

**CHALLENGES ON THE EMPLOYEES PERFORMANCE IN  
OPERATIONS AND PRODUCTIVITY ENVIRONMENT.**

**A CASE FOR KHUMANI MINE**

**BY**

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# CHALLENGES ON THE EMPLOYEES PERFORMANCE IN OPERATIONS AND

## PRODUCTIVITY ENVIRONMENT- A CASE FOR KHUMANI MINE

BY

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A dissertation presented to

Graduate School of Business and Government leadership

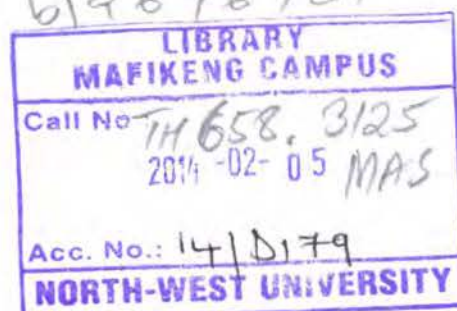
North-West University

In partial fulfilment of the requirements for the degree of

MBA

Operations Management and Decision making

Supervisor: Dr GN Molefe



## DECLARATION

I, Joseph Masego Nkge, hereby declare that this dissertation for the MBA in Business School at the North-West University (Mahikeng Campus) is my original work and has not been submitted by me or any other person at this or any other university for any qualification. I also declare that all reference materials contained in this study have been duly acknowledged.

Signature: -----

Name: Joseph Masego Nkge



## **ACKNOWLEDGEMENTS**

I am sincerely grateful to my supervisor, Dr Nick Molefe for the support and guidance he showed me throughout my dissertation writing. I am sure it would not have been possible without his help. I would also like to thank my supervisor at work and the business school of North-West University staff that has been my pillar to lean on during hard times, boosted me morally and provided me great information resources.

I would also like to pass my warm gratitude to my wife, Boitumelo who was there for me when the days were dark during the writing and completion of my dissertation. She played her part as a parent and my role at the same time. Many thanks to my daughter Phemi and son Lemo for making me realise the purpose of going to school and passing.

There is not enough gratitude for Mr Pierre Becker who allowed me to use Khumani mine as a case study for my research. Without their inputs nothing is possible and my research is incomplete without the contribution from Khumani survey participants who assisted in terms of the survey questions.



## **ABSTRACT**

This dissertation defined employee performance and the challenges experienced by each individual employee during the operation setting. All the factors such as the conditions, tools used and understanding the setting are being researched. Despite this, the clear multidisciplinary approach, the field of performance management has developed from diverse origins. Different measurement and management techniques and approaches have developed independently. Personnel (or HR) have been concerned with managing the performance of people. Performance management from these disparate disciplines has begun to converge and recognise the need for integration into a multidisciplinary approach to managing performance.

The management discipline which most often associates itself with the term is in Human Resources. Performance management is often associated with the management of the performance of people. However, in the HR field the best practice emphasises the contribution of people to the achievement of organisational performance. From the HR field Armstrong and Baron highlight the importance of performance management being strategic, integrated (vertical, functional, HR integration and integration of individual needs), concerned with performance improvement and concerned with development. Performance management should be integrated horizontally across the organisation;

The performance being managed should reflect the requirements, wants and needs of all of the key stakeholders of the organisation and not just reflect a limited set. Performance management should be integrated vertically linking the strategies and objectives of the organisation to the execution of activities which will enable their achievement. Explicit understanding of linkages across the vertical and horizontal integration (e.g. through success maps) enables consideration of conflicting priorities and trade-offs that need to be made in order to achieve overall objectives. The performance monitoring, review and action planning process should be structured around the strategic performance objectives of the organisation.

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## **CHAPTER 1: BACKGROUND AND OVERVIEW**

### **1.1 INTRODUCTION**

Research indicates that improving the working environment reduces complaints and absenteeism while increasing productivity (Roelofsen, 2002). A performance management system is meant to be interactive (Neely, 1998; Kaplan and Norton, 2001) since its main roles are to facilitate the implementation of the business strategy and to question strategic assumptions. Given the multitude of measures, managers who try to use the balance scorecard as an interactive system, will be overloaded. Consequently, they won't be able to interactively use the system (Weber & Schaeffer, 2000). However; this argument can be weakened by the findings of Lipe (2000) and Salterio's (2002).

The topic of this study is the pilot fault finding missions of any organisation where there are loopholes in the management of effective and efficient productivity. Khumani, as a new mine is encountering a mammoth task of developing a team that only thinks of reaching the goal set. Khumani mine is a state of the art mine with the capacity of more than 30 years life span. It is based in the Northern Cape and it is 20km from the small mining town of Kathu.

The product that is produced is iron ore with three different grades; such as lumpy iron ore; direct reduction ore and the fine material. This mine boasts of three open pit mines, two plants, loading station, laboratory, training department, wellness clinic, stores, fire department and mechanical workshops. All the above mentioned departments do work together like oiled wheels to achieve a common goal. The gap between the operation departments results in the failure to effectively manage the performance of all the resources in the mine. There is a project where people are encouraged to register at the higher institution of learning. The ones that could not are taken out of their sections to improve their grades at Abet with a full pay.



## **1.2. BACKGROUND TO THE STUDIES**

Khumani mine was established to overcome the amount of material requested by the clients both locally and overseas. The workforce present at Khumani is a mixture of the old staff from Beeshoek mine taken along when the mine was opened. However the main hurdle was that the majority of the people were not familiar with the type of technology used at Khumani, hence resulting in low production and poor delivery. Therefore the study will entail the contribution from all the departments within the organisation.

There was a consensus reached between all departments and the general manager of the mine regarding the research to be undertaken. All the departments in the whole mine agreed in unison to solve the challenges that lead to of poor performance of employees. In same instance the head office set the target for each financial year production and it needs to be achieved in order for employees to get a good bonus. As a yard stick the improvement will now be done on the upliftment of employee contribution to the productivity and expected output punctually.

## **1.3. Problem Statement**

Although many organisations provide their employees training opportunities to progress within the organisation structure, little has been focused upon employee training for organisations' efficiency and performance. Performance oriented market, constantly changing environment and globalisation are influencing the workplace structure and leading to increased reliance on employee skills for providing better products and services.

Employees who are not trained to deal with the advanced management methods and techniques cannot work towards the better business performance. This issue is one of the most important topics in mining and production industries. This concept is now well established and is increasingly affecting the field of mining. It has proved particularly valuable for those organisations who seek better performance and have relevant tools to assist employees to overcome the challenges experience daily.

This study investigates the challenges that are experienced by employees in the operation and productivity environment. In particular, developments with regard to Employees at Khumani mine operation and productivity environment are faced with challenges such as poor or unsafe working conditions, lack of knowledge regarding new equipment and technology, slow pace in terms of employee individual developments, underpayment or low salary, pressure to achieve the set target production, inadequate or lack management support and lack growth or training.

#### **1.4. Research Objectives**

The labour or employee development in the mining is reaching a stage where companies have to employ from outside despite potential candidates being internally present. Employee individual performance is proportional to the individual development and career pathing by management. It is through the effort of training department, transformation, safety and environment that integrated management systems are employed to monitor a performance of employees at all levels of the company to achieve the set productivity.

The purpose of this research is to:

- 1) find ways to improve poor working conditions in the plant which is viewed as the biggest challenge to employee performance.
- 2) address and reduce high illiteracy rate and reduce wages gap among the employees as a stumbling block to their performance, their growth and development at the mine.
- 3) ultimately educate employees about organisational culture, workforce culture and operational culture as a challenge to employee performance and how the acceptance of other employee cultures can bolster their performance;
- 4) strategically introduce work-a-friendly technology in the plant so as to accommodate employees with lower education and new ones to cope with the operation of the plant and machinery with ease;



- 5) improve, address and resolve problems of lack of available and appropriate equipments that hamper production output;
- 6) implement the procedure of availing training manuals and SOP's at the plant and also making them accessible to employees at all operation sections of the mine;
- 7) correctly deal with challenges that cause employees not to achieve a turnaround time as per management plan.

### **1.5. Research Questions**

- 1) How will the company improve poor working conditions, unsafe or hazardous working environment of employees?
- 2) What measures will be used to reduce the lack of literacy and reduction in the wages gap among the employees?
- 3) What strategies are used to educate employees about organisation's diverse corporate culture and how culture will bolster their performance?
- 4) Is there an improvement in the implementation user friendly or work-a-friendly technology?
- 5) How is the company responding to issues such as a lack of available and appropriate equipments so as to accelerate the output process during production period?
- 6) What efforts is the company making in terms of availing the training manuals and SOP's in the plant and also making them accessible to employees?
- 7) How is the company planning to combat challenges that cause employees not to achieve a turnaround time set by management?

### **1.6 Layout of the study**

**Chapter one:** Introduction. It outlines the purpose of the study giving an introduction to the background of the study, research problems, the research objectives, research questions, research designs and ethical requirements.

**Chapter two:** Employee Performance-Literature Review. It looks at literature pertaining to the study under a the topic of research and other literature from previous studies and the current situation from other researchers.

**Chapter three:** Methodology. This chapter sums up the research methodology. This chapter also explains the research design and analysis. Research design, sampling, measuring instrument and data analysis are also explored.

**Chapter four:** Data Collection and Data Analysis. It accounts specifically for the pace and level of collecting data. This implies that the interpretation and analysis of the data will be of pertinent vocal point as described in Chapter 1.

**Chapter five:** Conclusion and Recommendations. The findings of the complete research will be concluded and the comparison will also be made with the previous findings. It therefore means that recommendation can be done to the company management for further improvement.

## **1.8. Summary**

All the collected data that the proposal outlines, creates a possible synergy of all the concepts outlined in the preceding chapters. The challenges that prohibits employees from doing their jobs, as per job specifications, will be averted and through research managers will now ultimately view the challenges with keen eyes and conduct early root cause analysis to eradicate any emerging challenges. The next chapter will deal with the literature review on the same subject as researched by other scholars.



## CHAPTER 2: LITERATURE REVIEW

### 2.1. Introduction

The changes in the current business environment are characterised by intense competition on the supply side and heightened volatility in customer requirements on the demand side. These changes have left their unmistakable marks on the different facets of the manufacturing organisations (Gomes; 2006). To meet the challenges posed by the contemporary competitive environment, the manufacturing organisations must infuse quality and performance improvement initiatives in all aspects of their operations to improve their competitiveness (Pintelon, 2006).

### 2.2. Labour pace and workplace harmony as a tool used to determine employee wellbeing and performance

Labour pace and workplace harmony are important to the economic wellbeing of the organisations and their members, the eruption of conflict and the adversarial relations can have severe negative impacts on business and their environments (Nieuwenhuizen & Rossouw, 2008:227).

### 2.3. Job rotation as an instrument to improve employee competence and individual development.

Job rotation and job enlargement are known as horizontal loading programs. Each incorporates tasks from the same job level horizontally in terms of skill and responsibility. The boredom at work may still be a significant problem in the last several years. Attention has now shifted to, demanding challenges facing employees in jobs, for example because of downsizing of organisation and increasingly advanced technology, jobs are suddenly becoming more demanding and employees must think in different ways to adapt to unpredictable changes. For example, in manufacturing assembly line methods are being replaced by flexible customised and production and computer integrated manufacturing (CAM). This new manufacturing approach requires workers to deal with an ever increasing line of production and sophisticated technology (Luthans 2005:483).



#### **2.4. The use of high performance work practices to address issues as mentioned by research objective 2,3 and 4**

Employee performance management: as part of the controlling function of management, managers must establish the criteria for evaluating work, schedule formal sessions to discuss evaluations with employees and determine how to reward high achievers and motivate others to become high achievers (Warren, Raymond & Gemmy, 2005:343). Performance appraisal is a formal structured comparison between employee performance and established quantity and quality standards (Warren, Raymond & Gemmy, 2005:369).

Performance management is a strategic and integrated approach to increasing the effectiveness of the organisations by improving the performance of the people who work in them and by developing the capabilities of individual contributors (Armstrong & Baron, 2004). Performance appraisal may be defined as a formal and systematic process by means of which the job relevant strengths and weaknesses of employees are identified, observed, measured, recorded and developed (Swanepoel, Erasmus, Van Wyk & Schenk 2008:372).

High performance work practices is an organisation system that continually aligns its strategy, goals, objectives and internal operations with demands of its external environment to maximise organisational performance (Luthan 2005:492).

Most executives are under the mistaken impression that the level of employee performance on the job is proportional to the size of the employee's compensation package. Although compensation package is one of the extrinsic motivation tool (Ryan & Deci, 2000) it has a limited short term effect on employees' performance. A widely accepted assumption is that better workplace environment motivates employees and produces better results. Office environment can be described in terms of physical and behavioural components. These components can further be divided in the form of different independent variables. An organisation's physical environment and its design and layout can affect employee behaviour in the

workplace. Nel (2006:54) stated that performance evaluation play an important role in measuring performance improvement. It is essential to conduct the performance evaluation.

Sekar (2011) argues that the relationship between work, the workplace and the tools of work, workplace becomes an integral part of work itself. The management that dictate how, exactly, to maximise employee productivity centre around two major areas of focus: personal motivation and the infrastructure of the work environment.

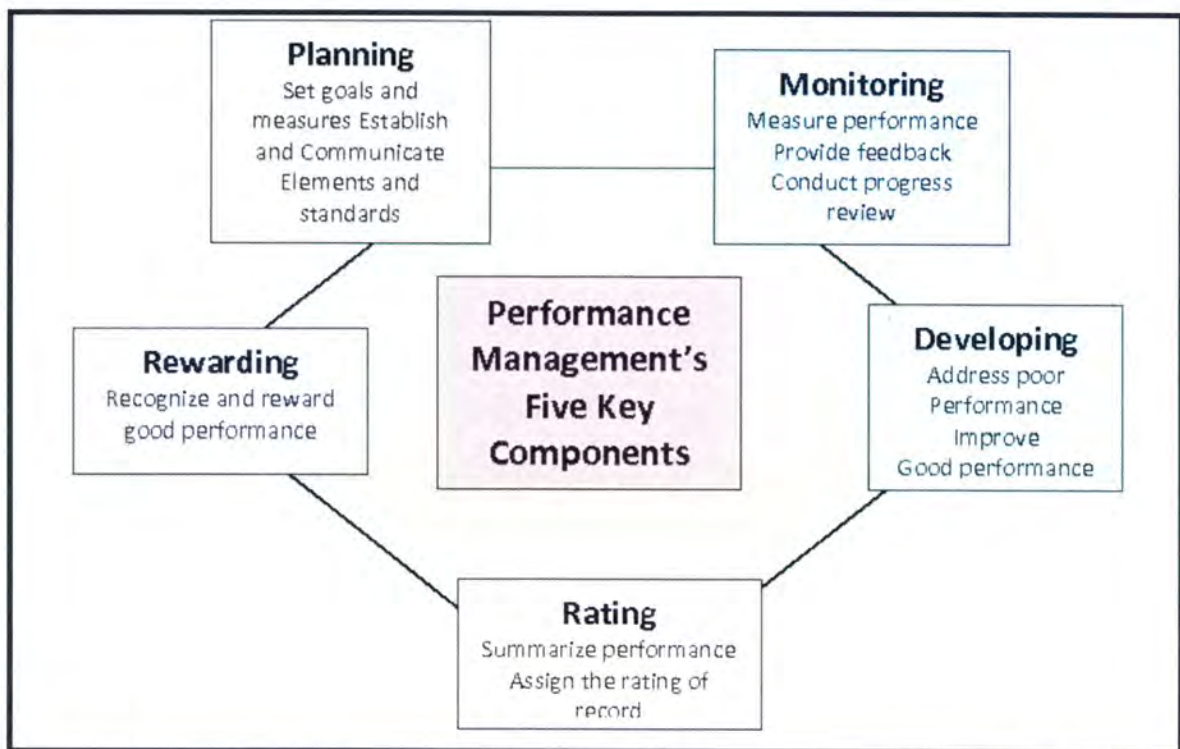


Figure 1: Performance management's five key components. Adopted from research article by Chaudhary and Sharma (2012)

## 2.5. Productivity improvement and elimination of performance management barrier

It is the organisation's responsibility to explain the workflow through documenting and communicating (Chandrasekar, 2011). The organisation should find out tools that motivates its employees and has set up formal and informal structures for rewarding employees that behave in the way required. Rewards may consist of a mix of internal rewards, such as challenging assignments and external rewards,



such as higher compensation and peer recognition (Chandrasekar, 2011). This rewarding explains workplace incentives.

Subjective productivity data is usually collected using survey questionnaires. Clements-Croome and Kaluarachchi (2000) discusses that subjective data can also be descriptive or qualitative collected by interviews.

High performance work practices is an organisation system that continually aligns its strategy, goals, objectives and internal operations with demands of its external environment to maximise organisational performance (Luthan 2005:492). Duffic (1995) found that organisations that produced both high productivity and high quality used (HRM) best practices with emphasis placed on recruitment and selection, reward tied to performance, low level of status differentiation, high levels of training throughout the organisation and employee participation through team working and problem-solving groups.

Watt (1998) defines performance management as a continuous process, supported by an effective and streamlined system, which is in the first place developmentally focused and implemented as a managerial accountability. It is manifested in both formal and informal interactions between manager and subordinate and is the basis for a line management human resource management interface, serving as the basis for other human resource management. WP Nel 2006:54 stated that performance evaluation plays an important role in measuring performance improvement. It is essential to conduct the performance evaluation.

## **2.6. What impact does performance feedback has on improving employee performance and output in productivity?**

It is an information exchange and conflict resolution process between the employee and supervisor. While the supervisor gives employees feedback and requirements, the employee enables the supervisor to give one feedback regarding one's requirements. Although this process is formal, it could be managed informally by gaining closer relations for two sides (Chandrasekar, 2011). Each employee has a role in the organisation. These roles are explained



in job descriptions forms in a formal way. Employees' roles and task should be allocated consistently by their supervisor (Chandrasekar, 2011) which is defined as role congruity.

## **2.7. Lack of Performance appraisal is an obstacle to employee performance**

Marshall (2000:184) expresses the idea of employee performance management as quoted "the concept of performance is more broadly framed and integrative view of performance appraisal, where performance ratings are de-emphasised relative to the planning, reviewing, allocating of resources and problem solving aspects of that process. In performance management, appraisal is acknowledged as one of the several planning and accountability systems in an organisation".

Many of the outcomes of appraisal feedback within performance management are critical to ongoing strategic planning as well as departmental business and objective setting. The outcomes of feedback provide further opportunity to identify programs and functions to be undertaken by teams and individuals in support of achievement of the corporate plan. Performance management is a process of management behaviour and as an organisational intervention strategy.

## **2.8. Employee development and training as a requirement to meet set turnaround time**

The performance of the individual employee in a company is influential to the company's productivity. Some factors are believed to affect the productivity of the company, i.e.:

2.8.1. Skill; obviously this individual factor differs from one person to another.

2.8.2. Attitude as well as other individual factors related to characters.

2.8.3. Work Attendance / Absenteeism. Although organisational factors contribute to the effectiveness of organisation, such as turnover, absenteeism and technology, probably the most important and influential factor is job performance. Job performance is typically viewed as partially determined by the motivation to work hard and, therefore, increases in motivation should result in greater effort and higher performance (Mitchell, 1982).

Furthermore, Mitchell stated that before any motivation system is installed, one must be sure:

2.8.4. That there is a good performance appraisal system available,

2.8.5. That motivation is an important contributor to performance and

2.8.6. That where motivation clearly is not the major contributor to performance, a separate measure of motivation or of behaviours clearly caused by motivation is developed.

## **2.9. The role of safe environment in achieving a planned turnaround time**

From a safety perspective, Gyekye (2006) indicates that environmental conditions affect employee safety perceptions which impact upon employee commitment. Extensive scientific research conducted by Roelofsen (2002) has also yielded indications suggesting that improving working environment results in a reduction in a number of complaints and absenteeism and an increase in productivity. The indoor environment has the biggest effect on productivity in relation to job stress and job dissatisfaction.

Govindarajulu (2004) suggested that in the twenty-first century, businesses are taking a more strategic approach to environmental management to enhance their productivity through improving the performance level of the employees. It is evident in the research findings of Patterson (2003) that the more satisfied workers are with their jobs the better the company is likely to perform in terms of subsequent profitability and particularly productivity.

Haynes (2008) explains the behavioural office environment behavioural components of the office environment that have the greatest impact on office productivity. In all of the work patterns, it was found that interaction was perceived to be the component to have the most positive effect on productivity and distraction was perceived to have the most negative.



## **2.10. Poor operations and productivity environment leads to poor job performance and low low product output**

There are two types of work environment according to Kyko (2005), which are conducive and toxic work environments. Conducive work environment gives pleasurable experience to employees and enable them to actualise their abilities and behaviour. This type of environment also reinforces self-actualising behaviours. For instance, an irresponsible employee can change into a responsible employee in work environment that is conducive. Toxic work environment gives unpleasant experiences and at the same time, deactualise employees' behaviour.

This environment reinforces low self-actualising behaviours and it leads to the development of negative traits of the employees' behaviour. In toxic work environment, responsible and sensible employee can change into irrational and irresponsible employee as a survival strategy. Kyko (2005) identified six factors which contribute to a toxic work environment hence contributing to low productivity of workers. The factors are: opaque management, biased boss and company's policies, working conditions, interpersonal relationship and pay.

Brenner (2004), in a work place index survey conducted for steel case, itemised what employees want and perceived to help their productivity in the work environment as better lighting, more elbow room, creative methods for assessing space, personalisation, more impromptu meeting for work well done and involvement in the decision that impact their day to day lives at work.

An organisation that wants to ensure employee productivity improvement will exploit those tools used for managing the work environment in which such employees work.

An effective work environment management entails making the work environment attractive, creative, comfortable and satisfactory and motivating to employees so as to give employees a sense of pride and purpose in what they do. The following are some of the tools used to manage work environment to improve productivity. Factors such as noise control, contaminants and hazard control, enhancing friendly and encouraging human environment, job fit, rewards, feedback, work



environment modelling, creating qualitative work life concepts and making physical working conditions favourable (Cecunc, 2004; Opperman, 2002).

### **2.11. Lack of management support is a challenge when employee do not know rules, regulations and SOPs of the company**

It is crucial for employees to complete the job successfully therefore the supervisors' interpersonal role is important to encourage positive relations and increase the self-confidence of the employee. (Chandrasekar, 2011). The skilled and respected people are available to employees to help them to perform better in their current role and to assist them develop further into a future role. He further defines the situation as mentoring/coaching.

Time and material resources should be available to employees, enabling them to perform to the best of their ability. Individual workloads and organisational systems and processes do not hinder employees from applying established skills or from practicing newly learned skills.

Thus, the employees should be provided the opportunity to apply. The work environment is set up so that templates, guides, models, checklists and other such workplace aids are readily available to help minimise error rates and customer dissatisfaction. Therefore, Chandrasekar (2011) discusses the necessity of job aids. There are various literatures that illustrate the relation between some of these factors and the productivity of the employee.

### **2.12. The role of managers in creating successful workforce culture and eliminating cultural stereotypes amongst employees**

Effective managers are aware that certain skills are necessary for creating a successful, diverse workforce. First, managers must understand discrimination and its consequences. Second, managers must recognise their own cultural biases and prejudices (Koonce, 2001). Diversity is not about differences among groups but rather about differences among individuals. Each individual is unique and does not represent or speak for a particular group. Finally, managers must be willing to change the organisation if necessary (Koonce, 2001).



Organisations need to learn how to manage diversity in the workplace to be successful in the future (Flagg, 2002). Unfortunately, there is no single recipe for success. It mainly depends on the manager's ability to understand what is best for the organisation based on teamwork and the dynamics of the workplace.

According to Roosevelt (2001), managing diversity is a comprehensive process for creating a work environment that includes everyone. When creating a successful diverse workforce, an effective manager should focus on personal awareness. Both managers and associates need to be aware of their personal biases. Therefore, organisations need to develop, implement and maintain ongoing training because a one-day session of training will not change people's behaviours (Koonce, 2001).

Managers should expect change to be slow, while at the same time encouraging change (Koonce, 2001). Another vital requirement when dealing with diversity is promoting a "safe" place for associates to communicate. Social gatherings and business meetings, where every member must listen and have the chance to speak, are good ways to create dialogues. Managers should implement policies such as mentoring programs to provide associates access to information and opportunities. Moreover, associates should never be denied necessary, constructive, critical feedback for learning about mistakes and successes (Flagg, 2002).

### **2.13. The role of employee motivation vs performance assessment system (pas) in eliminating employee performance challenges**

In the human resources management, performance appraisal systems have a vital role. The performance evaluation is an important mechanism for controlling the organisation, where employees can view their performance in the immediate past and take concrete actions for improvement. Performance appraisals also provide important information for the management of human resources to create fair and correct decisions regarding promotions, transfers, compensation, incentives and training programs and career management. Special companies typically require



different performance appraisal system tailored to the needs of the functions and processes (Chen & Chu, 2007).

Assessment of performance is related to the motivation of employees: especially the provision of feedback to enable employees to learn how the employee worked; setting specific goals about what employees should do; team-building to enable employees to participate with friends and their managers in solving problems that hinder their productivity and monetary incentives that reward good performance. According to Mathis and Jackson (2000), the factors that affect the individual performance of workers, are:

1. Ability;
2. Motivation;
3. Support that received;
4. Existence of work that they do and
5. Relationship with the organisation.

#### **2.14. The level that employee motivation vs salary system (ss) in reducing challenges on the extent of employee performance**

Organisations use compensation to motivate employees. Compensation is a benefit received by employees for services that have been given to the company; it could be financial benefits in the form of salary, wages, wage incentives, bonuses, insurance and allowances and non-financial benefits in the form of physical conditions of work environment and payroll systems applied by the company.

Motivation cannot be imposed upon employees. The rewards can motivate some employees but not necessarily other employees. Employees will be motivated to do better work when they feel the benefits granted distributed fairly. Perceived lack of fairness and worthy causes give rises to various problems. The company must realise that the system of compensation that is applied, will affect employee motivation. High employee motivation will improve employee performance which ultimately will improve performance of the company.

Fairness is a fundamental factor of the compensation or salary system (Newman & Milkovich, 2004). A statement such as “fair treatment for all employees” reflects a concern for justice. The purpose of justice is to focus on making compensation systems that recognises both the contribution of workers (the higher the performance or experience or training the higher the compensation given) and the needs of workers (giving minimum wages or health insurance). Simamora (2004), classified equity compensation into three categories, namely:

#### **2.14.1 Role played by external equity**

The rate of pay should be assessed by comparing the external equitable jobs in similar organisations.

Two conditions must be met:

- (i) Work compared must be equal or nearly equal and
- (ii) The surveyed organisations have a similar size, mission and business sector.

#### **2.14.2 Role played by internal equity**

Internal justice is a function of the relative status of a job in the organisation, the financial value of the work or organisational status of the job, such as hierarchy power and influence. The equivalent positions should be awarded with similar remunerations.

#### **2.14.3 Role played by individual equity**

An individual worker feels that he is treated fairly compared to his colleagues. When a worker receives compensation from the companies, the perception of fairness is influenced by two factors:

- i) The ratio of compensation to the input of effort, education, training, resistance to adverse working conditions of a person.
- ii) Comparison of this ratio with the ratio of other workers who come directly into contact with him. Salary system is created and organised to achieve certain goals (Newman & Milkovich, 2004).



These objectives include efficiency, fairness (equity) and compliance in accordance with the laws and legislation in force. Efficiency objectives specifically include increased productivity and control cost of labour. Compliance, as a goal, related to the implementation of all laws and regulations on compensation. When the legal and statutory regulations are changed, the compensation system itself also needs to be adjusted.

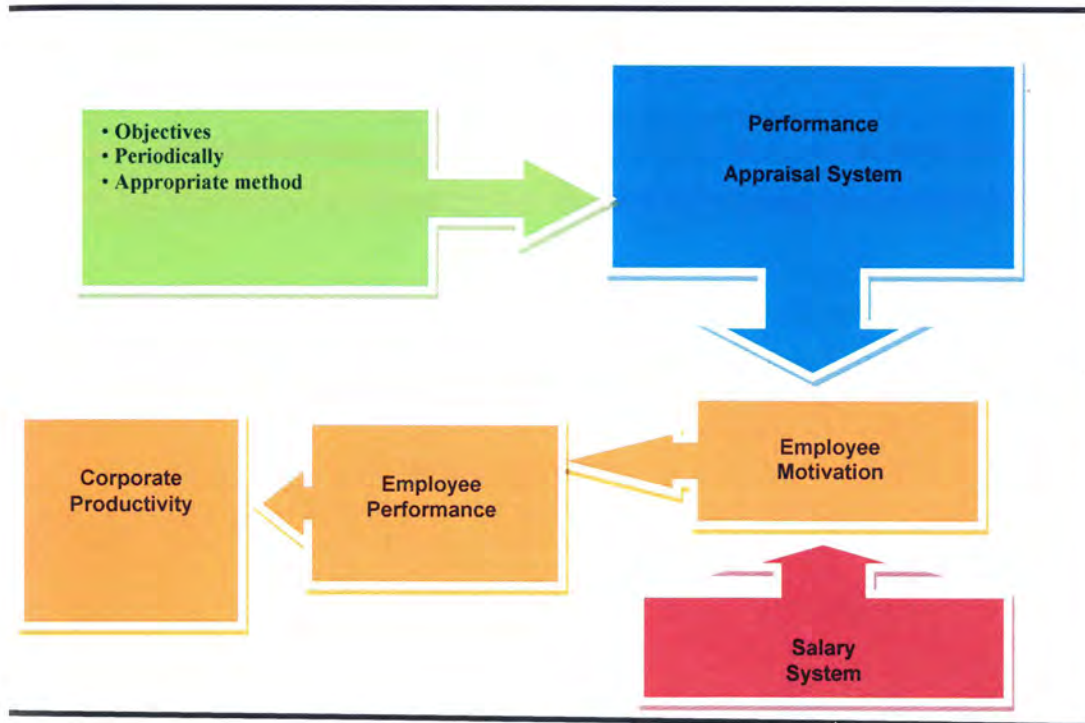
Salary is a key factor that can affect relationships in the workplace. The level and distribution of salaries and allowances can have a major influence on the efficiency of any organisation as well as on the morale and productivity of labour. Therefore, it is important that organisations develop pay systems that suit them and give value for money and that reward workers fairly for the work they do. Salary system is a method in giving the award to someone for his contributions to the organisation. Ideally, the system must be simple and clear to follow and understand, so workers can easily find out how they are affected. (Simamora, 2004).

#### **2.15. The role of availability of human capital in the reduction of challenges experienced by employees in the mining sector**

Human capital is widely recognised as the key ingredient for productivity and innovation in a knowledge-based economy. Human resource management practices in firms are critical for human capital development and use. At the same time, there is a growing awareness that some of the leading work trends of the past decade – work intensification, organisational restructuring, work-life imbalance – are detracting from these goals. Added to this are concerns among employers and health benefit providers about the rising costs of prescription drug and disability claims, hospitalisation and related medical services, absenteeism and low moral resulting from stressful working conditions (Lowe,2004).

## 2.16. Conceptual framework as an integral part in employee performance and improvement

The conceptual model of this research, the company productivity has relationships with performance of employees and employee's performance linked with motivation. The linkage can be thorough as follows:



**Figure 2 Conceptual framework**

**Source:** Research Journal of International Studies (September, 2010)

## 2.17. A schematic presentation and simulation of the relationship among productivity variables.

Figure 3 depicts that the company productivity has relationships with performance of employees, where the assumption that the better performance of the employee will make an impact that company productivity. Furthermore, employees' performance is not irrelevant of the motivation owned by employees. Several factors can affect the motivation of employees; some of them are the implementation of performance appraisal and pay system. An objective performance assessment with use of appropriate methods, the periodic execution, fair, clear and competitive compensation results will be rewarding and motivating



employees to work better. With high employee motivation, it is expected that the performance of employees will increase and the productivity of the company rises.

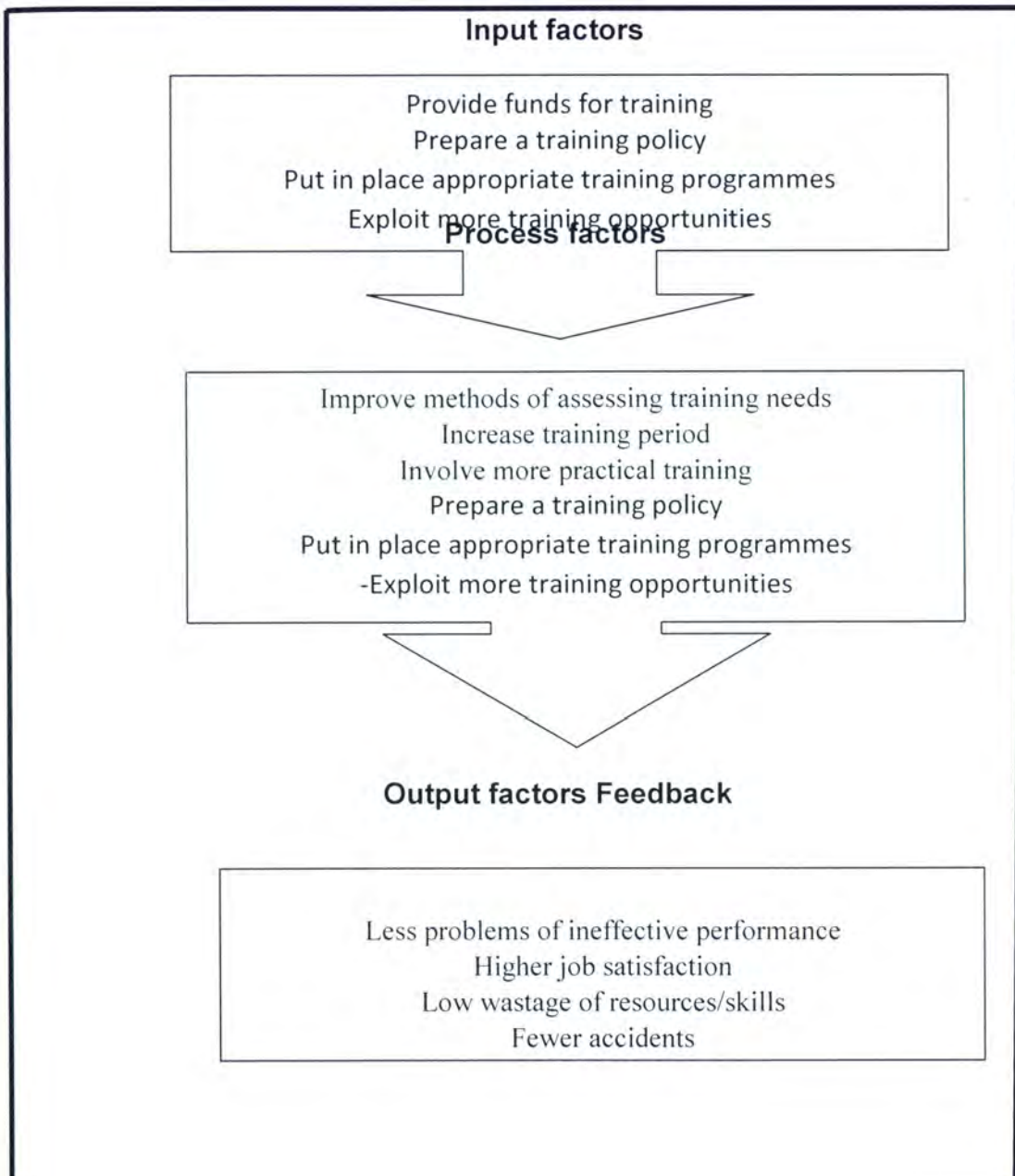


Figure 3 Simulation of the relationship among productivity variables. Adapted from article by Bylinsky (2000).

## 2.18. Productivity

Productivity growth is from the two factors such as growth in economy and growth in capital accumulation (physical or human) and productivity growth. Multifactor productivity (MFP is not explained by growth in the quantity of inputs). Constraints of growth are labour market policy, capital market and financed intermediation, track reform, macro-economic policies, privatisation, institutional, political & social context. Renée Gravitky (2004:23).

Syverson's (2011) article defines productivity as efficiency in production: how much output is obtained from a given set of inputs. As such, it is typically expressed as an output–input ratio. Single-factor productivity measures reflect units of output produced per unit of a particular input. Labour productivity is the most common measure of this type, though occasionally capital or even materials productivity measures are used. Two producers may have quite different labour productivity levels even though they have the same production technology if one happens to use capital much more intensively, say because they face different factor prices. Productivity is the amount of output achieved from the use of a given amount of inputs. Productivity can be measured quantitatively or qualitatively (Warren, Raymond & Gemmy; 2005:550).

Smit (2006:389) states that establishing standards performance at strategic points is the first step in management control. It is a projection of expected or planned performance. Consequently, the physical environment is a tool that can be leveraged both to improve business results and employee well-being (Huang, Robertson & Chang, 2004).

Ensuring adequate facilities are provided to employees is critical to generating greater employee commitment and productivity. The provision of inadequate equipment and adverse working conditions has been shown to affect employee commitment and intention to stay with the organisation as well as levels of job satisfaction and the perception of fairness of pay Bockerman & Ilmakunnas, 2006).



## **2.19. Recommendations**

Employees' performance is not irrelevant of the motivation owned by employees. Several factors can affect the motivation of employees; some of them are the implementation of performance appraisal and pay system. An objective performance assessment with use of appropriate methods, the periodic execution, fair, clear and competitive compensation results will be rewarding and motivating employees to work better. With high employee motivation, it is expected that the performance of employees will increase and the productivity of the company rises. The obstacles should be eliminated to enable employees to perform optimally without flaws.

## **2.20. Summary**

This research literature has explored the opinion of both the employees and the management on the connectivity between their workplace environment and productivity. The results of different researchers have showed that the workplace is considered as a great asset to any organisation with a definite and quantifiable impact on its success and due consideration should be given to providing a comfortable, relaxing and innovative environment for workers that will enhance their productivity. The inferences from the literature reviews and employees surveyed has demonstrated that while all the different aspects of the environment are considered important, emphasis should be placed on the heating, air-conditioning and lighting facilities.

This goes to show that the aim of the research, which was to show a positive link between the workplace and productivity, has been met. This study provides a strong rationale for conducting an environmental evaluation and occupant's analysis before impact of designing workplace environment. In this study, the implemented improvement has been perceived as having a positive impact on productivity levels (Smit h; 2011:50). This study has solely focused on productivity relative to the workplace environment. There are other factors that affect productivity in any organisation but the opinion of both the reviewed researchers

and respondents cited in this study is that of approaching productivity from where work is being conducted which in this case is the workplace.

However, under the prevailing environment and the recession, workplace solutions are being ignored and often seen as the stumbling block to productivity. This research should be seen as an awakening call, that while organisations continue to explore all options to increase their productivity, due diligence should be accorded to their working environment as this is where all the work processes, which eventually lead to them achieving their goals, are undertaken. The next chapter will focus on research design and methodology.



## CHAPTER 3: RESEARCH DESIGN AND METHODOLOGY

### 3.1 Introduction

The aim of this chapter is to analyse the different research methods that were accessible to the researcher and to justify why the chosen methodology was seen as the preferred means of measuring the connectivity between the environment and productivity. Liu and Fellows (2008) stated that the success and validity of any research is based on the applicability of the research method chosen. This chapter will show that the research was conducted based on a case study of an organisation using interviews to assess the management views and questionnaires to evaluate the workers' perceptions.

According to the Ouye (2010), about a third of companies measure employee productivity as a measure of workplace success. The employee satisfaction with workplace and systems, management appraisal of achievement of performance targets, followed by employee self-appraisal of productivity are the most popular measures still being used. Direct measurements methods such as measuring improved work processes, practices and behaviours and meeting budgets and schedules, are less often used, due to the difficulty in measuring them. The complexity of measuring worker productivity has led many researchers to adopt the measurement of employee's satisfaction rate.

Research methodology is defined by Leedy and Ormrod (2001: 14) as "the general approach the researcher takes in carrying out the research project". Additionally, the researcher uses the inquiry methods to ensure alignment with statistical data collection methodology.

There are three broad classifications of quantitative research: descriptive experimental and causal comparative (Leedy & Ormrod, 2001). The descriptive research approach is a basic research method that examines the situation as it exists in its current state. Descriptive research involves identification of attributes of a particular phenomenon based on an observational basis or the exploration of correlation between two or more phenomena.



Leedy and Ormrod (2001:155) define this method as "a detailed and systematic examination of the contents of a particular body of materials for the purpose of identifying patterns, themes or biases" (page content analysis review forms of human communication including books, newspapers and films as well as other forms in order to identify patterns, themes or biases). The method is designed to identify specific characteristics from the content in the human communications. The researcher is exploring verbal, visual, behavioral patterns, themes or biases.

### **3.2 Research Design**

The research investigation will be based on the existing problems throughout the mine. The research design will give the outline on how the data will be collected to investigate the research questions in the most economic way (Huysmans, 2001).

This section includes all practical details followed for research. After reading this, any interested party should be able to replicate the research study. The methods used for data collection, how many people took part, how they were chosen, what tool was used for data collection, how the data was analysed etc.

The research is going to implore the interview with employees, telephonically and the questionnaires will be disseminated to all the relevant stakeholders.

### **3.3 Research Methodology**

The research method used will be a scientific method of acquiring knowledge. This method applies a systematic investigation to a problem, research question or phenomenon, using certain socially accepted principles (Bless & Higson-Smith, 1995: 3).

The method of research will be done using a quantitative method of gathering the data for the research. The data filed in the company archives was accessed and the comparison between the new information was made after data collection.

Quantitative method is mainly concerned with the analysis of numerical data, manipulates variables and control natural phenomena. In other words, quantitative methods are generally associated with systematic measurement, statistical analysis and mathematical models (Wang, 2003).



### **3.4. Advantage and disadvantage of a questionnaire**

#### **3.4.1. Advantages of using questionnaires**

Questionnaires are time and cost effective. Researchers do not need to schedule sessions with the software engineers to administer them. They can be filled out when a software engineer has time between tasks, for example, waiting for information or during compilation. Paper form-based questionnaires can be transported to the respondent for little more than the cost of postage. Web-based questionnaires cost even less since the paper forms are eliminated and the data are received in electronic form. Questionnaires can also easily collect data from a large number of respondents in geographically diverse locations.

Questionnaires are defined as sets of questions administered in a written format. These are the most common field method because they can be administered quickly and easily. However, very careful attention needs to be paid to the wording of the questions, the layout of the forms and the ordering of the questions in order to ensure valid results. Pfleeger and Kitchenham have published a six-part series on principles of survey research starting with (Pfleeger and Kitchenham, 2001). This series give detailed information about how to design and implement questionnaires. Punter et al (2003) further provides information on conducting web-based surveys in software engineering research.

#### **3.4.2. Disadvantages of using questionnaires**

Since there is no interviewer, ambiguous and poorly-worded questions are problematic. Even though it is relatively easy for software engineers to fill out questionnaires, they still must do so on their own and may not find the time. Thus, return rates can be relatively low which adversely affects the representativeness of the sample. We have found a consistent response rate of 5% to software engineering surveys, when people are contacted personally by email and asked to complete a web-based survey. If the objective of the questionnaire is to gather data for rigorous statistical analysis in order to refute a null hypothesis, then response rates much higher than this will be needed. However, if the objective is

to understand trends, with reasonable confidence, then low response rates may well be fine. The homogeneity of the population and the sampling technique used also affect the extent to which one can generalise the results of surveys. In addition to the above, responses tend to be terser than with interviews.

### **3.5. The structure of the proposed data collection instrument or questionnaire**

The questionnaire has three parts which are Part A (General personal particulars); Part B (Research objectives questions) and Part C (Research questions).

A questionnaire of thirty two questions comprising with three sections will be used to collect data for this research. Distributed questionnaires are based on written information supplied directly by people in response to questions asked by the researcher. A questionnaire is made of the general personal particulars, research objectives questions and research questions to qualify and a research questionnaire should have the following:

- to be designed to collect information which can be used subsequently as data for analysis.
- to consist of a written set of questions.
- to gather information by asking people directly.
- to be used to collect factual information or opinions (Denscombe, 2003).

The software program that was used in data collection and analysis will be the excell program, mine suite, oracles, achiever, Invocom and JDE, RIFA and MAPP programs.

### **3.6. Measures to ensure validity and reliability of data collected**

In research, validity has two essential parts: internal and external. Internal validity encompasses whether the results of the study (e.g. mean difference between treatment and control groups) are legitimate because of the way the groups were selected, data was recorded or analysis performed.



For example, a study may have poor internal validity if testing was not performed the same way in treatment and control groups or if confounding variables were not accounted for in the study design or analysis. It is through proper study design and strict protocol execution that high levels of validity, both internal and external, can be achieved.

An important point to remember when discussing validity is that without internal validity you cannot have external validity. Results of a poorly designed or executed study are not applicable to any population, in that particular study sample or otherwise. External validity, often called “generalisability”, involves whether the results given by the study are transferable to other groups (i.e. populations) of interest (Last, 2001).

Table 1. Reliability

Reliability Statistics	
Cronbach Alpha	N of Items
0.801	32

The Cronbach Alpha is 0.801, which indicates a high level of internal consistency for our scale with this specific sample. The statistics used is valid for the research since the Cronbach Alpha values are less than one. The method of questionnaire is reliable but not completely accurate as some of the data is not answered by the respondents.

### 3.7. Ethical considerations

There is ethical limitations as every employee is entitled to consult with the general manager if he or she would like to do research on the aspects within the organisation. He will grant you the permission to continue if the topic does not jeopardise the company image and the loyalty of other employees to the longevity of the company.

There is a protocol to follow at the Human resource department to seek for clearance to use the company documents for the research. The document will be signed and filed in the manager office as evidence in case the confidential

information leaks. No employee identity was required in order to protect the image and the trouble of victimisation to employees by their superiors. Senior management was encouraged to partake in the survey of which only three agreed at E pattern grade level.

All the questionnaires were answered anonymously to avoid disclosing personal feelings of each employee who responded. Questionnaires were privately distributed as some of the employees complained of being exposed to their managers.

All the information used that is confidential will be discussed with the senior people in the company hierarchy. The manager of the mine is the person who has a final word whether information is confidential or not. He also approves the topic and evaluated all the consultations made from other stakeholder during data collection.

### **3.8. Sampling and data collection strategy**

Qualitative research design has often been a “black box” to researchers familiar with quantitative research design. Over the past several decades, however, the craft of qualitative research has advanced significantly as researchers and methodologists have articulated the techniques and procedures used to move from the research question to the results.

#### **3.8.1. Population Sampling**

Nesbary (2000), suggests the larger the sample size, the greater the probability the sample will reflect the general population. However, sample size alone does not constitute the ability to generalise. Patten (2004), states that obtaining an unbiased sample is the main criterion when evaluating the adequacy of a sample. Patten also identifies an unbiased sample as one in which every member of a population has an equal opportunity of being selected in the sample. Therefore,



random sampling was used in this study to help ensure an unbiased sample population.

Population was based on the employees from all the cultures, level of education, position at work, life style, departmental interest, no gender segregation and the age also considered when sampling. The questionnaire was distributed to the workers at a random choice and the feedback is collected after a week for analysis. The total of 284 will be distributed among the participating employees and each contained 30 questions. The questions comprised of the personal and the general questions. Nevertheless both unanswered questionnaires were collected to finalise the survey.

### **3.8.2. Representative Sampling**

Representative sampling was done through questionnaires from different employees and different managers per department. People that already resigned and the ones that are on pension were consulted to further investigate the impact of challenges on their previous performances. All the data was tabulated and more statistics were to be done on the data.

The company comprised of ±80000 employees operationally located among King operations, Bruce operations, Loading operations and Parsons operations constituted by employees from Human Resource, technical services, training/Abet, finance, geology and engineering departments. The survey target was at least done by consulting with 300 respondents at their morning meeting to explain the process of questionnaire completion and the purpose of a survey. All was done before and 100 refused to participate in the survey and thus left me with the sample target of 284 respondents.

### **3.8.3 Data analysis technique, method and instruments used**

The proposed data analysis method applied were bar charts, distribution graphs, frequency, cross tabulation, Pearson correlations and mean, standard deviations and the component matrix analysis, descriptive statistics, reliability statistics by



Cronbach Alpha analysis. SPSS program was used to analyse data on the respondent's sheet.

The IT system which was used during data analysis is the SPSS. Data was interpreted with a thorough scrutiny by the human resource department and the IT technicians as the company representative to avoid a leak of the confidential data. The general mine manager was consulted for penultimate deliberation on the final report and scrutinised the data collected from within the company archives.

Surveys were based on short interviews either one-on-one or on telephone conversations. These were based on simple questions as appeared on the questionnaires. The survey was performed by sending a questionnaire and quantifying the response when questionnaires are returned.

### **3.9 Summary**

This chapter provided a comprehensive description of the processes and steps employed in the research methodology to obtain data according to the aims, sub aims and objectives of the study. The methods implemented assisted in conducting proper data collection; data analysis and it equipped the researcher in finalising the research. The need for the company to redress the imbalance within the organisation that impede with employee performance was the motivation of this study. The experimental or the technique of data collection using design methods, introduction defining the literature information from other researchers, hypotheses to be tested; data precision analysis methods; tools for data analysis; instrumentation and data collection; population/sampling; and the statistics were used to interpret the chapter fully while doing data interpretation and analysis.

The experimental design was described; selection of the sampling criteria were discussed and described and in the discussion of the concepts in the chapter, leading decisions were taken to determine the suitable selection procedures and the apparatus used for selecting the concepts as per author cited. A description is being provided in terms of data collection and analysis of the data and the procedures used were also discussed. The issues of data reliability and validity



were illustrated using examples. In the next chapter our focal point is on interpreting the data that was collected in chapter 3 and interpreting them further.

## **CHAPTER 4: RESEARCH RESULTS**

### **4.1. Introduction**

This chapter focused on the presentation of results of the research in tabular or graphical format. This chapter provided an analysis of data which has been collected from the respondents with help of statistics. This assisted to identify critical findings and recommendations will consequently be noted if there are shortcomings.

Questionnaires were used to gather information. The objective of this chapter was to conduct analysis of the collected data using methods described in chapter 3.

The primary objective of data selection is the determination of appropriate data type, source and instrument(s) that allow investigators to adequately answer research questions. This determination is often discipline-specific and is primarily driven by the nature of the investigation, existing literature and accessibility to necessary data sources.

### **4.2. Demographics**

At a minimum, information needs to be provided about participants' age, gender, race/ethnicity, SES/educational level and languages spoken. However, additional information may be pertinent to specific investigations, depending on the populations studied and research questions asked. Such information includes, but is not limited to, participants' generational or immigrant status, cultural group, country of origin, years in the country and other characteristics that may aid in the interpretation of results (American Psychological Association, Beins, 2009).

Without the inclusion of such information, researchers risk assuming the stance of "absolutism," which assumes that the phenomena of interest are the same regardless of culture, race and ethnicity.

Provision of detailed information about participant characteristics allows researchers to move toward a position of "universalism," which recognises that

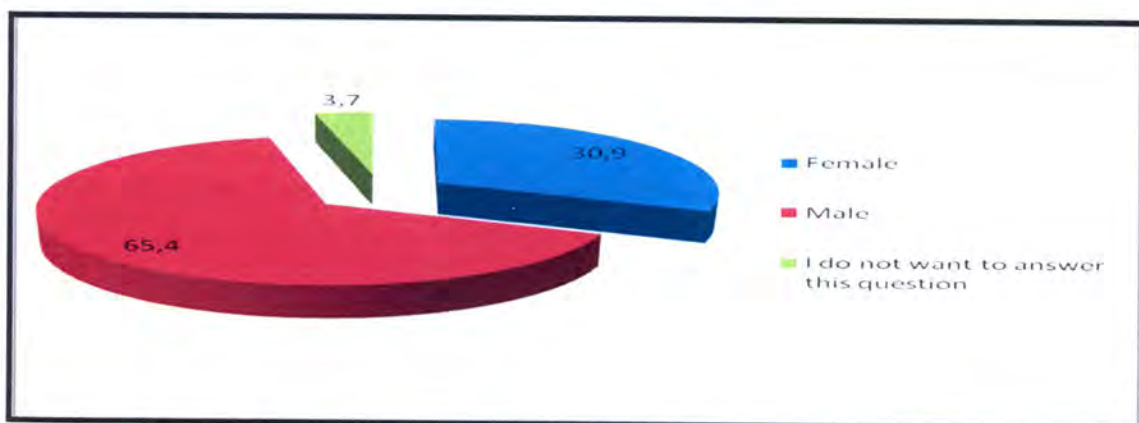


"there may be universal psychological processes ... that ... manifest differently" depending on the culture, race/ethnicity of participants (Beins, 2009, p. 356). This applies to the study of biological factors as well. In other words, researchers cannot assume that no differences exist between groups until this underlying hypothesis has been proven.

Additionally, a thorough description of participants allows readers and researchers to determine to whom research findings generalise and allows for comparisons to be made across replications of studies. It also provides information needed for research syntheses and secondary data analyses (Bein, 2009). As a result of these analyses, gaps in existing bodies of research can be identified as well as universals and variations that occur within and between populations.

This section discusses the personal data of the respondents. There are other factors which contribute to the problem which are discussed in this section. The questionnaire was answered by males and females which showed that the mine is males dominated. A description of the biographical characteristics of the sample in terms of age, gender, length of service, qualifications, language, levels of management and place of origin will follow. The following research information was collected from the research participants.

#### 4.2.1. Gender

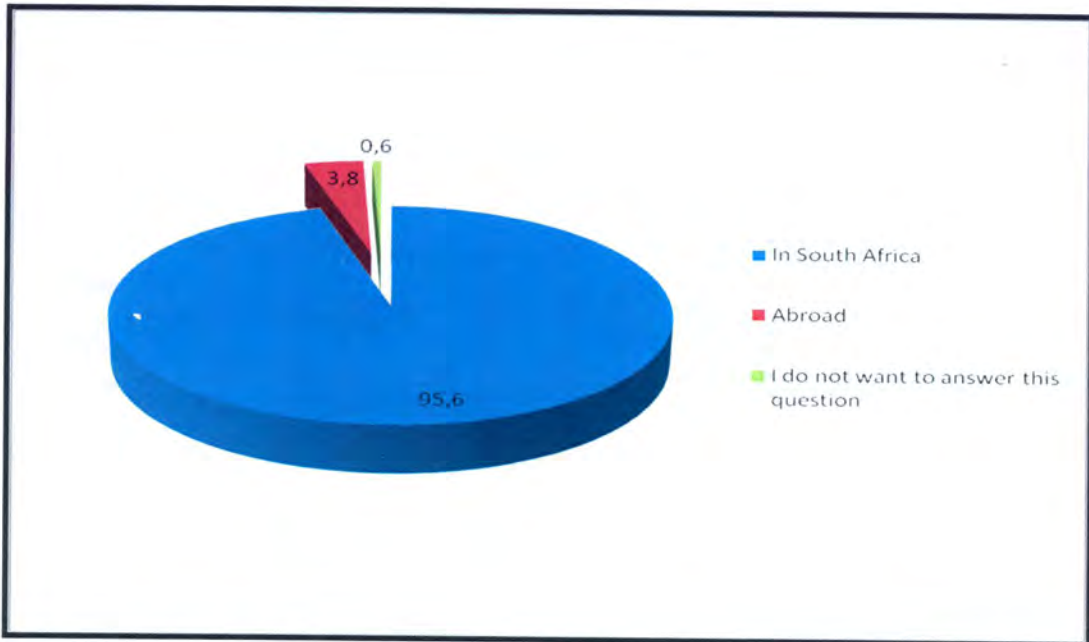


**Figure 4. Gender**

Figure 4. The minority of respondents are female employees at the mine since only 30.9% of female took part in the survey and 65.4% male employees

participated. Only 3,7% of the the respondents did not want to respond on whether they are male or female. The percentage does not classify males according to race as this will not bear a true reflection of the survey as most the employees are black who participated in the survey.

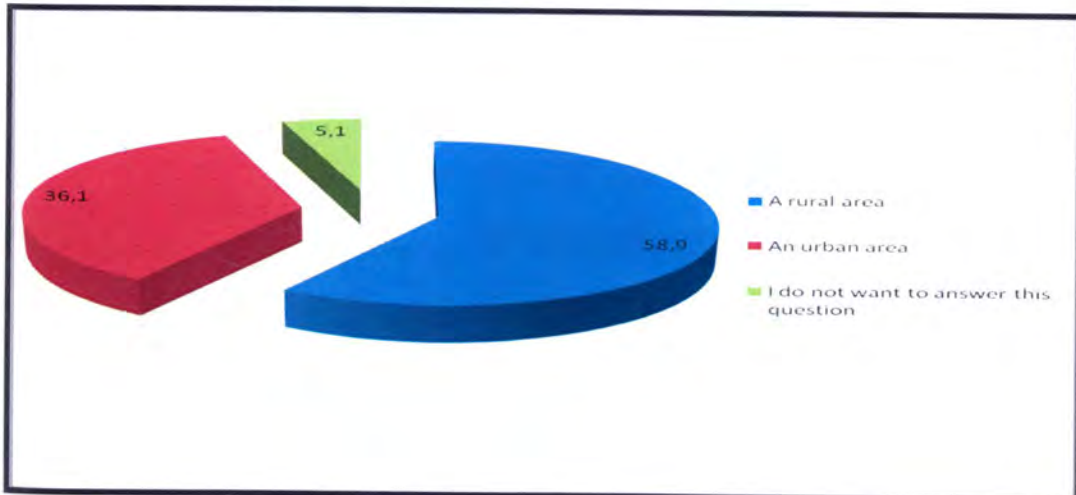
#### 4.2.2. Citizenship



**Figure 5. Country of Origin**

Of all the 162 respondents, most of them are South Africans (96%), the few 4% are non South African. There are few people that come from overseas who work on permanent contracts but mostly they are contractors in the mine.

#### 4.2.3. Settlement Type





### Figure 6. Geographic Settlement Type

Most employees (59%), are from rural areas as compared to 36% who are from urban settlement. The most of the employees are from Kuruman, Olifantshoek, Danielskuil and Postmasburg which are rural and based in the farming areas.

#### 4.2.4. Years in service

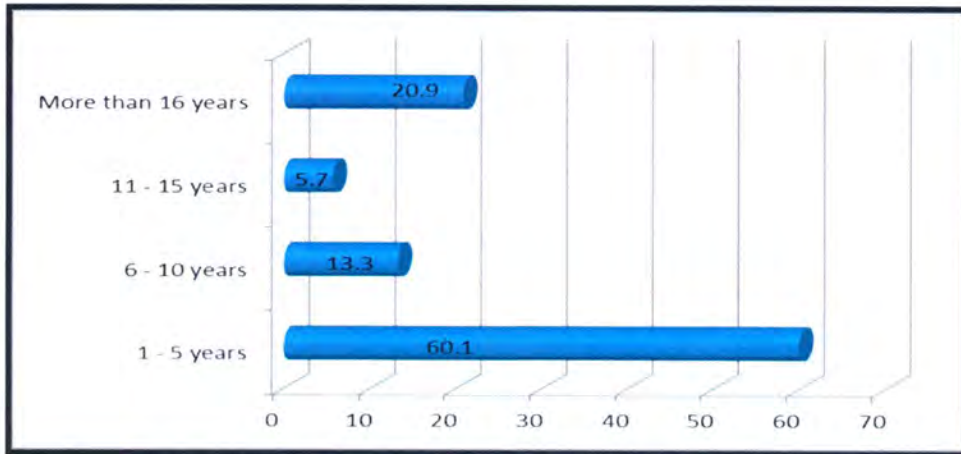


Figure 7. Service in years

This graph illustrates that the majority (73%), of the employees have worked for less than 10 years whereas only (20%) of those have 16 or more years of experience.

#### 4.2.5. Age category

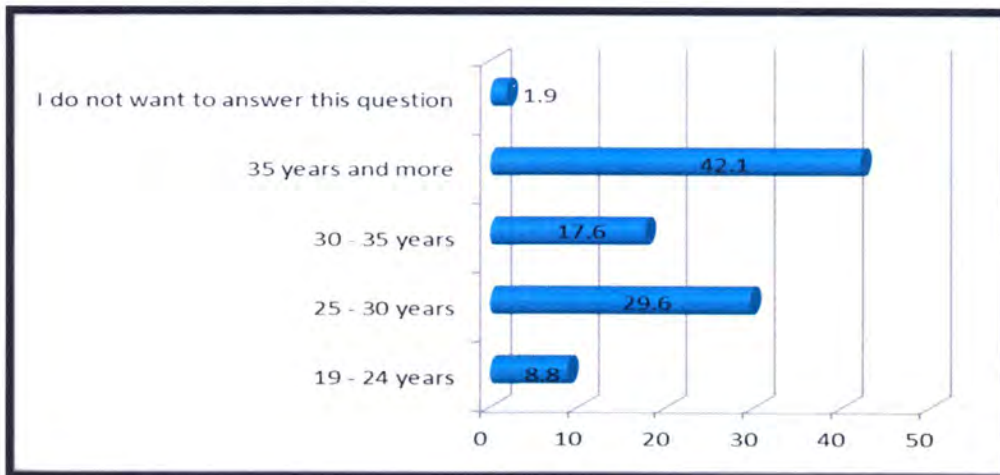
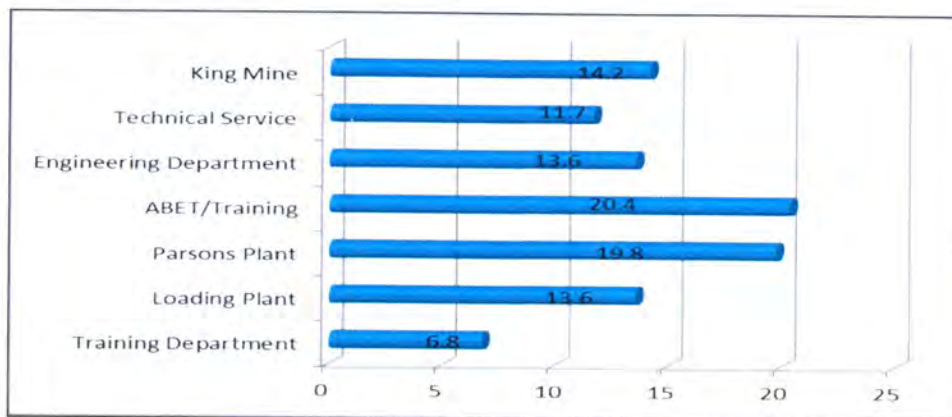


Figure 8. Age

The majority (56%), of the employees are younger than 35 years old. The respondents within the age group of 35 years and more is higher since majority of employees were brought along from the old mine when the Khumani mine (new mine) was opened.

The frequency of the people who participated in all the sections visited within the Khumani mine and the questionnaires returned after completion.

#### 4.2.6. Section Code Visited



**Figure 9. Section Code Visited**

Figure 9. Attempts to address the section in the mine where higher number of employees participated in the surveys. This is graphically denoted on the bar charts where Parsons plant employees participated in big numbers as their percentage is the second highest to the training department. Even though the mine comprise of 8000 employee collectively only 200 agreed to participate in the survey. A lower number of respondents does not mean that there are a smaller number of employees in that department.



#### 4.2.7. Race Group

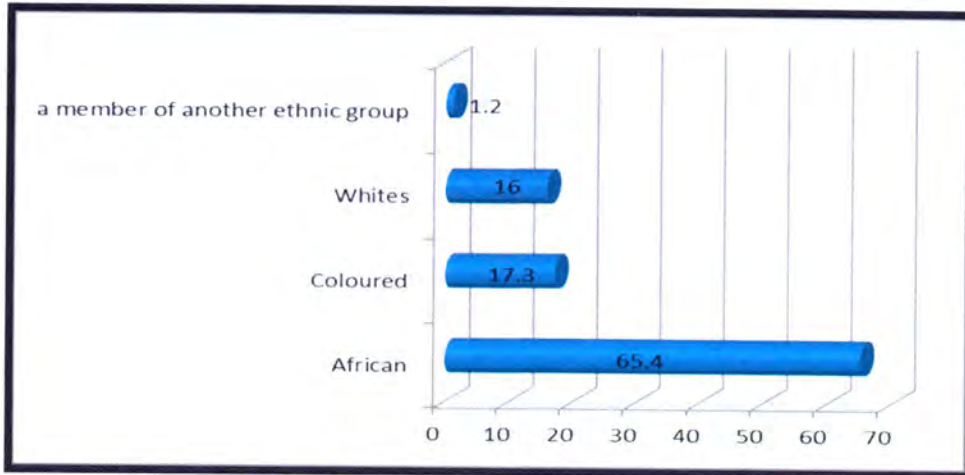


Figure 10. Race Group

Figure 10 accounts for the race respondents in the mine as per population. The higher number of Africans took part on the survey indicating that most of the white employees and coloured are not viewing the challenges as per each African employee. There are a large number of coloured employees employed at the company but refused to take part in the survey. Only 0.001 % is from the other group which did not change the distribution per survey.

#### 4.2.8. Job Title

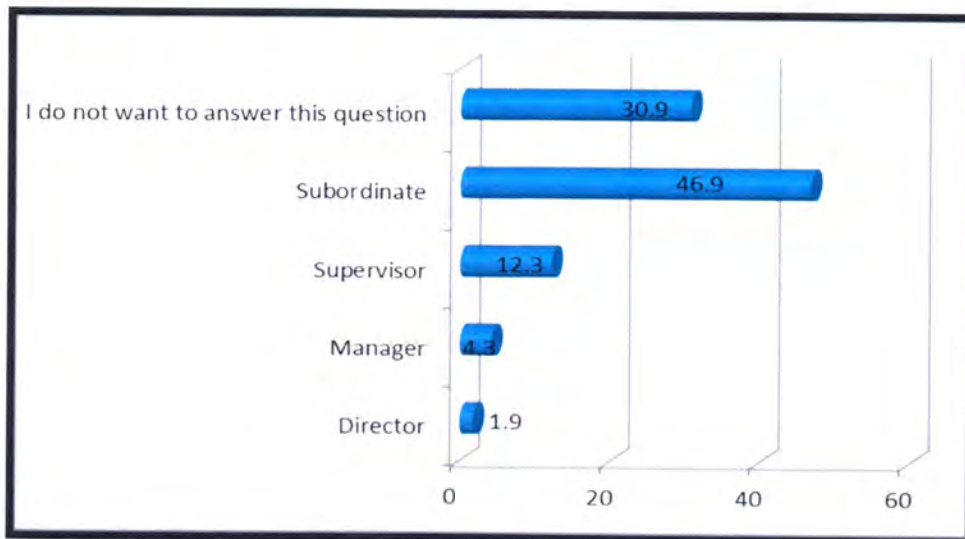


Figure 11. Job Title

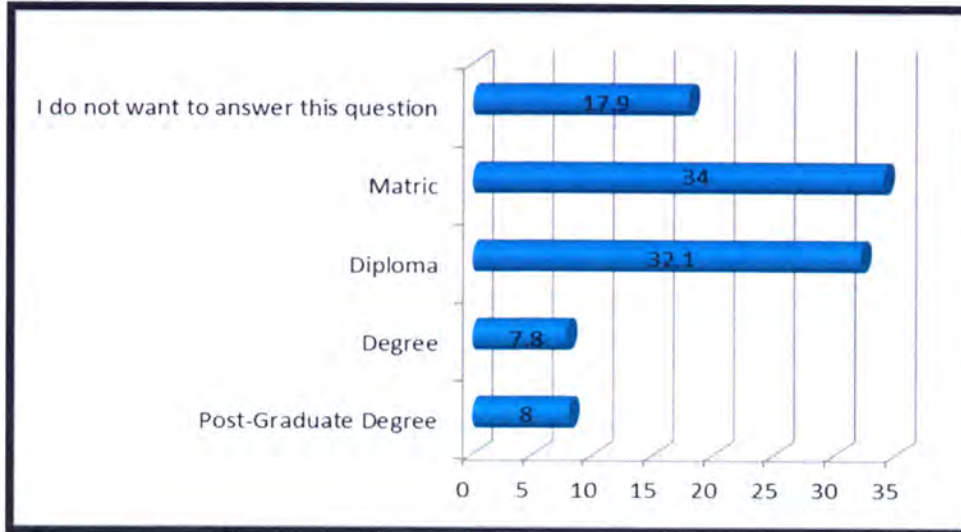
Figure 11 illustrates the respondents as their job title in the participating population. The company had few respondents on the management level which indicated imbalances at the company. A lot of employees categorised as subordinates are reporting to all employees reporting to employees at partisan grading C2 and upwards. More employees are not able to attain the higher positions which is a challenge to them. Job titles comprised of grades A through to F.

Paterson's grading system is comprised of responsibility of the corresponding graded decision making or prescribed or defined decisions. Jobs are performed with limited training for grade A and employees, such as unskilled workers, decide when and how fast to execute tasks. F-upper deals with co-ordinating and policy decisions. Grade F consists of top management, such as a board or CEO who manages organisational scope and goals

An upper grade reflects a job requiring co-ordination or supervision and a lower grade reflects non-co-ordinating jobs. The Paterson grading system is an analytical method of job evaluation, used predominantly in South Africa. It analyses decision-making in job task performance or job descriptions and sorts jobs into six groups that are graded and grouped into two to three sub-grades--such as stress factors, individual tolerance, length of job and number of job responsibilities--that correspond to organisational levels. The six grades, also called bands, define pay scales (Mining News,2013).



#### 4.2.9. Qualifications



**Figure 12 .Qualification**

Figure 12 explains the level and type of qualifications as per respondents at the Khumani mine. It clearly shows that most employees have completed their Matric (34%) followed by diploma (30%). This is a usual pattern in most organisations in line with the larger demographic profile of adult literacy in the country. Having people without relevant qualification can hamper the pace of the work output as per employee pace in the specific section and the job category.

The Mining Qualifications Framework (MQF) is a compilation of all qualifications, including Skills Programmes applicable to the Mining and Minerals (M&M) Sector, either already registered or in the process of development, by the M&M Standard Generating Body (SGB) or in collaboration with other SGB's. The Schedules are detailed below: Mining, Planning, Geology, Survey, Ventilation, Rock Engineering, Analytical Services Safety, Health and Environment (SHE), Logistics (Packing and Distribution), Equipment Operations (Including Driving, surface and Underground Equipment Operation) General and management (MQA document,2013).

### 4. 3. THE QUESTIONS RELATING TO THE RESEARCH OBJECTIVES

**Table 2. Questions relating to the research objectives**

	I strongly agree (%)	I agree (%)	I disagree (%)	I strongly disagree (%)	I do not want to answer this question (%)
Work Conditions are Conducive Employee Performance	15.5	44.5	18.1	11.6	10.3
Performance measuring strategies assist in improving work performance	16.9	44.2	15.6	13.6	9.7
Khumani has a good support system to reduce illiteracy among employees	10.8	39.2	25.9	15.2	8.9
Tools and technology in the plant are available and user friendly	8.2	47.5	19	9.5	15.8
Training resources like manuals and SOPs are accessible to employees during training	12.1	52.9	18.5	9.6	7
Lack of skills due to high turnover is addressed	7.1	34.8	32.3	13.5	12.3
Employee empowerment is implemented and is effective?	7	33.5	29.7	24.7	5.1

#### **Work Conditions are Conducive Employee Performance**

The majority of the respondents, 60% agree that the work condition are conducive for employees to perform at their best of abilities. Whereas 29.7% of the respondents said that the work conditions are not conducive for employees to perform. lastly other respondents 10.3% did not answer this question. The workplace environment plays a crucial role for the employees.

Nowadays employees may have a large number working alternatives and then the environment in workplace becomes a critical factor for accepting and/or keeping the jobs. The quality of environment in workplace may simply determine the level of employee's motivation, subsequent performance and productivity (Demet Leblebici, 2012).



### **Performance measuring strategies assist in improving work performance**

The majority of the respondents, 61.1% said that the performance measuring strategies assist them in improving work performance. Whereas 29.2% of the respondents said that the performance measuring strategies did not improve their working performance. Lastly other respondents 9.7% did not answer this question.

### **Khumani has a good support system to reduce illiteracy among employees**

The majority of the respondents understood the importance of education at the mine. 50% agreed that the Khumani has a good support system to reduce illiteracy among employees. Whereas 41.1% of the respondents disagreed that the Khumani has a good support system to reduce illiteracy among employees. Lastly other respondents 8.9% did not answer this question.

### **Tools and technology in the plant are available and user friendly**

The majority of the respondents, 55.7% agreed that the technology in the plant are available and user friendly. Whereas 28.5% disagreed that technology in the plant are available and user friendly. Finally other respondents 15.8%, did not answer this question.

### **Training resources like manuals and SOPs are accessible to employees during training**

The majority of the respondents, 65% agreed that the training resources like manuals and SOPs are accessible to employees during training. The minority of the respondents 28.1% disagree that the training resources like manuals and SOPs are accessible to employees during training. Otherwise 7% of the respondents did not answer this question.

### **Lack of skills due to high turnover is addressed**

The minority of the respondents, 41.9% agreed that the Lack of skills due to high turnover, is addressed. The majority of the respondents, 45.8% disagreed that the Lack of skills due to high turnover, is addressed. Lastly other respondents 12.3% did not answer this question.

## Employee empowerment is implemented and is effective

The minority of the respondents, 40.5% agreed that the Employee empowerment is implemented and is effective. The majority of the respondents, 54.4% disagreed that the Employee empowerment is implemented and is effective. Lastly other respondents 5.1% did not answer this question.

### 4. 4. THE QUESTIONS RELATING TO THE RESEARCH QUESTION

Table 3. Questions relating to the research question

	I strongly agree (%)	I agree (%)	I disagree (%)	I strongly disagree (%)	I do not want to answer this question (%)
Employee empowerment is implemented and is effective?	7	33.5	29.7	24.7	5.1
Does the employee management program resolve challenges of employees?	5.1	31.4	34	18.6	10.9
Is management in favour of continuous improvement in the plant?	7.1	40.6	25.2	12.3	14.8
There is a strategic approach to the problems of poor turnaround time	6.4	40.4	29.5	10.3	13.5
The mine complies with labour laws as stipulated by the government	10.8	47.1	23.6	12.1	6.4
Safety and environmental issues adequately addressed at the mine	17.5	50	18.8	11.3	2.5
Changes need to be made in my work environment	34.2	44.3	11.4	7	3.2
Do you understand the basic conditions of employment Act	20	52.5	11.3	6.9	9.4
Can lack of understanding of the BCEA law lead to employee being unproductive	19.7	38.8	16.4	9.2	15.8



Khumani has employee assistance program in overcoming the work related challenge	8.3	48.1	21.2	12.8	9.6
Lack of knowledge understanding technology influence the pace of employee performance	26.5	49	11.9	5.3	7.3
Lack of commitment from employers and employees results in poor work performance	41.1	40.5	6.3	5.7	6.3
Alcoholism causes the employee not to perform optimally	41	28.8	10.3	<b>10.3</b>	9.6
Do strikes and go-slows contribute to employee absenteeism and presenteeism	21.8	30.8	17.3	14.1	16

### **Employee empowerment program is implemented and is effective?**

The minority, 40.5% of the respondents agreed that the employee empowerment is implemented and is effective. The majority, 54.4% of the respondents disagree that the employee empowerment is implemented and is effective. While 5.1% did not want to answer this question.

### **Does the employee management program resolve challenges of employees?**

The minority, 36.5% of the respondents agree that the employee management program resolve challenges of employees. The majority, 52.6% of the respondents disagree that the employee management program resolve challenges of employees. While 10.9% did not want to answer this question.

### **Is management in favour of continuous improvement in the plant?**

The majority of the respondents, 47.7% agreed that the management in favour of continuous improvement in the plant. The minority of the respondents, 37.5% disagree that the management in favour of continuous improvement in the plant. Otherwise 14.8% of the respondents did not answer this question.

### **There is a strategic approach to the problems of poor turnaround time**

The majority of the respondents, 46.8% agreed that the strategic approach to the problems of poor turnaround time. The minority of the respondents, 39.8%

disagree that the strategic approach to the problems of poor turnaround time. Otherwise 13.5% of the respondents did not answer this question.

### **The mine complies with labour laws as stipulated by the government**

The majority of the respondents, 57.9% agree that the mine complies with labour laws as stipulated by the government. The minority of the respondents, 35.2% disagree that the mine complies with labour laws as stipulated by the government. Otherwise 6.4% of the respondents did not answer this question.

### **Safety and environmental issues adequately addressed at the mine**

The majority of the respondents, 67.5% agreed that the safety and environmental issues are adequately addressed at the mine. The majority of the respondents, 30.1% disagreed that the safety and environmental issues are adequately addressed at the mine. Otherwise 2.5% of the respondents did not answer this question.

### **Changes need to be made in my work environment**

The majority of the respondents, 78.5% agreed that changes need to be made in my work environment. The minority of the respondents, 18.4% disagree that changes need to be made in my work environment. Otherwise 3.2% of the respondents did not answer this question.

### **Do you understand the basic conditions of employment Act?**

The majority of the respondents, 72.5% agreed that they do understand the basic conditions of employment Act. The minority of the respondents, 18.2% disagreed that they do understand the basic conditions of employment Act. Otherwise 9.4% of the respondents did not answer this question.

### **Can lack of understanding of the BCEA law lead to employee being unproductive?**

The majority of the respondents, 59.5% agreed that the lack of understanding of the BCEA law lead to employee being unproductive. The minority of the



respondents, 25.6% disagreed that the lack of understanding of the BCEA law lead to employee being unproductive. Otherwise 15.8% of the respondents did not answer this question.

### **Khumani has employee assistance program in overcoming the work related challenge**

The majority of the respondents, 56.4% agreed that Khumani has an employee assistance program in overcoming the work related challenge. The minority of the respondents, 34.0% disagreed Khumani has an employee-assistance program in overcoming the work related challenge. Otherwise 9.6% of the respondents did not answer this question.

### **Lack of knowledge understanding technology influence the pace of employee performance**

The majority of the respondents, 75.5% agreed that the lack of knowledge understanding technology influence the pace of employee performance. The minority of the respondents, 17.2% disagreed that the lack of knowledge understanding technology influence the pace of employee performance. Otherwise 7.3% of the respondents did not answer this question.

### **Lack of commitment from employers and employees results in poor work performance**

The majority of the respondents, 81.6% agreed that the lack of commitment from employers and employees results in poor work performance. The minority of the respondents, with 12% disagreed that the lack of commitment from employers and employees results in poor work performance. Otherwise 6.3% of the respondents did not answer this question.

### **Alcoholism causes the employee not to perform optimally**

The majority of the respondents, 69.8% agreed that alcoholism causes the employee not to perform optimally. The minority of the respondents, 20.6% disagree that alcoholism causes the employee not to perform optimally. Otherwise 9.6% of the respondents did not answer this question. Alcohol use is widespread in South Africa. It reveals that for all age groups drinking is more



common among males than females and rates of drinking vary by population group. White females are more likely to drink than their black counterparts are but males of all population groups have roughly the same rates of alcohol consumption. People in urban areas tend to be more likely to drink than their rural counterparts, although people based in rural areas seem to be more inclined to drink at risky levels when they do drink. (Pithey & Morojele, 2002).

### **Do strikes and go-slows contribute to employee absenteeism and presenteeism**

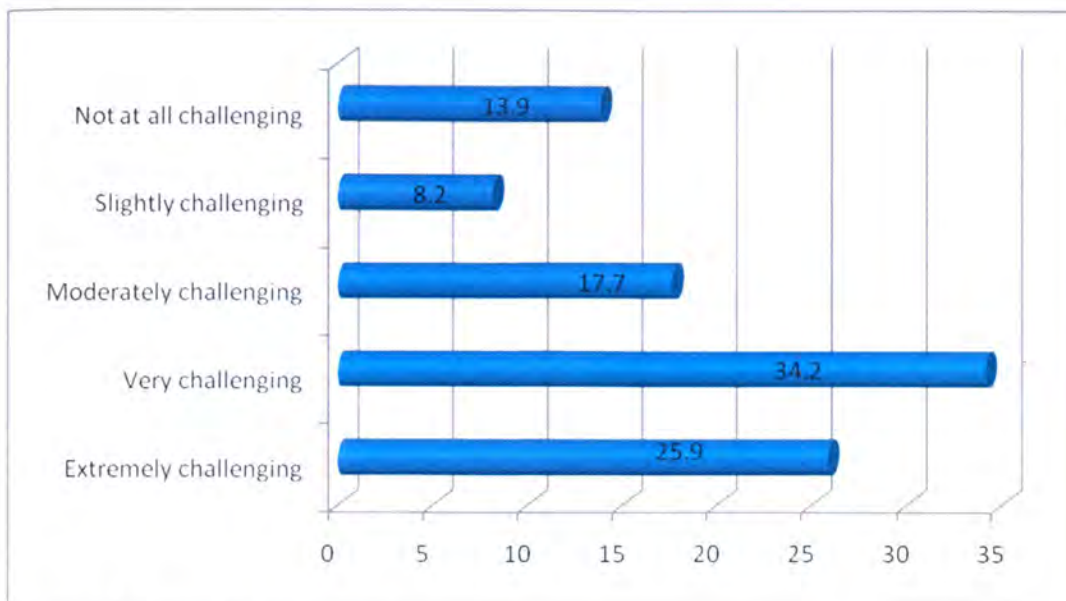
Striking, also called “collective labour action”, is an agreement by workers in a certain industry to stop working for a specific length of time or until a certain condition is met. Strikes are usually organised by trade unions after negotiations with employers fail to produce the demands made by the workers. A lesser form of protest is a “go slow” or “slowdown”, in which employees work more slowly than usual and reduce the company’s productivity or efficiency ( Anna Malczyk,2013).

Strikes can happen for a wide variety of reasons related to working conditions and always occur when workers feel that something unfair is happening. One of the most common causes for striking is to protest unfairly low wage or salary increases, especially when they are below the inflation rate. Workers can also strike to improve their working conditions (if, for example, safety standards are very low or harmful processes are being use unnecessarily), to petition for shorter working hours, to protest unequal treatment or actions by the company (the managers getting a large bonus while workers get no raises) or even to protest against the company’s political, social or environmental policies.

The majority of the respondents, 52.6% agreed that strikes and go-slows contribute to employee absenteeism and presenteeism. The minority of the respondents, 21.4% disagreed that strikes and go-slows contribute to employee absenteeism and presenteeism. Otherwise 16% of the respondents did not answer this question.



#### 4.4.1. How challenging is your job?



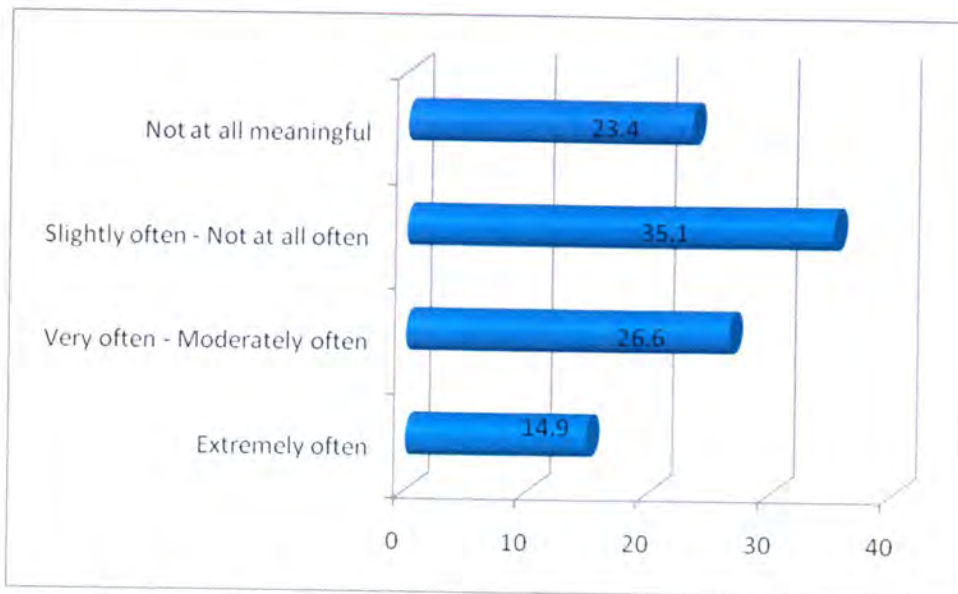
**Figure 13. Job challenges**

The majority of the respondents, 34.2% say their jobs are very challenging, whereas 25.9% of the respondents say their jobs are extremely challenging. 17.7% of the respondents say their jobs are moderately challenging whereas 8.2% of the respondents are slightly challenging and only 13.9% say their jobs are not challenging at all.

Blue-collar employees working in manufacturing companies exert different levels, frequencies and durations of the physical effort during performing the tasks of their jobs. They use strength of kneeling, crouching/crawling, walking, standing, balancing, lifting and pulling/pushing objects. The physical effort requirement for a job changes from a combination of sitting, standing and working with little requirement to an intense requirement for lifting objects weighing over 30 kg with no mechanical aid happens at engineering and plant processes.

An increase in the level of physical effort was accompanied by an increase in energy expenditure. The majority of the energy consumption generally is converted to the waste activities such as static effort (e.g., lifting, pulling/pushing objects), to other awkward postures or to inefficient equipment or method. These waste activities cause decreasing productivity (Emin Kahla, 2007).

#### 4.4.2. In a typical week, how often do you feel stressed and fail to perform tasks given?



**Figure 14. Stress effect on employee performance**

From the figure above a small number of respondents, 14.9% are extremely stressed and as a result of that, they failed to perform tasks given in a week. In contrary, 23.4% of the respondents don't feel stressed and as a result of that, they did perform tasks given in a week. Then the majority of respondents, 35.1% slightly to not often, feel stressed and failed to perform tasks given in a week. There were 26.6% of the respondents that very to moderate often, do feel stressed and still failed to perform tasks given in a week.

Some jobs in the workshops of mechanical processing, machining and maintenance are high level jobs of complexity. Job type, job level and job context create different influences on job performance. Some jobs require high level skill and responsibility to perform tasks successfully. It is plausible that those employees who carry out these jobs should undertake higher level of job performance to fulfil the job responsibilities satisfactorily (Emin Kahya, 2007).

#### 4.5. Descriptives Statistics

The standard deviation is used in the subsequent table to test the hypothesis that the mean is 2.5 (which points on been neutral to willing to rate agree or disagree,



using likert scale (1- 5). A point beyond 2.5 shows that respondents tended to either strongly agree or disagree with the question posed by the questionnaire.

Table 4. Descriptive Statistics for biographical information

Descriptive Statistics					
	N	Range	Mean	Std Deviation	Variance
Country of Origin	159	2	1.05	0.246	0.061
Geographic Settlement Type	158	2	1.46	0.593	0.352
Race Group	161	4	1.68	1.126	1.268
Gender	162	2	1.73	0.523	0.274
Service in years	158	3	1.87	1.219	1.487
Age	159	4	2.99	1.073	1.152
Qualification	157	4	3.48	1.124	1.264
Job Title	156	4	4.04	0.897	0.804
<b>Section code</b>	162	6	4.12	1.800	3.239
Valid N (listwise)	140				

The means and std-deviation are presented in descending order of the mean, in order to reflect items which have higher disagree in table 4. This is a casual guide to flag management to address these items in order of their rank ratings.

Table 5. Descriptive Statistics for questions in relation to research objectives

Descriptive Statistics					
	N	Range	Sum	Mean	Std Deviation
	Statistic	Statistic	Statistic	Statistic	Statistic
Work Conditions are Conducive Employee Performance	155	4	398	2.57	1.190
Performance measuring strategies assist in improving work performance	154	4	393	<b>2.55</b>	1.205
Khumani has a good support system to reduce illiteracy among employees	158	4	430	2.72	1.122

tools and technology in the plant are available and user friendly	158	4	438	2.77	1.220
Training resources like manuals and SOPs are accessible to employees during training	157	4	387	2.46	1.053
Lack of skills due to high turnover is addressed	155	4	448	2.89	1.120
Valid N (listwise)	142				

Table 5, one of the items which was less than 2.5 indicate ratings towards agreeing that training resources like manuals and SOPs were accessible to employees during training. The five items indicate that employees are not very happy about them, they must be brought to the attention of management, such that in the future; ie employees may disagree with the fact that in their company, which gives their livelihood, both employees and employer are committed to support work performance.

Table 6. Descriptive Statistics for questions relation to research questions

Descriptive Statistics					
	N	Range	Sum	Mean	Std Deviation
	Statistic	Statistic	Statistic	Statistic	Statistic
Employee empowerment is implemented and is effective	158	4	454	2.87	1.027
Does the employee management program resolve challenges of employees?	156	4	466	2.99	1.072
Is management in favour of continuous improvement in the plant?	155	4	445	2.87	1.183
There is a strategic approach to the problems of poor turnaround time	156	4	443	2.84	1.133
The mine complies with labour laws as stipulated by the government	157	4	402	2.56	1.046



Safety and environmental issues adequately addressed at the mine	160	4	370	2.31	.972
Changes need to be made in my work environment	158	4	317	2.01	1.013
Do you understand the basic conditions of employment Act	160	4	373	2.33	1.153
Can lack of understanding of the BCEA law lead to employee being unproductive	152	4	399	<b>2.62</b>	<b>1.331</b>
Khumani has employee assistance program in overcoming the work related challenge	156	4	417	2.67	1.108

Table 6, three of the items which was less than 2.5 indicate ratings towards agreeing to safety and environmental issues adequately addressed at the mine, changes need to be made in my work environment and they understand the basic conditions of employment Act. The seven items indicate that employees are not very happy about them, they must be brought to the attention of management, such that in the future; ie employees may disagree with the fact that in their company, which gives their livelihood, both employees and employer are committed to support work performance.

Table 6. Descriptive Statistics for questions relation to research questions (cont)

Descriptive Statistics					
	N	Range	Sum	Mean	Std. Deviation
	Statistic	Statistic	Statistic	Statistic	Statistic
Lack of knowledge understanding technology influence the pace of employee performance	151	4	329	2.18	1.108
Lack of commitment from employers and employees results in poor work performance	158	4	309	1.96	1.131

Alcoholism causes the employee not to perform optimally	156	4	341	2.19	1.329
Do strikes and go-slows contribute to employee absenteeism and presenteeism?	156	4	424	2.72	1.376
How challenging is your job?	158	4	395	2.50	1.334
In a typical week, how often do you feel stressed and fail to perform tasks given?	154	3	411	2.67	.997
Valid N (listwise)	135				

Table 6 (cont), three of the items which was less than 2.5 indicate ratings towards agreeing to lack of knowledge understanding technology influence the pace of employee performance, lack of commitment from employers and employees results in poor work performance and that alcoholism causes the employee not to perform optimally. The three items indicate that employees are not very happy about them, they must be brought to the attention of management, such that in the future; ie employees may disagree with the fact that in their company, which gives their livelihood, both employees and employer are committed to support work performance.

#### 4.6. Pearson's Correlation Analysis

The objective of the study was not to find factors of the items explained by the outlined tables but rather to reduce them and combine them into some sub-section due to their correlations. The main result of a correlation is called the correlation coefficient (or "r"). It ranges from -1.0 to +1.0. The closer r is to +1 or -1, the more closely the two variables are related. If r is close to 0, it means there is no relationship between the variables. If r is positive, it means that as one variable gets larger the other gets larger. If r is negative it means that as one gets larger, the other gets smaller (often called an "inverse" correlation).

A correlation report can also show a second result of each test-statistical significance. In this case, the significance level will tell one how likely it is that the correlations reported may be due to chance in the form of random sampling error.



If you are working with small sample sizes, choose a report format that includes the significance level. This format also reports the sample size.

Table 7. Correlations for biographical information.

		Correlations				
		Section code	Race Group	Job Title	Qualification	Gender
Section code	Pearson Correlation	1	0.072	-.093	-0.138	0.036
	Sig (2-tailed)		0.366	0.246	0.084	0.651
	N	162	161	156	157	162
Race Group	Pearson Correlation	0.072	1	-0.211**	-0.213**	0.011
	Sig (2-tailed)	0.366		<b>0.008</b>	0.008	0.887
	N	161	161	155	156	161
Job Title	Pearson Correlation	-0.093	-0.211**	1	0.437**	-0.181*
	Sig (2-tailed)	0.246	.008		0.000	.024
	N	156	155	156	151	156
Qualification	Pearson Correlation	-0.138	-0.213**	0.437**	1	0.036
	Sig (2-tailed)	0.084	0.008	0.000		0.658
	N	157	156	151	157	157
Gender	Pearson Correlation	0.036	0.011	-0.181*	0.036	1
	Sig (2-tailed)	0.651	0.887	0.024	0.658	
	N	162	161	156	157	162
**. Correlation is significant at the 0.01 level (2-tailed).						
*. Correlation is significant at the 0.05 level (2-tailed).						

The table above shows the correlations of variables, the significant level at different degrees of freedom are shown at the bottom of table 7. There are few correlation at 99% (\*\*), and 95% (\*) confidence level, qualifications correlates with race and job title at 95% confidence level.

Table 7. Correlations for biographical information (cont).

		Correlations			
		Country of Origin	Geographic Settlement Type	Service in years	Age
Country of Origin	Pearson Correlation	1	-0.076	0.083	-0.073
	Sig (2-tailed)		0.345	0.303	0.367
	N	159	156	155	156
Geographic Settlement Type	Pearson Correlation	-0.076	1	0.159*	<b>0.151</b>
	Sig (2-tailed)	0.345		0.047	0.062
	N	156	158	156	155
Service in years	Pearson Correlation	0.083	0.159*	1	0.337**

	Sig (2-tailed)	0.303	0.047		0.000
	N	155	156	158	155
Age	Pearson Correlation	-0.073	0.151	0.337**	1
	Sig (2-tailed)	0.367	0.062	0.000	
	N	156	155	155	159
*. Correlation is significant at the 0.05 level (2-tailed).					
**. Correlation is significant at the 0.01 level (2-tailed).					

The table above shows the correlations of variables, the significant level at different degrees of freedom are shown at the bottom of table 7 (cont). There are few correlation at 99% (\*\*) and 95% (\*) confidence level. Service in years correlates with geographical settlement type at 95% confidence level. Service in years correlates with age at 99% confidence level.

Table 8. Correlations for questions relating to research objectives.

Correlations					
		Work Conditions are Conducive Employee Performance	Performance measuring strategies assist in improving work performance	Khumani has a good support system to reduce illiteracy among employees	tools and technology in the plant are available and user friendly
Work Conditions are Conducive Employee Performance	Pearson Correlation	1	0.384**	0.328**	0.336**
	Sig (2-tailed)		0.000	0.000	0.000
	N	155	149	152	152
Performance measuring strategies assist in improving work performance	Pearson Correlation	0.384**	1	0.410**	0.308**
	Sig (2-tailed)	0.000		0.000	0.000
	N	149	154	152	152
Khumani has a good support system to reduce illiteracy among employees	Pearson Correlation	0.328**	0.410**	1	0.293**
	Sig (2-tailed)	0.000	0.000		0.000
	N	152	152	158	155
tools and technology in the plant are available and user friendly	Pearson Correlation	0.336**	0.308**	0.293**	1
	Sig (2-tailed)	0.000	0.000	0.000	
	N	152	152	155	158
**. Correlation is significant at the 0.01 level (2-tailed).					

The table 8 above shows the correlations of variables, the significant level at different degrees of freedom are shown at the bottom of table 8. There are few correlation at 99% (\*\*) and 95% (\*) confidence level.



Table 9. Correlations for questions relating to research objectives (cont).

Correlations				
		Training resources like manuals and SOPs are accessible to employees during training	Lack of skills due to high turnover is addressed	Employee empowerment is implemented and is effective?
Training resources like manuals and SOPs are accessible to employees during training	Pearson Correlation	1	0.208**	0.193*
	Sig (2-tailed)		0.010	0.016
	N	157	152	154
Lack of skills due to high turnover is addressed	Pearson Correlation	0.208**	1	0.190*
	Sig (2-tailed)	0.010		0.019
	N	152	155	153
Employee empowerment is implemented and is effective	Pearson Correlation	0.193*	0.190*	1
	Sig (2-tailed)	0.016	0.019	
	N	154	153	158

\*\* . Correlation is significant at the 0.01 level (2-tailed).

\* . Correlation is significant at the 0.05 level (2-tailed).

The table above shows the correlations of variables, the significant level at different degrees of freedom are shown at the bottom of table 9. There are few correlation at 99% (\*\* ) and 95% (\* ) confidence level.

Table 10. Correlations for questions relating to research questions.

Correlations						
		Does the employee management program resolve challenges of employees?	Is management in favour of continuous improvement in the plant?	There is a strategic approach to the problems of poor turnaround time	The mine complies with labour laws as stipulated by the government	Safety and environmental issues adequately addressed at the mine
Does the employee management program resolve challenges of employees?	Pearson Correlation	1	0.249**	0.346**	0.196*	0.263**
	Sig (2-tailed)		0.002	.000	0.014	0.001
	N	156	154	155	155	156
Is management in favour of continuous improvement in the plant?	Pearson Correlation	0.249**	1	0.223**	0.137	0.167*
	Sig (2-tailed)	0.002		0.005	0.091	0.038
	N	154	155	154	153	154
There is a strategic approach to the problems of poor turnaround time	Pearson Correlation	0.346**	0.223**	1	0.250**	0.258**
	Sig (2-tailed)	0.000	0.005		0.002	0.001
	N	155	154	156	154	155

The mine complies with labour laws as stipulated by the government	Pearson Correlation	0.196 <sup>*</sup>	0.137	0.250 <sup>**</sup>	1	0.306 <sup>**</sup>
	Sig (2-tailed)	0.014	0.091	0.002		.000
	N	155	153	154	157	157
Safety and environmental issues adequately addressed at the mine	Pearson Correlation	0.263 <sup>**</sup>	0.167 <sup>*</sup>	0.258 <sup>**</sup>	0.306 <sup>**</sup>	1
	Sig (2-tailed)	0.001	0.038	0.001	0.000	
	N	156	154	155	157	160
**. Correlation is significant at the 0.01 level (2-tailed).						
*. Correlation is significant at the 0.05 level (2-tailed).						

The table above shows the correlations of variables, the significant level at different degrees of freedom are shown at the bottom of table 10. There are few correlation at 99% (\*\* ) and 95% (\* ) confidence level.

Table 10. Correlations for questions relating to research questions (cont).

		Correlations				
		Changes need to be made in my work environment	Do you understand the basic conditions of employment Act?	Can lack of understanding of the BCEA law lead to employee being unproductive?	Khumani has employee assistance program in overcoming the work related challenge	Lack of knowledge understanding technology influence the pace of employee performance
Changes need to be made in my work environment	Pearson Correlation	1	<b>0.180<sup>*</sup></b>	0.235 <sup>**</sup>	0.237 <sup>**</sup>	0.247 <sup>**</sup>
	Sig (2-tailed)		0.024	0.004	0.003	0.002
	N	158	157	149	153	149
Do you understand the basic conditions of employment Act?	Pearson Correlation	0.180 <sup>*</sup>	1	0.359 <sup>**</sup>	0.313 <sup>**</sup>	0.272 <sup>**</sup>
	Sig (2-tailed)	0.024		0.000	0.000	0.001
	N	157	160	151	155	150
Can lack of understanding of the BCEA law lead to employee being unproductive?	Pearson Correlation	0.235 <sup>**</sup>	0.359 <sup>**</sup>	1	0.238 <sup>**</sup>	0.439 <sup>**</sup>
	Sig (2-tailed)	0.004	0.000		0.003	0.000
	N	149	151	152	150	144
Khumani has employee assistance program in overcoming the work related challenge	Pearson Correlation	0.237 <sup>**</sup>	0.313 <sup>**</sup>	0.238 <sup>**</sup>	1	0.239 <sup>**</sup>
	Sig (2-tailed)	0.003	0.000	0.003		0.003
	N	153	155	150	156	150
Lack of knowledge understanding technology influence the pace of employee performance	Pearson Correlation	0.247 <sup>**</sup>	0.272 <sup>**</sup>	0.439 <sup>**</sup>	0.239 <sup>**</sup>	1
	Sig (2-tailed)	0.002	0.001	0.000	0.003	
	N	149	150	144	150	151



\*. Correlation is significant at the 0.05 level (2-tailed).

\*\*. Correlation is significant at the 0.01 level (2-tailed).

The table above shows the correlations of variables, the significant level at different degrees of freedom are shown at the bottom of table 10 (cont). There are few correlation at 99% (\*\*) and 95% (\*) confidence level.

Table 10. Correlations for questions relating to research questions (cont)

		Correlations				
		Lack of commitment from employers and employees results in poor work performance	Alcoholism causes the employee not to perform optimally	Do strikes and go-slows contribute to employee absenteeism and presenteeism?	How challenging is your job	In a typical week, how often do you feel stressed and fail to perform tasks given?
Lack of commitment from employers and employees results in poor work performance	Pearson Correlation	1	0.423**	0.270**	0.165*	0.164*
	Sig (2-tailed)		0.000	0.001	0.038	0.043
	N	158	155	155	157	153
Alcoholism causes the employee not to perform optimally	Pearson Correlation	.423**	1	0.308**	0.162*	.029
	Sig (2-tailed)	.000		0.000	0.044	0.727
	N	155	156	153	155	151
Do strikes and go-slows contribute to employee absenteeism and presenteeism?	Pearson Correlation	0.270**	0.308**	1	0.024	0.089
	Sig (2-tailed)	0.001	0.000		0.767	0.273
	N	155	153	156	155	153
How challenging is your job?	Pearson Correlation	0.165*	0.162*	0.024	1	0.343**
	Sig (2-tailed)	0.038	0.044	0.767		0.000
	N	157	155	155	158	154
In a typical week, how often do you feel stressed and fail to perform tasks given?	Pearson Correlation	0.164*	0.029	0.089	0.343**	1
	Sig (2-tailed)	0.043	0.727	0.273	0.000	
	N	153	151	153	154	154
		**. Correlation is significant at the 0.01 level (2-tailed).				
		*. Correlation is significant at the 0.05 level (2-tailed).				

The table above shows the correlations of variables, the significant level at different degrees of freedom are shown at the bottom of table 10 (cont). There are few correlation at 99% (\*\*) and 95% (\*) confidence level.

#### **4.6.1. Summary of Pearson correlation**

Correlation showed that lack of tools, training and supported results with stress which inhibited employees to perform optimally. This correlation clearly may indicate that poor performance was attributed to using old and not so well defined technology to perform the job. If an employee was skilled, he would have found the job challenging to use the skill and improve on it or gain other skills. However strikes are not compatible with these two items. Performance measuring strategies on factors such as: alcoholism, tools and technology in the plant, basic conditions of employment act, changes in the work environment and work conditions conduciveness to employee performance are all the main challenges that should be improved by the company.

Khumani has an employee assistance program that helps employees with overcoming the work related challenge. An employee empowerment program was implemented. Safety and environmental issues were adequately addressed at the mine. Correlation analysis is popular in many applications because it is a quantitative way to evaluate whether two or more variables are related or not. Thus, correlation analysis allows reduction of information contained in an observation that has been measured on pairs or groups of data to a single number falling into a normed interval. It is then convenient to proceed with the derived correlation coefficients for interpreting the relations. On the other hand, depending on the data structure and data quality, the correlation measure can be quite misleading because it can be influenced by the skewness of the data distributions or by outliers. Transformations of the variables or nonparametric or robust (Maronna, Martin and Yohai, 2006) correlation measures can avoid such problems.

#### **4.11. SUMMARY**

The frequency of response per participants regarding age, qualification, job title and service at the mine are interrelated in terms of the impact they make in the determination of each employee's performance. The cross tab table indicates that one factor triggers another to happen or not happen. For example availability of



tools without proper training is challenge to the performance of the individual nor the position one is. The training of employees depends on the understanding of the legal obligations with a buy in of the management to make the training a success. The next chapter will look into the data interpretation and further recommendations to be done in order to assist employees in their quest to conquer the challenges at work. The next chapter focuses on conclusions and recommendation for further studies to be done.

## **CHAPTER 5: CONCLUSION AND RECOMMENDATIONS**

### **5.1.1. INTRODUCTION**

There is a positive relationship between the frequencies and the correlation analysis. A large population of the mine is made up of African employees. They actually make a bigger percentage of the least qualified employees and the lowest level of the employment of the company. It is also apparent that more males are employed at the mine as opposed to the female counterparts which creates the challenge of inequality among the employees. There is a gap in terms of the geographical location and the demographics of the employees who are currently the part of the work force at the mine. The lower number of the respondents showed less or uninformed level of understanding in terms of the challenges they experience on day to activities. The type of correlation is a positively strong one showing that the gap shown among the variable as per question does spark interest in the company strategy to assist employees with challenges. Each theme (e.g. communication, issues around transformation, etc) could be the subject of an entire research project of its own.

### **5.2. Research objectives as mentioned in chapter 1 is to:**

- 1) find ways to improve poor working conditions of employees in the plant as a which is viewed as a biggest challenge to employee performance;
- 2) address and reduce high illiteracy rate and reduce wages gap among the employees as a stumbling block to their performance, their growth and development at the mine;
- 3) ultimately educate employee about organisational culture, workforce culture and operational culture as a challenge to employee performance and how the acceptance of other employees cultures can bolster their performance;
- 4) strategically introduce work-a-friendly technology in the plant so as to accommodate employees with lower education and new ones to cope with the operation of the plant and machinery with ease;



- 5) improve, address and resolve problems of lack of available and appropriate equipments that hamper production output;
- 6) implement the procedure of availing training manuals and SOP's at the plant also making them accessible to employees at all operation sections of the mine and
- 7) Correctly deal with challenges that cause employees not to achieve a turnaround time as per management plan.

### **5.3. FINDINGS BASED ON OBJECTIVES**

#### **5.3.1 To improve working conditions of employees**

Performance measuring strategies as indicated on table 8 assist in improving work performance has a weak positive correlation of 0.0384 which needs 0.328 of management support system and 0.0336 correlation of user friendly equipment in the plant. The correlation is significant at 99% confidence level. This is a positive absolute constant which denotes progress in this challenge. Training conducted by the SHERQ department (safety, health, environment, risk and quality) are enough but more still has to be done to achieve the set objectives. Employees are supplied with PPE ( personal protective equipment). There is an induction training and there is licensing for the use of company mobile equipment and any operational equipment.

#### **5.3.2. To address and reduce high illiteracy rate and reduce wage gap among the employees.**

In table 9 training resources like manuals and SOP's are accessible to employees during training has 0.208 and 0.193 positive correlations with addressing high turnover and empowering employee through development and succession planning. Correlation coefficient is significant at 0.01 which is at 99% confidence level. To attain 100% satisfaction cannot be achieved as the challenges in the mine are not constant but change with seasons and the demands from external and internal customers. More effort has been made to address gap of old population as indicated in the figure 12 which depicts more employees being



between 35 and 60 years. Figure 12 shows more diplomas and other qualifications emerging with age and service in years.

Employees are now being sent on courses as per department and there are modules designed and accredited by MQA (Mining Qualification Authority) used in training all the mine employees. There is ABET (Adult Based Education) for employees who cannot read or write.

### **5.3.3. To educate employees about organisational, workforce and operational culture to improve their performance**

The programs like culture awareness and diversity management are now in place to address the gap between employees as per cultural rift. An employee management program are used to resolve challenges of employees, improve their life, educate them of the objectives of reporting on time training employees about the culture of safety and environment management. The Khumani mine also assists with training to as indicated on correlation table 10 the positive 0.313 is at the confidence level of 95% which is less than 2 indicating that more need to be done on training and making employees alert of the labour legislation and their impact on the employee performance.

### **5.3.4 To strategically introduce work-a-friendly technology to employees**

The changes need to be made in the work environment and employees have to be educated about their surroundings to reduce stress and accidents as in correlation table 10 The mine is fully automated with just human power to direct and trouble shoots equipment. The workers at Khumani mine load and haul using technology which enables process controllers to see and communicate with other workers from the control room to the field. The plant uses a PLC (Programmed Logic Control) system to simulate production in the whole mine. Understanding BCEA has 0.180 correlations at 95 % confidence level and lack of technology availability is resolved as the correlation is 0.247 strongly positive. This indicates that more technology required technology is available in the mine.



### **5.3.5. To improve, address and resolve problems of lack of available and appropriate equipments which hamper production output**

Lack of commitment from employers and employees results in poor work performance as per table 8 at 0.01 significant figure shows a strong relation to what impact a failure to commit to the availability of equipments which may result in the lack of production or output expected. Every morning the managers convened the engineering meeting to address issues of lack of equipments needed to perform the job. There was a job schedule and production reports available to plan around the lack of equipment and tools to execute the job. The warehouse bought parts and spares in bulk to avoid stoppages in the production of the material in the mine. The correlation moves from variables of 0.293 to 0.336 two tailed significant factor.

### **5.3.6. To implement the procedure to avail training manuals and SOP's at the plant and availing them to employees**

The challenging job resulted because of the lack of planning and management from both trainer and trainee. The poor job execution will result in the loss of money, time and poor service delivery. The significance of this is shown by table 9 with the constant of 0.193 at 95% confidence level. Management is advised to lay emphasis of the preparation of training manuals and standard operating procedures (SOP) in the Khumani mine in order to assist new employee and ease job execution by employees. Since the mine is still new and number of department are growing in phases then private companies were hired to speed the training and the writing of the job specific SOP's that took longer to complete. The mine is still in a growing phase so the SOP's will take long and to employees it is a challenge since they use assumptions when doing their work.

### **5.3.7. To deal with challenges correctly that causes employees not to achieve a turnaround time as per management plan**

The correlation constants in table 10 shows that the breathalyser's tests conducted on the mine randomly reduced cases of alcoholism among employees. Lack of commitment from employers in terms of career planning and correct job profiling for each employees results in poor work performance. Alcoholism causes the employee not to perform optimally and keep on staying away due to sickness



or ill health. Turnaround time is determined by the impeccable operation of the mine. This is not possible as the plant continually stops for maintenance resulting in the production being affected. The lack of trucks and the pits impedes with raw materials to be loaded and hauled to the crushers. Employees are supposed to be working 12 hour shifts but due to stress and fatigue most of them do not show up to work in turn creating problems for employees present on duty. Lack of commitment from employers and employees has a correlation of 0.346. Alcoholism problem is 0.223 and strikes and go-slows are 0.250 and correlation constant of stress is 0.258. All the correlated factors contribute to poor turnaround time.

#### **5.4. CONCLUSION**

The mine workforce have challenges that can be resolved by the management and the availability of the procedures and the the training intervention. The challenges of lack of growth, stress, new technology, lack of the skilled workforce are some of the challenges that the employees experienced. There are also issues of older employees still working for the company instead of the younger employees. This company has implemented the legislation to the best of their ability. They have not succeeded yet but are making small progress at a steady rate. The inflated expectations of black employees and the negative attitudes of many white employees and managers have not helped the process (Christina Jongens, 2006)

There is need for a strategy to change the mindset of employees in the plant around the mine. With greater communication and accountability attitudes would change and organisational culture and in turn reduce challenges employees experienced and would change along with it. The research at this company has raised a few questions that could produce further interesting research. The reports studied by the researcher revealed that the Employment Equity plans of the company shows a very limited side of this issue. Spending time on interviewing people is essential as it gives one a greater understanding of the everyday issues that emerge from the changes that are happening.



## 5.5 LIMITATIONS OF THE STUDY

The limitations identify the potential weaknesses of the study and facets of the study that cannot be completely controlled. One limitation of the study was the voluntary nature of the participants, which could have meant only those with stronger feelings on the issue, participated. There are some concerns with the validity of self-reported organisational commitment (Goffin & Gellatly, 2001). Using the independent insight of the Human Resource professionals and senior management intervention should have mitigated this issue but reports by respondents, limited the study to one of a qualitative nature. The purposive sampling procedure decreased the generalisability of findings, so the results of this study would not be generalisable to all types of organisations. The qualitative data analyses meant the findings could be subjected to other interpretations and lastly, the study was limited to Khumani operations only.

Due to the scope of this research there were several limitations that needed to be addressed. The main question in the survey asked about respondents' expectations of challenges that were demotivating for them in doing their job. It seemed possible that a challenging experience in a real work environment led to change in individuals' attitudes towards job performance. Information from the Human resource department limited the researcher to use certain authorised information but not all one needed for the research.

Second, the present study limited its sample to a group of respondents from only Khumani mine although there are other two Assmang group mining operations to compare our findings. This might have hindered the generalisability of the results. In other words, results had to be generalised only to the population of employees from only four Khumani mining sites such King, Bruce, Parsons and loading stations. However, it was possible that employees from the other operations of Assmang group would have given similar answers.

Finally, the questionnaire used in the research was designed in English and then explained in Setswana and some respondents had to be clarified in Afrikaans as



most respondents were Afrikaans speaking. Nevertheless all findings were based on the information provided by the respondents and were subject to the potential bias and prejudice of the people involved. The extent to which the objectives of the study could be reached was affected by time limitations and a financial support.

## **5.6. RECOMMENDATIONS**

The researcher's recommendation is that there should be an intervention through a third party in the form of auditors to monitor improvement of the areas that were deemed to be a challenge. Supervisory training should include the top executive members and human resource personnel. There should be a report done and the outstanding issues be addressed further through bench marking technique or even peer group analysis as per legal requirement or the job requirement.

For the success of any organisation, managers or employers must give prior importance to their employees. Studies have shown that one of the major concerns of any organisation in a high-growth business is employee retention and satisfaction (Peterson, 2005). So, for the goals and objectives of any organisation to be achieved, the importance of effective implementation of adequate employee retention strategies must be emphasised. Job satisfaction is an important factor which would ultimately lead to employee motivation to perform.

Management has to look into issues of salary adjustment, overtime, promotion, advanced training and labour rights that most employees complained about. There are lower number of employees from African origin, coloured ratio as compared to the white counter parts who complained of the challenges like training and promotion. An employee with lower level of education is disadvantaged in getting higher positions as compared to the ones with higher education level.

## **5.7 SUGGESTIONS FOR FURTHER STUDY**

There should be further studies done on this research topic using the other mining industry with different product produced to check if the same challenges



experienced are also found at that different setting. There are sister operations which mine manganese and iron ore respectively from which more research can be done extensively to bench mark the response obtained at Khumani mine. More international research work done previously can be revisited in order to measure the level of employee challenges researched.

## **5.8 FINAL CONCLUSION**

By looking back at the previous research chapters within this research it is understood and realised that employees are an integral part of an organisation. The inequality in the salary scale was hinted as a challenge by the respondents. In the cross tabulation and factor analysis there are agreeable relations between the research questions and the objective. There is effort made by the company as per response from the participants.

Literature reveals that boredom at work may still be a significant problem in the last several year attention has shifted to now, demanding challenges facing employees in jobs for example because of downsizing of organisation and increasingly advanced technology, jobs are suddenly becoming more demanding and employees must think of different ways to adapt to unpredictable changes.

An organisation's physical environment and its design and layout can affect employee behaviour in the workplace as the literature indicates. The relationship between work, the workplace and the tools of work, workplace becomes an integral part of work itself. However the challenge facing management is how, exactly, to maximise employee productivity centred around two major areas of focus: personal motivation and the infrastructure of the work environment simultaneously removing all the challenges that employee experience.

Many of the outcomes of appraisal feedback within performance management are critical to ongoing strategic planning as well as departmental business and objective setting. Employee performance management is part of the controlling function of management, managers must establish the criteria for evaluating work, schedule formal sessions to discuss evaluations with employees and determine how to reward high achievers and motivate others to become high achievers. Low

employee morale occurs as a result of lack of direction and purpose on what individual employee expects from the company. The theoretical literature combines most the challenges experienced by an employee in the variety of needs as per individual.

Industrial relations challenges such as strikes, slowdowns or work stoppages have important economic consequences for mines and other industries. These events may impact organisation level measures of productivity and output, especially if workers refrain from producing.

In cases where output is contractible, adverse conditions of employment may induce workers to lower effort in other dimensions of production, for example, through diminishing the quality of the product. However, a relationship between worker treatment and the quality of production has proved difficult to establish. Since quality is often unobserved or hard to measure, little is known about the impact of adverse labour relations on workers' efforts when they are on the job and even producing at full capacity.



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## **ANNEXURE A: Cover letter to the questionnaire**

Dear Respondent,

I am an MBA final year student at the faculty of Graduate Business School at the University of North-West and I am conducting a study on the **Challenges on the employees performance in operations and productivity environment-A case for Khumani mine**. The mining industry is now booming in South Africa so new and innovative ideas are required to improve productivity output and there is little research that has examined employees' problems and experiences as participants at the mine. The results of this study will hopefully improve the operations environment and eliminate challenges experienced by employees at Khumani mine.

I am interested in your experiences in the mine, so I have enclosed a questionnaire which asks you to respond to a series of statements and questions. The items in the questionnaire focus on your day to day experience about the mining environment with reference to Khumani mine and how you thought you are being suited by the procedures and regulations of the organisation.

I want to stress that your participation in this study is voluntary and all efforts to protect your identity and keep the information confidential will be taken.

Sincerely,

**Nkge Joseph Masego**

**Postal Address:**

Private Bag X503

Kathu, 8446

South Africa

0839227498

**ANNEXURE B: QUESTIONNAIRE**

## ANNEXURE B

**PART A: GENERAL PERSONAL PARTICULARS (1 - 8).** Choose the a number from range of answers supplied and circle the best answer from the list.

I am:
1. African
2. Coloured
3. Indian
4. White
5. a member of another ethnic group:
6. I do not want to answer this question
I am:
1. Director
2. Manager
3. Supervisor
4. Subordinate
I do not want to answer this question
I have:
1. a post graduate degree
2. A degree
3. Diploma
4. Matric
5. I do not want to answer this question
I am a:
1. Female
2. Male
3. I do not want to answer this question
4. I grew up:
5. In South Africa
6. Abroad
7. I do not want to answer this question
I grew up in:
1. A rural area
2. An urban area
3. I do not want to answer this question
How many years of service do you have in the company?
4. 1-5 years
5. 6-10 years
6. 11-15 years
7. More than 16 years
I am _____ years old.
1. 19 -24
2. 25-30
3. 30-35



4. 35 and more
5. I do not want to answer this question

**PART B: RESEARCH OBJECTIVES (9 – 15)**

There are five options of answers to choose from please select the answer the you think is the best response.

**1=Strong Agree 2.Agree 3=Strongly Disagree 4.Diagree 5.I Do Not Want To Answer**

	1	2	3	4	5
9. The working conditions are conducive to employee performance					
10. Performance measuring strategies assist in improving work performance					
11. Khumani has a good support system to reduce illiteracy among employees					
12. tools and technology in the plant are available and user friendly					
13. Training resources like manuals and SOPs are accessible to employees during training					
14. Lack of skills due to high turnover is addressed					
15. Employee empowerment is implemented and is effective?					

**PART C: RESEARCH QUESTIONS (16-32)**

There are ten options of possibler answers to choose from please select the answer the you think is the best response.

**1=Strong Agree 2.Agree 3=Strongly Disagree 4.Diagree 5.I Do Not Want To Answer 6.Extremely Challenging 7.Very Challenging 8.Moderately Challenging 9.Slightly Challenging 10.Not At All Challenging**

	1	2	3	4	5
16) How will the company improve poor working conditions, unsafe or hazardous working environment in the plant as an obstacle or a challenge to employee performance?					
17) What measures are has will be used to reduce the lack of literacy and reduction in the wages gap among the employees as a performance barrier to their growth and development?					
18) What strategies are used to educate employee about organisation's diverse corporate culture as a challenge to employee performance and how does the embracing of other employees cultures can bolster their performance?					
19) Is there an improvement in the implementation user friendly or work-a-friendly technology in the plant so as to accommodate employees with lower education background and new employees to cope with the operation of the plant and machinery with ease?					

20) How is the company responding to issues such as a lack of available and appropriate equipments so as to accelerate the output process during production period?					
21) What efforts is the company making in terms of availing the training manuals and SOP's in the plant also making them accessible to workers at all operational departments of the mine?					
22) Changes need to be made in my work environment.					
23) Do you understand the basic conditions of employment Act?					
24) Can lack of understanding of the BCEA law lead to employee being unproductive?					
25) Khumani has employee assistance program in overcoming the work related challenges					
26) Lack of knowledge understanding technology influence the pace of employee performance?					
27) Lack of commitment from employers and employees results in poor work performance					
28) Alcoholism causes the employee not to perform optimally?					
29) Do strikes and go-slows contribute to employee absenteeism and presenteeism?					
30) Does the employee management program resolve challenges of employees?					
31) Is management in favour of continuous improvement in the plant?					
32) There is a strategic approach to the problems of poor turnaround time					
	6	7	8	9	10
33) How challenging is your job?					
34) In a typical week, how often do you feel stressed and fail to perform tasks given?					



**ANNEXURE C: TABLE FOR DETERMINING SAMPLE SIZE FROM A GIVEN POPULATION**

<b>N</b>	<b>S</b>	<b>N</b>	<b>S</b>	<b>N</b>	<b>S</b>
10	10	220	140	1200	291
15	14	<u>230</u>	144	1300	297
20	19	240	148	1400	302
25	24	250	152	1500	306
30	28	260	155	1600	310
35	32	270	159	1700	313
40	36	280	162	1800	317
45	40	290	165	1900	320
50	44	300	169	2000	322
55	48	320	175	2200	327
60	50	340	181	2400	331
65	56	360	186	2600	335
70	59	380	191	<u>2800</u>	338
75	63	400	196	3000	341
80	66	420	201	3500	346
85	70	440	205	4000	351
90	73	460	210	4500	354
95	76	480	214	5000	357
100	80	500	217	6000	361
110	86	550	226	7000	364
120	92	600	234	8000	367
130	97	650	242	9000	368
140	103	700	248	10000	370
150	108	750	254	15000	375
160	113	800	260	20000	377
170	118	850	265	30000	379
180	123	900	269	40000	380
190	127	950	274	50000	381
200	132	1000	278	75000	382

210	136	1100	285	1000000	384
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Source: Sekaran, 2003; 253. Where: N = the population size and S = the sample size. Sekaran, U (2003). *Research methods for business. A Skill Building approach*. New York: Wiley. From the Sekaran table the sample size was 200 which means that the population was  $\pm 75000$ . In the percentage format 200 is 0.027% of the total population.