	3.79	0.60				
2. Job Satisfaction	0.91	3.73	0.61	0.27			
3. Commitment	0.69	3.20	0.50	-0.44	0.11		
4. Job Involvement	0.81	3.42	0.58	0.34	0.46	0.22	
5. Organisational Citizenship Behaviour	0.94	3.97	0.44	0.65	0.48	-0.11	0.49

Table 4.22 Correlations between variables

Internal Consistency calculated using Cronbach's Alpha technique as presented in Table 4.22 above indicate that all measuring instruments fall within the acceptable range of 0.70 and above except for Organisational Commitment which narrowly misses the threshold at 0.69.

Table 4.22 above indicates that Individual Work Performance is statistically and practically significantly (large effect size) related to Organisational Citizenship Behaviour, Job Involvement and Organisational Commitment (inverse relationship). It also statistically and practically significantly related (medium effect size) to Job Satisfaction.

Job Satisfaction is statistically and practically significantly related (large effect size) to Organisational Citizenship Behaviour and Job Involvement. It is statistically and practically significantly related (medium effect size) to Individual Work Performance and Organisational Commitment.

Commitment is statistically and practically significantly related (inverse) to Individual Work Performance (large effect). It is statistically and practically significantly related (medium effect size) to Organisational Citizenship Behaviour (inverse relationship), Job Satisfaction and Job Involvement.

Job Involvement is statistically and practically significantly related (large effect size) to Individual Work Performance, Job Satisfaction and Organisational Citizenship Behaviour. It is statistically and practically significantly related (medium effect size) to Organisational Commitment.

Organisational Citizenship Behaviour is statistically and practically significantly related (large effect size) to Individual Work Performance, Job Satisfaction and Job Involvement. It is statistically and practically significantly related (medium effect size) to Organisational Commitment (inverse relationship).

4.5 Regression Analysis

Individual Work Performance	
	Beta
Job Satisfaction	-0.016
Commitment	-0.421
Organisational Citizenship Behaviour	0.519
Job Involvement	0.181
R	**.760a**
R^2	**.578**
F^2	**1.37**

Table 4.23 Regression analysis

Regression analyses aim to determine the effect of Job Satisfaction, Organisational Commitment, Organisational Citizenship Behaviour and Job Involvement as predictors of individual Work Performance. This is presented in Table 4.23 above. The above results indicate that the 57.8% of the variance in Individual Work Performance is explained by Job Satisfaction, Organisational Commitment, Organisational Citizenship Behaviour and Job Involvement. Organisational Citizenship Behaviour is the only statistically significant predictor of Individual Work Performance.

4.6 Discussions

The objective of the study was to determine the influence individual attitudes such as job satisfaction, job involvement, organisational commitment and organisational citizenship behaviour have on work performance in the South African coal mining industry. Empirical study results indicate that individual work performance is statistically and practically significantly related (large effect size) to organisational citizenship behaviour and job involvement. Job satisfaction was found to be statistically and practically significantly related (medium effect size) to individual work performance. Organisational commitment was found to be statistically and practically significantly inversely related to individual work performance. Regression analysis indicates that organisational citizenship behaviour is statistically a significant predictor of individual work performance.

Discussion on how the results of the empirical study compare to literature is elaborated on in the sections 4.6.1 to 4.6.4 below.

4.6.1 Individual Work Performance and Organisational Citizenship Behaviour

Correlation analysis indicates that Individual Work Performance is statistically and practically significantly related (large effect size) to Organisational Citizenship Behaviour. A correlation coefficient of 0.65 was obtained. Regression analysis also indicated that organisational citizenship behaviour is the most significant predictor of individual work performance. This is consistent with the conclusion by McShane and Von Glinow (2010:17) who indicated that organisational citizenship behaviours such as the creation of conducive and support environment for others to thrive, and provision of support and assistance for colleagues to complete their tasks are central to organisational work performance. This is also consistent with findings by Podsakoff *et al.* (2009:119) that there is a strong relationship between organisational

citizenship behaviour, task performance and organisational outcomes. Organ cited by Sharma & Jain (2014:58) asserted that organisational citizenship behaviours such as altruism, conscientiousness, sportsmanship, courtesy, civic virtues, cheerleading and peace-making are crucial in creating a conducive environment for individuals to thrive resulting in positive organisational outcomes. Another study by Podsakoff *et al.* (1997:266) on a manufacturing plant found that there is a positive relationship between organisational citizenship behaviour and work performance. The findings of this research study are fairly consistent with findings from literature.

4.6.2 Individual Work Performance and Organisational Commitment

Correlations analysis indicates organisational commitment and individual work performance are statistically and practically significantly inverse related. A correlation coefficient of -0.44 was obtained. Regression analysis indicates that organisational commitment is a weak predictor of individual work performance. Literature categorises organisational commitment into affective and continuance commitment. Affective commitment relates to an emotional attachment to an organisation and continuance commitment is a non-emotional type attachment to an organisation whereby an employee stays with an organisation because it would be too costly to quit (McShane & Von Glinow, 2010:112). The empirical study results are more consistent with the employees high in continuance commitment who show little organisational citizenship behaviours (McShane & Von Glinow, 2010:112). Such employees would have poor individual work performance owing to the strong relationship between organisational citizenship behaviour and individual work performance (McShane & Von Glinow, 2010:17). Employees that are high in affective commitment exhibit strong organisational citizenship behaviours and achieve better work performance results. The empirical study results attest to a strong presence of continuance commitment in the workplace. Robbins(2003:73) indicate that there is a growing trend whereby employees are less committed to staying with one company for a long time but are more committed to the occupation than an organisation. The results may also imply that perhaps employers are not

encouraging environments that breed affective organisational commitment. An environment crucial to building affective commitment should ensure that justice and support, shared values, trust, organisational comprehension and employee involvement thrive in the workplace (McShane & Von Glinow, 2010:113).

4.6.3 Individual Work Performance and Job Satisfaction

Correlation analysis between job satisfaction and work performance indicated a statistically and practically significant relationship (medium size effect). A correlation coefficient of 0.27 was obtained. Regression analysis indicated that job satisfaction is a weak predictor of individual work performance. The weak relationship between job satisfaction and individual job performance is consistent with literature that happy employees are not necessarily productive employees (Christen *et al.*, 2006:137). As a result, the impact of work performance on job satisfaction tends to be studied more. Literature indicates that there exists a significant relationship between job satisfaction and organisational citizenship behaviour from an organisational performance point of view. Organisational citizenship behaviours such as helpfulness towards colleagues, creating a conducive environment for others to thrive, going beyond the call of duty and talking positively about the organisation enhance organisational performance than individual performance due to the presence of personnel interactions and work complexity (Robbins, 2003:80). Gibson *et al.* (2011:104) attests that the strength in the relationship between job satisfaction and job performance is enhanced when the job is complex. This is consistent with the study results as well as jobs in the coal mining industry are not high in complexity but are more mass production jobs; with 76% of workforce in skilled and lower job categories, that require teamwork and collaboration between members.

4.6.4 Individual Work Performance and Job Involvement

Correlation analysis between job involvement and individual work performance indicated a statistically and practically significant relationship (large effect size). A correlation coefficient of 0.34 was obtained. Regression analysis indicated that job involvement was the second most significant predictor of individual work performance. The result of the relationship between the two constructs is consistent with literature on views by Kahn *et al.* (2011:252) that employee job performance is an outcome of job involvement. The results are also consistent with assertions by Rizwan *et al.* (2011:81) that high involved employees would exhibit behaviours such as high level of effort in the completion of their job tasks and attainment of organisational goals (Rizwan *et al.,* 2011:81). Highly involved employees view work as important to their lives and are likely to apply themselves to their jobs better than less involved employees. Highly involved employees are less likely to engage in absenteeism and turnover intentions which enhance both individual and organisational performance. 91% of respondents are in the junior, middle to senior management role categories. These maybe be naturally inclined to be involved in their jobs. The lower participation by skilled and lower category employees should be taken into account when making any conclusions and recommendations on the study.

4.7 Summary

Empirical study results are reported and discussed covering respondents' demographic information, and descriptive, correlation and regression analysis. Empirical study results are compared with literature. Highlight of the empirical study is the strength in relationship between organisational citizenship behaviour and individual work performance which is attested to by Podsakoff *et al*. (2009:119) where he confirms a strong relationship between organisational citizenship behaviour, task performance and organisational outcome.

The incongruence of respondents and industry demographics in the areas of gender and role category representation should be taken into account when making any conclusions and recommendations. Congruence in areas of age, race, departmental representation, number of employees (company size) and company revenue is noteworthy and should assist in strengthening credibility of the results.

5. Chapter 5 - Conclusions, Limitations and Recommendations

5.1 Conclusions

The primary objective of the study was to investigate the relationship between work performance and individual attitudes in the South African coal mining environment. The study indicates that all variables were statistically and practically significantly related (medium to the large effect).

The secondary objectives were as follows:

- To determine the relationship between individual work performance and organisational citizenship,
- To determine the relationship between individual work performance and job satisfaction,
- To determine the relationship between individual work performance and job involvement,
- To determine the relationship between individual work performance and organisational commitment, and
- The role of individual attitudes such as organisational citizenship behaviour, job satisfaction, job involvement and organisational commitment on work performance.

Empirical study results indicate that individual work performance is statistically and practically significantly related (large effect size) to organisational citizenship behaviour and job involvement. Job satisfaction was found to be statistically and practically significantly related (medium effect size) to individual work performance. Organisational commitment was found to be statistically and practically significantly

inversely related to individual work performance. Regression analysis indicates that organisational citizenship behaviour is statistically a significant predictor of individual work performance. Regression analysis further indicates that 57.8% of the variance in Individual Work Performance is explained by the four independent variables. Creation of an environment that supports practising of organisational citizenship behaviours such as support for others to thrive and provision of support and assistance for colleagues to complete their tasks is crucial for enhanced individual work performance. Job involvement was the second most predictor of individual work performance. This also implies that employee level of job involvement together with organisational citizenship behaviours will significantly enhance individual work performance. Enhancing work performance will lead to improved efficiency and effectiveness in carrying out work leading to improved productivity in the workplace (Organ, 1988:4). The findings are consistent with the literature on both job involvement and organisational citizenship behaviour. Rizwan *et al*. (2011:81) indicate that highly involved employees exhibit behaviours such as high level of effort in the completion of their job tasks and organisational goals. Podsakoff *et al.* (2009:119) indicated that there is a strong relationship between organisational citizenship behaviour, task performance and organisational outcomes.

Empirical study results on the impact of organisational commitment on individual work performance is also consistent with Von Glinow's (2010:112) assertion on continuance commitment that employees high in this type of commitment tend to be low performers and often exhibit low organisational citizenship behaviours.

Empirical study result on the impact of job satisfaction on individual work performance is more consistent with Gibson *et al.* (2010:114) assertion that there is a moderate relationship between job satisfaction and work performance.

5.2 Limitations of the study

A sample of 251 employees was taken from a population of approximately 90,000 employees. The sample taken was from coal mining employees the researcher had immediate access to and could read and write the English language. The data may not be fully representative from geographic representation point of view as the sample the researcher could have easy access to are coal mining industry employees from Emalahleni town and immediate neighbouring areas in the Mpumalanga province. The coal mining industry of South Africa covers other areas of the Mpumalanga province and extends as far as Kwazulu-Natal, Limpopo and Gauteng provinces. Future studies could look into partnering with companies with operational footprint covering these provinces.

The skilled side of the workforce especially those with challenges in understanding and interpreting the English language may have been discouraged from participating. These represent 76% of the total workforce. Only 9.2% of the respondents consisted of a skilled and lower categories workforce. Future studies could look into administering the questionnaire in other home languages to cater for language difference.

The gender representation of women is overly overrated by the study. 40.2% women participated in the study compared to an estimated 15% industry representation.

The study uses information from Mining Qualification Authority (MQA) skills levy registry for mining industry demographics data. It should be noted that not all of the industry employees are registered MQA for skills levy but a vast majority are as most if not all medium to large mining companies are registered with MQA for the skills levy.

The study heavily relies on respondents being honest in their responses.

The study recognises that there are other factors affecting employees' performance such as ones currently advocated by the industry which is more technical and infrastructural development in nature. It is not the intention of the study to suggest that all of the individual and organisational performance matters can be addressed through employee attitudes and behaviour.

The study assumes that individual work performance actions and behaviours result in positive work outcomes which in turn results in organisational goals being achieved in an efficient and effective manner. It is adopted in the study that individual work performance self-assessment is a fairly representative of an employee work performance from work output and outcome point of view. Literature has indicated that there is a moderate correlation between employee self-assessment and assessment by supervisors or managers. Literature also indicates that behaviours of a personal nature which, if evaluated are better off left to individuals to self-assess as assessment by a supervisor would be more of a perception than a true reflection of actual behaviour. Future studies could look into linking behaviours and attitudes with performance appraisal by supervisors.

5.3 Recommendations

The empirical study results indicate that organisational citizenship behaviour and job involvement are the two most significant predictors of individual work performance from the employee attitudes studied. Organisational Commitment was found to have an inverse relationship and job satisfaction a moderate relationship with individual work performance.

The implication of this empirical study is that coal mining operations management should instil organisational citizenship and job involvement behaviours in the workplace if they want to enhance individual and organisational work performance. Enhancing work performance will lead to improved efficiency and effectiveness in carrying out work leading to improved productivity in the workplace (Organ, 1988:4). Behaviours such as offering of continuous improvement ideas, sharing of organisational resources, provision of conducive environment for others to thrive and going beyond the call of duty are some of the behaviours that create a breeding ground for a productive environment (McShane and Von Glinow, 2010:17).

Rizwan *et al.* (2011:81) assert that the following actions will instil job involvement attitudes in the workplace;

Empowerment - this relates to the degree to which employees are allowed to participate in decision-making and have autonomy in their jobs in an organisation. This could be put into practice by involving employees in decisions relating to their health and safety, and planning and organisation of work. Creation, sustenance and empowerment of committees such as health and safety committee (platform for addressing health and safety matters), employee wellness committees (platform for psychological and physical wellness), job grading committees (platform for training and grading of jobs) and employment equity committee (platform for fairness in employment to avoid nepotism and favouritism), among others will enhance employee empowerment in the workplace.

Information - this relates to the extent to which employees are informed of different aspects of businesses such as revenues and profitability. This also includes information on employees' performance. This can be enhanced by regular state of the business updates and regular employee performance appraisals.

Knowledge - this relates to employee training and development necessary to enable the employee to manipulate company data and draw inferences for enhancement of both individual and organisational performance. Development of training matrices for

all workplace roles will play an important role in enhancing this element. This should cover equipping of employees with appropriate knowledge and skill to effectively and efficiently carry out their current role and also prepare them for future roles.

Rewards - these relate to benefits organisations offer to employees which serve as motivation and a tool for employee job involvement.

As there is a much stronger relationship between Organisational Citizenship Behaviour and Individual Work Performance, it is important that organisations embark on implementing practices that will enhance and breed organisational citizenship behaviours (altruism, conscientiousness, courtesy, civic virtues, sportsmanship, cheerleading and peacemaking) in the workplace in order to reap full benefits of its positive impact on productivity. Suresh and Venkatammal (2010:276) advocate that organisations should strive to create an "atmosphere where there is good communication and relationships exist amongst the workforce work to enhance organisational citizenship behaviour". Bukhari (2008:107) view altruism as the "significant predictor of organisational citizenship behaviour". As altruism is concerned about the helpfulness of fellow workers without expecting anything in return, organisations should strive to identify and reward such behaviours to ensure they persist in the workplace. Podsakoff, Mackenzie, Paine and Bachrach (2000:552) view leader behaviour especially on support towards staff as very important for Organisational Citizenship Behaviour. Organ and Ryan cited by Podsakoff *et al.* (2000:552) add that "fairness and job satisfaction have a positive impact on organisational citizenship behaviour".

5.4 Summary

This chapter covered conclusions derived from the results of the empirical study. Limitations and recommendations are also covered. The main highlight of the study is that the work performance viewed from an individual performance point of view, with implications on organisational performance, is statistically and practically

significantly (medium to large effect) related to individual attitudes covered by the study. In the case of organisational commitment, it was found to be inversely related. Organisational citizenship behaviour was found to be statistically a significant predictor of individual work performance. Measures that can be taken to instil employee attitudes that enhance work performance are discussed. Suggestions on possible areas for future studies on the topic are made.

6. References

Berry, C.M., Carpenter, N.C. & Barratt, C.L. 2012. Do other-reports of counterproductive work behavior provide an incremental contribution over self-reports? A meta-analytic comparison. *Journal of Applied Psychology*, 97(3):613-636.

Borman,W.C. & Motowidlo, S.J. 1993. Expanding the criterion domain to include elements of contextual performance. (*In* Schmitt, N. & Borman, W.C. *ed*. Personnel Selection in Organizations. Jossey Bass. San Francisco: CA, p. 71-98).

Brown, B. 2003. Employees' organizational commitment and their perception of supervisors' relations-oriented and task-oriented leadership behaviours. Virginia: Polytechnic Institute and State University. (Thesis – PHD)

Bukhari, Z.U. 2008. Key antecedents of Organizational Citizenship Behavior (OCB) in the banking sector of Pakistan. *International Journal of Business and Management*, 3(12):106-115.

Chamber of Mines of South Africa. 2014. Facts and figures 2013/2014. http://www.chamberofmines.org.za/industry-news/publications/facts-and-figures Date of access: 02 Sep. 2016.

Chamber of Mines of South Africa. 2016. http://www.chamberofmines.org.za/sa-mining/coal Date of access: 10 Oct. 2016.

Christen, M., Iyer, G. & Soberman, D. 2006. Job Satisfaction, Job Performance, and Effort: A reexamination using Agency Theory. *Journal of Marketing,* 70:137-150, January.

Chughtai, A.A. 2008. Impact of Job Involvement on In-Role Job Performance and Organizational Citizenship Behaviour. *Institute of Behavioural and Applied Management*, 9(2):169-183 http://www.ibam.com/pubs/jbam/articles/vol9/No2/JBAM_9_2_4.pdf Date of access: 12 Jul. 2016.

Cohen, J. 1988. Statistical power analysis for the behavioural sciences. 2nd ed. Orlando, FL: Academic.

Creamer, M. 2014. Anglo's coal productivity in South Africa 50% below Australia – Cutifani. *Creamer Media*, 29 Jul. http://www.miningweekly.com/article/anglos-coal-productivity-in-south-africa-50-below-australia-cutifani-2014-07-29/rep_id:3650 Date of access: 24 Mar. 2016

Fletcher, D.E. 1998. Effects of Organisational Commitment, Job Involvement and Organisational Culture on the employee voluntary turnover process. Dallas, TX: Graduate Faculty of Texas Tech University. (Thesis PHD)

Gibson, L.J, Donnelly, H.J., Ivancevich, M.J. & Konopaske, R. 2011. Organisations: behaviour, structure, processes. 14th ed. New York, NY: McGraw-Hill.

Hardman, D.R. 1996. Coal-mining productivity in South Africa compared with Australia and the USA. *The Journal of the South African Institute of Mining and Metallurgy,* 96(7):297-301.

Heizer, J. & Render, B. 2014. Operations management: sustainability and supply chain management. 11th ed. Edinburgh Gate: Pearson Education Limited

Hulin C.L, Roznowski, M. & Hachiya, D. 1985. Alternative Opportunities and Withdrawal Decisions: Empirical and Theoretical Discrepancies and an Integration. *Psychological Bulletin,* 97(2):233 - 250

Human Science Research Council. 2011. South African Mining Sector Employment Forecast to 2025. https://www.gtac.gov.za/Research%20Repository/South%20African%20Mining%20Sector%20Employment%20forecast%20to%202025.pdf Date of access: 7 Oct. 2016

Johnson, E.C. & Meade, A.W. 2010. A multi-level investigation of overall job performance ratings. *Society for Industrial and Organizational Psychology,* 25:1-8, April.

Judge, A.T, Thoresen. C.J, Bono, J.E. & Patton, G.K. 2001. The Job Satisfaction-Job Performance Relationship: A Qualitative and Quantitative Review. *American Psychological Association,* 127(3):376-407

Khan, T.I, Jam, F.A, Akbar, A., Khan, M.B, & Hijazi, S.T. 2011. Job Involvement as predictor of employee commitment: evidence from Pakistan. *International Journal of Business and Management,* 6(4):252-262.

Koopmans, L., Bernaards, C., Hildebrandt, V., van Buuren, S., van der Beek, A.J. & De Vet, H.C. 2012. Development of an individual work performance questionnaire. *International Journal of Productivity and Performance Management*, 62(1):6-28.

Koopmans, L., Bernaards, C., Hildebrant, V., Van Buuren, S., De Vet, H. & Van der Beek, A. 2014. Construct validity of the individual work performance questionnaire. *Journal of Occupational and Environmental Medicine*, 56(3):331-337.

Lawrence A.C. 1974. The important of human factor in mining productivity. *Journal of the South African Institute of Mining and Metallurgy,*74(12):399 - 404

Lee, K. & Allen, N.J. 2002. Organisational Citizenship Behaviour and Workplace Deviance: The Role of Affect and Cognitions. *Journal of Applied Psychology,* 87(1):131-142

Levine, E.L. 1980. Introductory remarks for the symposium: Organizational applications of selfappraisal and self-assessment: Another look. *Personnel psychology*, 33(2):259-62.

MacDonald, S. & McIntyre, P. 1997. The Generic Job Satisfaction Scale: Scale Development and Its Correlates. *Employee Assistance Quarterly*, 13(2):1-16.

Malhotra, N., Budhwar, P. & Prowse P. 2007. Linking Rewards to Commitment: An Empirical Investigation of Four UK Call Centres. *The International Journal of Human Resource Management*, 18(12):2095-3127

Martin TN, & Hafer JC. 1995. The multiplicative interaction effects of job involvement and organizational commitment on the turnover intentions of full- and part-time employees. *Journal of Vocational Behavior,* 46(3):310-331.

McCarthy, C. 2005. Productivity performance in developing countries. https://www.unido.org/uploads/tx_templavoila/Productivity_performance_in_DCs_South_Africa.pdf Date of access: 26 Mar. 2016.

McShane, L.S & Von Glinow, M. 2010. Organisational behaviour: emerging knowledge and practice for the real world. 5th ed. Avenue of the Americas, NY: McGraw-Hill.

Meyer, J.P. 1989. Organisational Commitment and Job Performance: It's the Nature of the Commitment that Counts. *Journal of Applied Psychology,* 74(1):152-156

Minerals Council of Australia. 2016. http://www.minerals.org.au/resources/coal/figures Date of access: 05 Oct. 2016.

Mining Qualification Authority. 2014. Sector Skills Plan for the Mining and Minerals Sector Submitted by the Mining Qualifications Authority (MQA) to the Department of Higher Education and Training 2014-2019. http://www.mqa.org.za/sites/default/files/FINAL%20MQA%20SSP%20Jan%202014.pdf Date of access: 18 Oct. 2016

Mitchell, T.R. Holtom, B.C & Lee, T.W. 2001. How to keep your best employees: Developing an effective retention policy. *Academy of Management Executive,*15(4): 96-108

Neingo, P.N. & Cawood, F.T. 2014. Correlation of productivity trends with market factors at three selected platinum mines. *The Southern African Institute of Mining and Metallurgy. The 6th International Platinum Conference, 'Platinum–Metal for the Future'*:181 - 188

Organ, D.W.1988. Organizational Citizenship Behavior: The Good Soldier Syndrome. Lexington, MA: Lexington Books.

Paullay, I., Alliger, G. & Stone -Romero, E. 1994. Construct validation of two instruments designed to measure job involvement and work centrality. *Journal of Applied Psychology*, 79(2):224-228.

Podsakoff, M.P, Mackenzie, S.B, Paine, J.B. & Bachrach, D.G. 2000. Organizational Citizenship Behaviours: A Critical Review of the Theoretical and Empirical Literature and Suggestions for Future Research*. Journal of Management,* 26(3):513-563.

Podsakoff, M.P., Ahearne, M. & McKenzie, S.B. 1997. Organizational Citizenship Behavior and the Quantity and Quality of Work Group Performance. *Journal of Applied Psychology*, 82(2):262-270.

Podsakoff, N.P, Whiting, S.W, Podsakoff, M.P. & Blume, B.D. 2009. Individual- and Organizational-Level Consequences of Organizational Citizenship Behaviors: A Meta-Analysis. *Journal of Applied Psychology*, 94(1):122-141.

Porter, L.W, Steers, R.M. & Mowday, R.T. 1974. Organisational Commitment, Job Satisfaction, and Turnover among Psychiatric Technicians. *Journal of Applied Psychology,* 59(5):603 - 609

Rizwan, M., Khan, D.J. & Saboor, F. 2011. Relationship of Job involvement with Employee Performance: Moderating role of Attitude. *European Journal of Business and Management*, 3(8):77-85.

Robbins, S.P. 2003. Organisational Behaviour. 10th ed. Upper Saddle River, NJ: Prentice Hall.

Rotundo, M., & Sackett, P. R. (2002). The relative importance of task, citizenship, and counterproductive performance to global aspects of job performance: A policy-capturing approach. *Journal of Applied Psychology,* 87(1):66-80.

Sharma, V & Jain, S. 2014. A Scale for Measuring Organizational Citizenship Behaviour in Manufacturing Sector. *Pacific Business Review International*, 6(8): 57 – 62.

Sonnetag, S. & Fresse, M. 2002. Psychological management of individual performance. (*In* Sonnetag, S. Psychological Management of Individual Performance. Baffins Lane Chichester West Sussex: Wiley. p. 3-25).

South African National Energy Development Institute. 2011. Overview of the South African Coal Value Chain: Prepared as a basis for the development of the South African Coal Roadmap. http://www.sanedi.org.za/wp-content/uploads/2016/02/sacrm_roadmap.pdf Date of access: 17 Aug. 2016.

Spencer, D.G & Steers, R.M. 1981. Performance as a moderator of the Job Satisfaction-Turnover Relationship. *Journal of Applied Psychology*, 66(4):511-514

Spoornet. 2016. http://www.spoornet.co.za/Website/coal.html Date of access: 13 Oct. 2016.Steyn, H.S. 1999. Praktiese betekenisvolheid: Die gebruik van effektegroottes. Wetenskaplike bydraes – Reeks B: Natuurwetenskappe Nr. 117. Potchefstroom: PU vir CHO.

Suresh, S. & Venkatammal, P. 2010. Antecedents of Organizational Citizenship Behaviour. *Journal of the Indian Academy of Applied Psychology*, 36(2):276-286.

Tavakol, M. & Dennick, R. 2011. Making sense of Cronbach's alpha. *International Journal of Medical Education*, 2011(2):53-55

Thompson, R.J. 2005. Surface Strip Coal Mining Handbook. South African Colliery Manager's Association Project 01/03. http://www.sacea.org.za/.%5Cdocs%5CSACMA%20Surface%20Strip%20Coal%20Mining%20Handbook_rev1.pdf Date of access: 02 Sept. 2016.

Van der Heijden, B.I.J.M. & Nijhof, A.H.J. 2004. The value of subjectivity: problems and prospects for 36-degree appraisal systems. *The International Journal of Human Resource Management,* 15(3):493-511.

Viswesvaran, C. & Ones, D.S. 2000. Perspectives on models of job performance. *International Journal of Selection and Assessment*, 8(4):216-226.

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

Appendix A – Questionnaire

The following biographical information is an equally important part of the questionnaire. Please mark the applicable block with a cross (X) and complete all questions.

First two letters of First Name								
Last two letters of Surname								
Day of Birth (eg. 11, 22, 31)								
Month of Birth (eg. 02, 08, 12)								
Gender	Male	Female						
Age (years)	less than 25	25 to 35	36 to 45	more than 45				
Experience in Coal Mining	less than 3	3 to 8	9 to 13	more than 13				
Race	Black	Coloured	White	Indian	Other			
Position	Skilled	Junior Management		Middle Management		Senior Management and higher		
Department	Production	Maintenance		Finance	Technical	Administration		Other
Type of Coal Mining	Opencast/Surface			Underground			Both	
Revenue for Company worked or working for	less than R200m	R200m to R750m		R751m to R1.5b		more than R1.5b		
Number of employees for company working or worked for	less than 100	100 to 250	251 to 599	600 to 1000	1000 and more			

	1	2	3	4	5
1. Individual Work Performance					
1 - Never, 2 - Seldom, 3 - Sometimes, 4 - Often, 5 - Always					
Task Performance scale					
I managed to plan my work so that it was done on time	1	2	3	4	5
My planning is optimal	1	2	3	4	5
I kept in mind the results that I had to achieve in my work	1	2	3	4	5
I was able to separate main issues from side issues at work	1	2	3	4	5
I was able to perform any work well with minimal time and effort	1	2	3	4	5
Contextual Performance Scale					
I took on extra responsibilities	1	2	3	4	5
I started new tasks myself, when my old ones were finished	1	2	3	4	5
I took on challenging work tasks, when available	1	2	3	4	5
I worked at keeping my job skills up to date	1	2	3	4	5
I came up with creative solutions to new problems	1	2	3	4	5
I kept looking for new challenges in my job	1	2	3	4	5
I actively participated in work meetings	1	2	3	4	5
Counterproductive work behaviour scale					
I complained about unimportant matters at work	1	2	3	4	5
I made problems greater than they were at work	1	2	3	4	5
I focused on the negative aspects of a work situation, instead of on the positive aspects	1	2	3	4	5
I spoke with colleagues about the negative aspects of my work	1	2	3	4	5
I spoke with people from outside the organisation about the negative aspects of my work	1	2	3	4	5
2. Job Satisfaction Scale					
1 - Strongly Disagree, 2 - Disagree, 3 - Neither agree or disagree, 4 - Agree and 5 - Strongly Agree					
I receive recognition for a job well done	1	2	3	4	5
I feel close to the people at work	1	2	3	4	5
I feel good working at this company	1	2	3	4	5
I feel secure about my job	1	2	3	4	5
I believe management is concerned about me	1	2	3	4	5
On the whole, I believe work is good for my physical health	1	2	3	4	5
My wages are good	1	2	3	4	5
All my talents and skills are used at work	1	2	3	4	5
I get along with my supervisors	1	2	3	4	5
I feel good about my job	1	2	3	4	5

3. Commitment Scale					
1 - Strongly Disagree, 2 - Disagree, 3 - Neither agree or disagree, 4 - Agree and 5 - Strongly Agree					
Affective Commitment					
I would be happy to spend the rest of my career in this organisation	1	2	3	4	5
I enjoy discussing about my organisation with people outside it	1	2	3	4	5
I really feel as if this organisation's problem are my own	1	2	3	4	5
I think that I could easily become as attached to another organisation as I am to this one	1	2	3	4	5
I do not feel like part of the family at my organisation	1	2	3	4	5
I do not feel emotionally attached to this organisation	1	2	3	4	5
This organisation has a great deal of personal meaning to me	1	2	3	4	5
I do not feel a strong sense of belonging to my organisation	1	2	3	4	5
Continuance Commitment					
I am not afraid of what might happen if I quit my job without having another one lined up	1	2	3	4	5
It would be very hard for me to leave my organisation right now, even if I wanted to	1	2	3	4	5
Too much in my life would be disrupted if I decided to leave my organisation now	1	2	3	4	5
It would not be too costly for me to leave my organisation	1	2	3	4	5
Right now, staying with my organisation is a matter of necessity as much as desire	1	2	3	4	5
I feel that I have very few options to consider leaving this organisation	1	2	3	4	5
One of the few serious consequences of leaving this organisation would be the scarcity of available alternatives	1	2	3	4	5
One of the major reasons I continue to work for this organisation is that leaving would require considerable personal sacrifice-another organisation may not match the overall benefit I have here	1	2	3	4	5
Normative Commitment I think that people these days move from company to company too often	1	2	3	4	5
I do not believe that a person must always be loyal to his or her organisation	1	2	3	4	5
Jumping from organisation to organisation does not seem at all unethical to me	1	2	3	4	5
One of the major reasons I continue to work in this organisation is that I believe loyalty is important and therefore feel a sense of moral obligation to remain	1	2	3	4	5
If I got another offer for a better job elsewhere I would not feel it was right to leave my organisation	1	2	3	4	5
I was taught to believe in the value of remaining loyal to one organisation	1	2	3	4	5
Things were better in the days when people stayed in one organisation for most of their careers	1	2	3	4	5

I do not think that to be a company man or company women is sensible anymore	1	2	3	4	5
4. Organisational Citizenship Behaviour					
1 - Strongly Disagree, 2 - Disagree, 3 - Neither agree or disagree, 4 - Agree and 5 - Strongly Agree					
I create health and cheerful atmosphere at workplace	1	2	3	4	5
I listen to coworkers problems and try to suggest solutions	1	2	3	4	5
I try to improve the working conditions	1	2	3	4	5
I volunteer to take additional tasks, not part of work	1	2	3	4	5
I spread goodwill in the organisation	1	2	3	4	5
I help coworkers when required	1	2	3	4	5
I give constructive suggestions for improvement	1	2	3	4	5
I do not complain about insignificant things at workplace	1	2	3	4	5
I am enthusiastic about my job	1	2	3	4	5
I am enthusiastic about my coworkers welfare	1	2	3	4	5
I self-develop myself as per the changes taking place	1	2	3	4	5
I help subordinates to develop required skills	1	2	3	4	5
I put extra effort on my job	1	2	3	4	5
I take feedback from my co-workers and superiors	1	2	3	4	5
I use cheaper resources during tours to save organisational resources	1	2	3	4	5
I oppose favouritism in the organisation	1	2	3	4	5
I encourage family members to patronize our organisation	1	2	3	4	5
I boost my organisation's image	1	2	3	4	5
I promote my organisational products and services	1	2	3	4	5
I project a good image of my organisation to the people	1	2	3	4	5
I praise the working conditions of my organisation	1	2	3	4	5
I provide suggestions to coworkers related to their work	1	2	3	4	5
I encourage co-workers to give suggestions for improving our productivity/efficiency	1	2	3	4	5
I consult my colleagues whenever possible	1	2	3	4	5
I follow my organisation's rules even when not watched	1	2	3	4	5
I welcome good change without resistance	1	2	3	4	5
I take initiative for assignments	1	2	3	4	5
I help new employees adjust in new working environment	1	2	3	4	5
I do not take personal credit for teamwork	1	2	3	4	5
I protect the organisational resources	1	2	3	4	5
My actions are such that they do not create problems for co-workers or hurt me	1	2	3	4	5
I switch off/close the tap, without waiting for a person to come	1	2	3	4	5
I am ready to buy shares of my company at market place	1	2	3	4	5
I am ready to send my children in this company	1	2	3	4	5
I emotionally blackmail my co-workers for desirable results	1	2	3	4	5
I always feel that my company is best in industry to work for	1	2	3	4	5

5. Job Involvement					
1 - Disagree, 2 - Slightly disagree, 3 neither disagree or agree, 4 - slightly agree, 5 - agree					
The most important things that happen to me involve my present job	1	2	3	4	5
To me, my job is only a small part of who I am	1	2	3	4	5
I am very much involved personally in my job	1	2	3	4	5
I live, eat and breathe my job	1	2	3	4	5
Most of my interests are centred around my job	1	2	3	4	5
I have strong ties with my present job which would be very difficult to break	1	2	3	4	5
Usually I feel detached from my job	1	2	3	4	5
Most of my personal life goals are job oriented	1	2	3	4	5
I consider my job to be very central to my life	1	2	3	4	5
I like to be really involved in my job most of the time	1	2	3	4	5