

**Gordon Institute
of Business Science**
University of Pretoria

**Linking remuneration for productivity: A South African perspective in the mining
industry**

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A research project submitted to the Gordon Institute of Business Science, University of Pretoria, in partial fulfilment of the requirements for the degree of Master of Business Administration.

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ABSTRACT

The purpose of this study was to gain insight into the motivating factors that drive employee productivity, and to identify key aspects that could potentially eliminate combative wage negotiations and, consequently, contribute to a more sustainable economy.

This research study was exploratory in nature, and a qualitative approach for the collection of data was adopted. A total of 16 skilled blue-collar workers were selected to take part in semi-structured interviews to gain insight into their reality.

The research found that clear communication from top management is critically important. Remuneration and remuneration policies are not communicated to all staff, and there are misunderstandings regarding what these are. The workers indicated that the most enjoyable aspect of work, and a key motivator, was training and personal development with specific reference to hard skills. This should be central to a performance management system.

The blue-collar workers felt they should be better resourced, and have access to better healthcare, if management expected their productivity to increase. They are more attuned to individual performance, but they will use the collective to benefit themselves. Performance management systems and clear job descriptions and remuneration policies should be included in work contracts and clearly communicated with workers.

These findings can be employed to motivate top-level performers and poor performers.

KEYWORDS

remuneration, performance management, blue-collar workers, productivity, mining industry, incentive-based remuneration

DECLARATION

I declare that this research project is my own work. It is submitted in partial fulfilment of the requirements for the degree of Master of Business Administration at the Gordon Institute of Business Science, University of Pretoria. It has not been submitted before for any degree or examination in any other University. I further declare that I have obtained the necessary authorisation and consent to carry out this research.

John Beneke

07 November 2016

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CHAPTER 1: INTRODUCTION TO RESEARCH PROBLEM

1.1. Background

Since South Africa's independence, its economy has prospered, surpassing the economies of most African developing countries. However, the economic growth is severely polarised by social and economic inequality, specifically where the wealth in the country is divided into two principal classes, the affluent and the disadvantaged (Alexander, 2010), and a significant economic gap exists between these two groups. It is this gap that continues to cripple the South African economy. Transformation is described as changing one qualitative state to another (Harvey, 2016). In the South African socio-economic context, it means minimising the disparity between income groups and fostering more even wealth distribution. Although poverty levels have decreased post-apartheid, the labour market remains one of the "key drivers of inequality" (Leibbrandt, Wegner, & Finn, 2011, p.1).

South Africa, rich in natural resources, is one of the world's leaders in mining. In addition, it is a recognised and accepted fact that South Africa's economy is highly reliant on the mining industry (Bohlmann, Dixon, Rimmer, & van Heerden, 2014), and it is in this industry is where the imbalance in wealth is most prominent. Based on available evidence, transformation can best be described as lagging (Mitchell, 2013), which is evidenced by the numerous strike actions that have overwhelmed this industry since 2008. These strike actions are, in most instances, the result of an attempt by the labour force to coerce the industry to address the perceived inequalities in a more expedient manner (Antin, 2013).

Contrastingly, instead of effectively addressing transformational elements such as wage disparity, the strike actions have debilitated the mining industry. For example, in January 2014, most of the country's platinum mine workers went on strike to demonstrate against poor wages and deplorable mining conditions. This strike action continued unabated for a period of five months, and crippled the country's platinum industry, as well as more than 40% of the global platinum market (Reuters, 2014; Times Live, 2014). It is perceived that the higher nominal wages did not cause the most damage; the reaction by investors and subsequent loss of investor confidence in the South African mining industry was immediately evident (Bohlmann et al., 2014). A loss of ZAR13.5 billion was reported in the first 13 weeks (Times Live, 2014).

However, this incident is not isolated. Various sectors of the South African economy have been affected by worker strikes (Chappius & Walmsley, 2011), which have retarded the overall economic development of the country. Based on the aforementioned, it is evident that wage demand has a severe knock-on effect on the overall economy, and not just the relevant industry.

Considering that wage disputes is the major driving force behind strike actions, one has to contemplate why the disputes are not resolved in an amicable and prompt manner, and why the industry is reluctant to attend to the evident need of the labour force that enables their output and, thus, organisations' profitability. When drawing a global comparison, South Africa has shown a marginal increase in labour productivity of approximately 20% between 1990 and 2008, as opposed to China, which reported an increase of 305% (National Treasury, 2011). It is evident that, although there has been a systematic increase in wages, it has not made a notable impact on productivity (Forslund, 2013). With labour wage demands outpacing labour productivity, it is clear why the industry is reluctant to meet the demands of their labourers.

1.2. Definition of Research Problem

As stated earlier, the South African economy is greatly dependent on the mining industry, which accounts for employment of approximately 446 000 of the labour force (Statistics of South Africa, 2015). In addition, South Africa's labour costs are of the highest in the world (Maswanganyi, 2014), and the expectation would be that with the high costs of labour, productivity would be equally high or improving. However, in reality, wages are increasing, but at a higher rate than productivity. Without improved productivity, the industry cannot meet the continuously increasing wage demands of the labour market. Therefore, the problem that this research will focus on is wage increase versus productivity. This should identify motivating factors amongst blue-collar workers, to facilitate the design of a more efficient remuneration system that will enhance productivity and keep workers engaged.

1.3. Research Aim

The central aim of this research is to identify methods that South African companies can employ to increase both the income of their workers and enhance productivity. This research theorises that companies could boost their productivity by increasing their

worker's wages. It is proposed that, through the use of a productivity-based model, it would be possible to increase a company's productivity while satisfying the demand for higher wages. Using this model, workers would draw a basic monthly salary and, in addition, qualify for a supplementary performance-based payment based on higher output in the same month (Noe, Hollenbeck, Gerhart, & Wright, 2009).

The purpose of this study is thus to gain insight into the motivating factors that drive employee productivity (from an academic perspective), and to design a remuneration system that could potentially eliminate combative wage negotiations and, consequently, contribute to a more sustainable economy. In addition, this study will identify a means through which two opposing sides can operate to increase both the profitability of the company through increased productivity, as well as address wage inequalities in a mutually beneficial manner (from a business perspective).

The next chapter is a review of the literature, where the latest academic research of the key constructs is reviewed.

CHAPTER 2: THEORY AND LITERATURE REVIEW

2.1 Introduction to Literature Review

Several studies have been conducted on the link between remuneration and productivity; however, none of these focused on this link in the South African mining industry with its unique social and cultural requirements. The following literature review, conducted from surveys and peer-reviewed journal articles, will focus on the various critical aspects that support this study.

2.2 The Impact of the Mining Industry on the South African Economy

The mining industry is a crucial contributor to the South African economy. Over the past decade, the mining industry has contributed an average of 8% to the gross domestic product (GDP) in nominal terms, 17% to total private-sector fixed investments, 26% of primary mineral exports, and 7.9% of private non-agricultural employment (Chamber of Mines of South Africa, 2014). In addition, the mining industry plays a key role in attracting foreign investment and creating leading global enterprises (Antin, 2013).

However, the stability of the sector is consistently threatened by unstable commodity prices, foreign exchange fluctuations, the inability to meet business plans for capital projects, substandard infrastructure, and, the main risk factor, volatile labour relations (Price Waterhouse Cooper, 2014). Combative wage negotiations and wildcat strike actions that often turn violent cause a hostile environment for continued growth and sustainability (Hill & Warren, 2015). The resultant loss in production alone causes a ripple effect throughout the South African economy; foreign investors lose confidence, and questions are raised about the efficacy of the wage determine processes (Gwatidzo & Benhura, 2013).

As the South African economy is heavily reliant on the mining industry, and that the survival of an industry is reliant on the economic and social conditions of the communities in which it operates (Wales, 2013), it is only logical that attention should be focused on aspects that threaten the stability of these industries and the communities that sustain into them. In this instance, strike actions, caused by wage discontent, negatively affects an already substandard level of productivity, and productivity is directly linked to economic prosperity (Bendix, 2010). In the case of South Africa's mining industry, a

general decline in its contribution to the country's economy has been noted (Gwatidzo & Benhura, 2013).

2.3 Productivity in the Mining Industry

As noted earlier, South Africa has shown only a marginal increase in labour productivity between 1990 and 2008 (National Treasury, 2011). For example, South Africa produced 87% less gold in January 2015, compared to January 1980 (Statistics of South Africa, 2015). Although South Africa is rich in resources and is one of the top five world leaders in the mining industry, there has been only a marginal increase in the productivity for the overall sector, and it fares comparatively poorly when compared to other mineral exporters (Eberhard, 2011). For a well-established industry, this is indicative of severe productivity issues (Antin, 2013).

2.4 Performance Management in the Mining Industry

The South African Labour Relations Policy is partly based on the principle that “a worker's job security lies largely in his own hands through the dedicated performance of his duties” (Bendix, 2010, p.104). Considering the aforementioned and the findings of a recent study conducted at a South African iron ore mining company found that employees were of the opinion that they contributed more to the relationship than their employers did (Scheepers & Shuping, 2011). Furthermore, the study highlighted the importance of the psychological contract, defined as the relationship between the employee and employer, with a focus on the input and output expectations of both (Dadi, 2012), as well as the importance of performance management in order to meet these expectations (Aggarwal & Bhargava, 2008).

It is noted that no relevant research was detected on specific human resource performance management within the mining sector. There are several defined performance management methods that could be appropriate. One way to appraise productivity is through the evaluation of departmental performance, where the collective's performance is evaluated, rather than that of the individual (Usman & Danish, 2010). In addition to increasing productivity on a larger scale, this approach could also potentially enhance teamwork.

Another method, which could be applied to measure labour productivity, is through personalised evaluation. Each worker would be evaluated at a personal level to

determine their individual output against set criteria. Although this method of evaluation motivates increased productivity for individual workers, it also has the disadvantage of promoting competition among workers, even within the same department (Ibrahom & Boerhaneoddin, 2010). Consequently, the method could lead to a breakdown of departmental cohesion that would inevitably lead to unachieved departmental goals (Hussein, 2011), as a result of self-interest as opposed to an interest in the collective.

Workers in the mining sector are of the opinion that they perform, at least, to expected standards, and therefore demand what they deem fair compensation through strike actions. Contrastingly, the findings that wage increases are outpacing productivity (and considering the reluctance of mining corporations to increase wages in the absence of improved productivity) suggest that communication to facilitate a healthy psychological contract and current performance measurement techniques may be ineffective.

2.5 Linking Performance Management to Productivity

In any industry, performance management is integral to a business's success. The need for performance management has increased in recent years, due to the constant pressure on organisations to improve their productivity and, thus, profitability (Seotlela, 2014). In this regard, Armstrong (2006) stated that an effective performance management system aligns employee performance with organisational needs. When implemented correctly, a practical performance management systems offers organisational-wide benefits,

However, performance management requires certain enabling aspects, such as job descriptions, performance agreements, and performance management systems. A job description outlines the responsibilities and duties of a worker in relation to the operational objectives of an organisation and is, therefore, imperative in performance management (Seotlela, 2014). A job description also provides a basis for developing performance standards (Pille, 2010), and enables the formulation of a benchmark against which a worker can be measured, constituting a performance agreement (Gruman & Saks, 2011).

It is generally accepted that performance management has a direct impact on employee motivation and, thus, productivity. As stated by Mone and London (2010), performance management, if effectively applied, assists in creating and sustaining "high levels of employee engagement, which leads to higher levels of performance." (p.227). An

engaged employee is a motivated employee. There is a general misconception that, if a worker receives a remuneration package that satisfies his short-term needs, he will remain motivated. This seems to not be the case. The majority of organisations follow the trend of focusing on extrinsic motivation, such as financial awards; however, it is believed that a consistent focus on extrinsic motivators could ultimately depress intrinsic motivation, such as enjoyment, learning, and a sense of belonging (Chamorro-Premuzic, 2013).

It is further argued that, once intrinsic motivation becomes depressed, workers tend to disengage from their work and become demotivated, regardless of their salary status (Chamorro-Premuzic, 2013). Considering the constant strike actions that plague the mining industry, one could infer that there is little or no focus on identifying and satisfying the intrinsic needs of employees. Mine workers, in general, already have to contend with a relatively lower social status, which leads to a lowered sense of self-worth. In addition, they are subjected to a gruelling operational environment where their opinions and insight are seldom considered, and information is selectively shared, due to their position in the organisational hierarchy. All of the aforementioned could ultimately lead to lowered intrinsic motivation, and this internal dissatisfaction could very likely be the primary trigger for strike action. Therefore, the organisation should place more focus on consistently stimulating intrinsic motivation to facilitate peak performance and then give smaller rewarding extrinsically to ensure that the process remains sustainable.

2.6 Linking Performance Management with Remuneration

Previous exploratory research conducted on the South African mining sector suggested that the level of labour productivity does not warrant the increases in labour cost (Fedderke & Pirouz, 2000). The sluggish increase in productivity to date justifies the reluctance of the sector to accommodate increasing wage demands. However, what the mining sector fails to realise is that productivity must be stimulated and then rewarded (Gwatidzo & Benhura, 2013). A recent study revealed that lower-level staff in an organisation prefer rewards in the form of remuneration and benefits (Nienaber, Bussin, & Henn, 2011). While the study did not include lower-level, blue-collar workers, it postulated the reasonable theory that the lower the level of the employees in the organisational hierarchy is, the higher their preference for monetary rewards will be.

Currently, the mining sector employs higher levels of education as a reward (Gwatidzo & Benhura, 2013), and, although one should not discount other rewards, such as non-

monetary benefits and individual development, the demands of the blue-collar mining workforce have been centred around money. First focusing on addressing this need may contribute to higher levels of engagement, improving organisational performance.

Several studies have been conducted on the link between productivity and remuneration, and “evidence suggest there is a growing use of variable pay schemes in firms to increase employee motivation and productivity” (Burke & Hsieh, 2006, p.156). The aforementioned include performance-based remuneration in the form of incentive plans that focus on piece rates, where workers are incentivised additionally above a specific production rate (Blinder, 2011). Although variable pay schemes have successfully been implemented in companies in various sectors, this has not been attempted in the mining industry. If a worker is remunerated with a basic, market-related package, as well as provided with the opportunity to supplement his or her income by increasing output, the employee would be encouraged to work harder, and thus, increase the productivity of the organisation as a whole.

However, without an integrated and practical approach to productivity measurement that links all the organisation’s various operations through key productivity indicators that clearly outline productivity measurements, as well as the objectives of said measurements, a productivity-based incentive scheme will not be reliable or sustainable (Spring Singapore, 2011).

2.7 Remuneration Defined

Remuneration is a critical aspect of an individual’s self; it determines a worker’s living standards, social status, extrinsic motivation, employer loyalty, and productivity (Aswathappa, 2005). The South African Revenue Services (2016), defines remuneration as “any amount of income which is paid or payable to any person whether in cash or otherwise, for example, fringe benefit” (para. 1). This income can be in the form of a salary, fee, bonus, wage, gratuity, pension, leave encashment, emolument, voluntary award, commission, annuity, stipend, [and] overtime,” to mention a few (South African Revenue Services, 2016, para. 2). Remuneration is one of the most critical aspects of business, as it enables operations, and should fulfil the expectations and aspirations of employees, to encourage them to apply “their energy for the benefit of the organisation” (Aswathappa, 2013, p.395).

As indicated above, benefits form part of a remuneration package; however, according to Fischer (2003), the concept of a benefit and what it entails is generally misunderstood and, resultantly, under-appreciated. Most employees, especially blue-collar workers, tend to disregard the importance of fringe benefits, and tend to focus solely on monetary awards.

2.8 Critical Considerations

When designing a remuneration package, one has to consider the negative effects that such a package could have on productivity (Hameed, Ramzan, Kashif, Ghanzanfar, & Arslan, 2014). It was found that those in lower income brackets, such as the blue-collar mining workforce, do not hold a positive view of variable pay (Gwatidzo & Benhura, 2013). It is therefore imperative that an organisation engage its workforce on remuneration structuring, as dissatisfaction could prove counterproductive.

Additionally, a variable pay scheme based on individual performance may result in significant remuneration gaps, which could result in rivalry and, consequently, hinder and the achievement of organisational goals (Scott & Bohlander, 2010). Furthermore, it may prove too labour intensive for large companies to manage a reward system based on individual performance (Nienaber, Bussin, & Henn, 2011). Contrastingly, a remuneration package that is focused purely on departmental goals will maintain a smaller remuneration gap between workers at the same level, and may facilitate greater cohesion.

2.9 Obstacles in a Productivity-based Incentive Scheme

2.9.1. Challenges in the Mining Industry

The current problem with remuneration for the mining industry workforce is the complexity of the economic challenges that the nation faces in general. Labour strikes arguably a symptom of the larger problems faced by the nation. The latest economic data indicates a harsh reality in terms of the long-term prospects of the country. In January of 2016, for example, the country's manufacturing Purchasing Managers' Index (PMI) declined to about 43.5 (Wilson & England, 2016)

Figure 1: Expected business conditions index

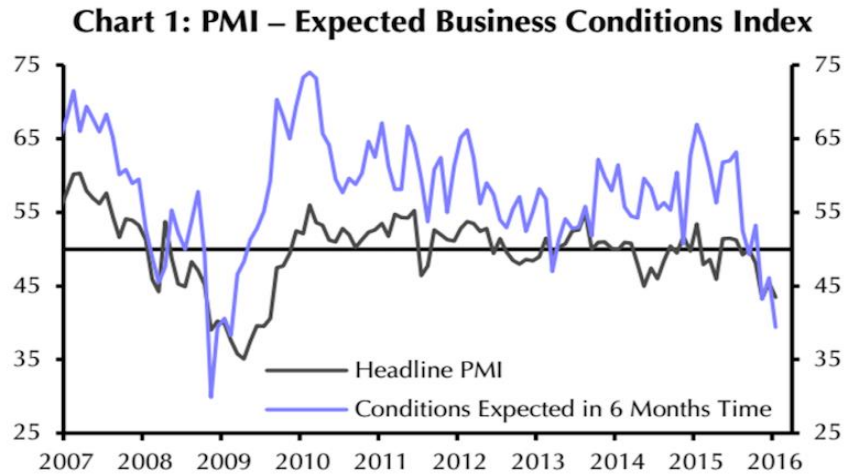


Figure 1. Expected business conditions index. Reprinted from *Financial Times*, by J. Wilson and A. England, Retrieved November 01, 2016, from <https://www.ft.com/content/ca149340-cbea-11e5-be0b-b7ece4e953a0>. Copyright 2016 by Financial Times. Reprinted with permission.

It was the sixth reading below the usual average of 50, indicating contraction of the industry. Moreover, the depreciation of the rand, which previously served to increase the country's external competitiveness, is an indicator of how poorly the manufacturing sector is performing. Furthermore, due to the declining performance of the mining industry, the manufacturing problem is bound to worsen. The graph below shows the possible effects of the downward trend of the PMI on the long-term employment of South African workers (Ting, 2016)

Figure 2: Unemployment percentage of labour force

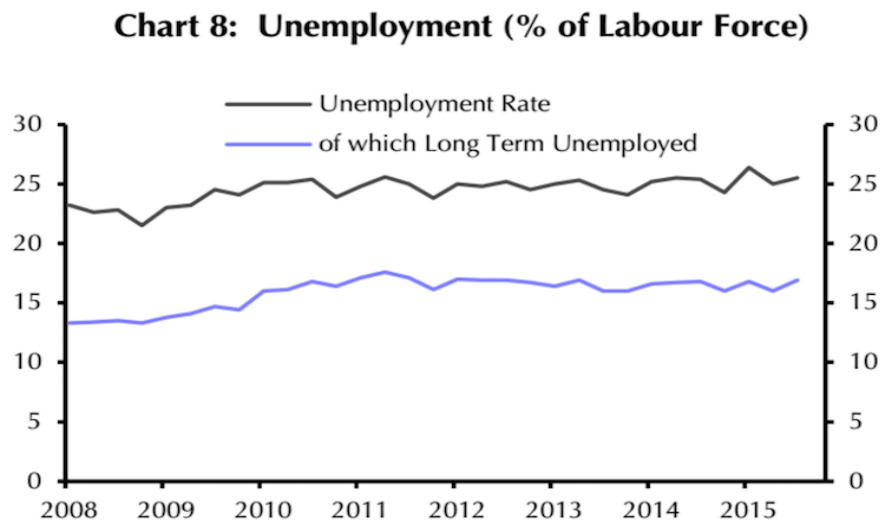


Figure 2. Unemployment percentage of the labour force. Reprinted from *Financial Times*, by J. Wilson and A. England, Retrieved November 01, 2016, from <https://www.ft.com/content/ca149340-cbea-11e5-be0b-b7ece4e953a0>. Copyright 2016 by Financial Times. Reprinted with permission.

For the South Africa's mining sector is a crucial contributor to the country's economic growth. Unlike many other countries in Africa, which are reliant on agriculture and tourism, a fall in commodity prices on the global stage affects the nation's labour in two ways. First, it affects the industry's ability to meet the workers' demands, because increases in productivity are measured according to the prices that minerals fetch. Second, the production of primary minerals in the country has been on the decline (Marks & Trapido, 2014). For example, gold production has halved since 2005. With the decrease comes an increase in the cost of extraction from the limited reserves. The compounded effect of the general decline in economic performance at the global, regional, and national level makes for a poor long-term outlook for the country, which makes the implementation of remuneration schemes complex.

2.9.2. Potential Future Crises Facing the South African Economy

The second aspect that challenges the ability of the industry to remunerate blue-collar workers in the mining sector according to productivity is the potential crisis of South African economic future. The decline in the manufacturing and mining sectors bodes ill for South Africa's economic outlook, and the mining sector could be further affected by labour actions due to, among other, the perceived inequity in the remuneration of top

management and workers. Furthermore, South Africa's power grid is at a risk of collapse, with the mining sector being among the primary consumers of electricity. Mining is so dependent on power that a collapse of the grid would mean almost instant ceasing of production.

It is predicted that South Africa will achieve grid parity (where the cost of alternative resources of energy generation is lower or equal to the purchasing price of electricity) between 2040 and 2045 (Siddiqui, 2015). However, the current increase in the demand for electricity for the growing urban sector in South Africa spells doom for the mining industry. McDonald (2012) argues that the primary cause of possible grid failure in South Africa is electrical capitalism. He believes that major firms with a tremendous need for electricity continue to increase their demand in urban areas (McDonald, 2012). Unfortunately, these businesses are not merely increasing the demand for electricity, they are also reshaping the electricity sector.

For example, they require the liberalisation of the industry through privatisation. The history of Eskom, the state-owned generator and distributor and generator of electricity, indicates a clear capitalist approach. The implication is that the power grid is following in the footsteps of the mining sector in its promotion of class-building and a discrepancy in wealth distribution. With the current fraught relations in the labour industry, a prolonged crisis in power could cripple the nation further (Magdaleno, 2015).

2.9.3. Reduced Foreign Investment in the Mining Sector

The third factor that hinders performance-based remuneration in the mining sector is reducing foreign investment in the mining sector, which negatively impact production, leading to layoffs. Foreign direct investment in the South African mining industry remains central to its financial welfare. By the end of 2013, for example, China had invested about ZAR270 billion in South Africa. However, the recent decline in the global economy and an increase in political, labour, and social unrest in South Africa have stifled the flow of money into the country, and, therefore, the mining sector, from foreign direct investment (Kim, Jones, Chen, Jiang, & van den Berg, 2015). According to the Fraser Institute, South Africa fell from the top ten mining investment destinations in Africa due to the labour unrests of 2015. It dropped 11 positions, to 67th, on the global ranking of the top destination for investments in the mining industry.

Moreover, the performance of foreign investors, with labour is an indicator, is indicative of the decline in the economy's ability to attract investment. For example, South32, an Australian mining company with operations in South Africa, fired over 600 employees in one week at the beginning of 2016. Lonmin, a British platinum producer, released 6 000 shaft workers, while Anglo American is discussing cutting the jobs of 4 000 employees at its iron ore company Kumba. In total, about 32 000 jobs were the subject of discussion at the beginning of 2016, which could lead to a loss of 6% of jobs in the industry. According to investors, the harsh business environment in South Africa is the result of poor policies and governance (Bishop, 2016).

(Bishop, 2016). The fractured relations between South Africa and foreign investors, coupled with the rising costs of operation, only serve to widen the discrepancy in wealth distribution as workers either remain underpaid or lose their jobs. If the troubles in the mining industry are a reflection of the broader economic performance of the country, more problems are bound to arise in the near future.

2.10 Possible Solutions to Link Remuneration to Productivity

2.10.1. Potential of South Africa's Mining Industry

More than 1.4 million workers are dependent on South Africa's mining industry. Despite the sector facing dark times, there are reasons to be optimistic. Firstly, although the sector's market share, production, and reserves of minerals are declining, there is potential for better performance. According to the SA Chamber of Mines, there are enough reserves of minerals to sustain the industry in the near future (Baxter, 2016). The graph below illustrates the percentage of world production against reserves of key minerals.

Figure 3: World production of commodity against reserve base

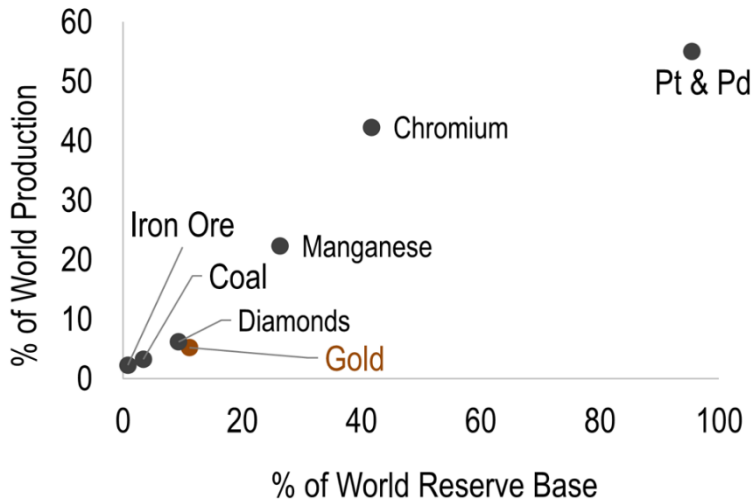


Figure 3. World production of commodity against reserve base. Reprinted from *Mining in South Africa: the challenges and the opportunities*, by R. Baxter, Retrieved November 01, 2016, from <http://www.chamberofmines.org.za/industry-news/publications/presentations>. Copyright 2016 by Chamber of Mines of South Africa. Reprinted with permission.

Although the world is reaching a precipice due to the decline in production, South Africa remains among the few countries with the most valuable resources, such as gold and platinum. The diagrams below show the total resources of gold and platinum group metals that are available in South Africa, as well as the amount available for extraction (Baxter, 2016).

Figure 4: Total gold resources available in South Africa

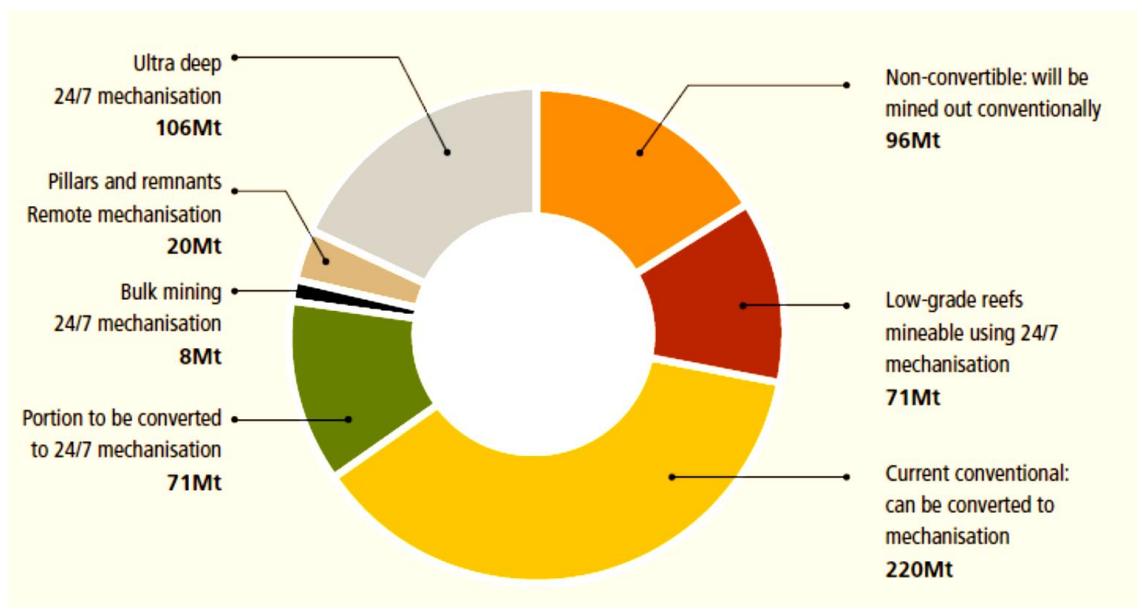


Figure 4. Total gold resources available in South Africa. Reprinted from *What is at stake – a case study*, by Chamber of Mines of South Africa. Retrieved November 01, 2016, from <http://www.mine2030.co.za/downloads/send/3-fact-sheet/3-case-study>. Copyright 2016 by Chamber of Mines of South Africa. Reprinted with permission.

Figure 5: Total PGM resources available in South Africa

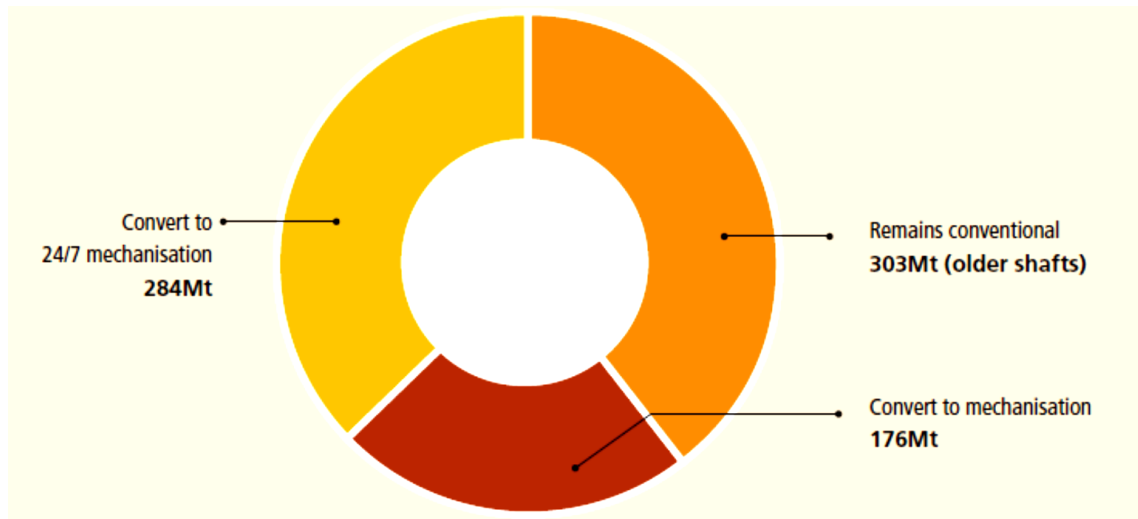


Figure 5. Total PGM resources available in South Africa. Reprinted from *What is at stake – a case study*, by Chamber of Mines of South Africa. Retrieved November 01, 2016, from <http://www.mine2030.co.za/downloads/send/3-fact-sheet/3-case-study>. Copyright 2016 by Chamber of Mines of South Africa. Reprinted with permission.

In total gold resources, for example, South Africa has a reserve base of about 593 Mt. About 496 of these are extractable through mechanisation, which would be the equivalent of opening 11 new, large gold mines. The current reserves of platinum group minerals, for instance, could allow mining from about eight new, large sites. In other words, the nation's mining industry has room to grow, if it removes the possible growth constraints, such as non-mechanization and a harsh political economy for investors (Natrass, 2014).

For example, the non-gold mining sector could increase its production at a rate of 3 to 5% annually. This would double the non-gold industry growth rate by 2028. The mining industry would double in size in about 15 years, if it grew at a rate of 5% per annum.

2.11 Summary and Discussion

In conclusion, it is noted that the South African economy depends, to a great extent, on the mining sector, and only a marginal increase in productivity has been noted. The substandard productivity has been further exacerbated by consistent wage-related strike actions that, in turn, have damaged the employee–employer psychological contract. It is evident that a need exists to link performance output with remuneration, to satisfy the needs of both the workforce, in terms of increased wages, and the industry, in terms of increased productivity.

The present study investigated the theory that variable pay schemes are a viable option in an industry with a large blue-collar workforce. This was done by exploring the perception of workers on the topic of linking remuneration to productivity in the socially and economic volatile South African mining industry.

The next chapter sets out the research questions.

CHAPTER 3: RESEARCH QUESTIONS

This research explored the factors that drive performance in the mining sector. The aim was to determine whether it would be viable to institute a productivity-based remuneration model within a mining context, to address combative wage negotiations and socio-economic transformation, and to contribute to the sustainability of the industry and enhance its contribution to South Africa's economy. The study was guided by the following research questions:

Research Question 1

Is the mining industry suited to a variable wage scheme in the form of productivity-based incentives?

Research Question 2

Are blue-collar workers in the mining sector more attuned to individual or departmental performance?

Research Question 3

What role does performance management play in productivity?

The following chapter will outline the research methodology used for this study. The aim was to understand what motivates blue-collar workers, and whether a productivity-based remuneration model would be suitable for the mining sector. Therefore, it was important to consider what motivates workers to increase their productivity, the role performance management plays in relation to productivity, and management requirements to increase and support employee productivity.

CHAPTER 4: RESEARCH METHODOLOGY

This chapter will outline the research methodology adopted for this study. As indicated earlier, the aim was to determine whether a productivity-based remuneration model would be suitable for the mining sector. Therefore, it was important to consider what motivates workers to increase their input and output, what role performance management plays in these workers' productivity and then, to determine whether performance-based incentives would increase their productivity.

4.1 Research Method

This research study was mainly exploratory in nature. Exploratory research investigates the research questions, but does not provide conclusive evidence. However, it does form a foundation for more conclusive studies (Dudovskiy, 2013). Several studies have been conducted on linking remuneration with performance; however, none of these studies focused on this link in the South African mining industry with its unique social and cultural challenges. Considering the aforementioned, no theoretical position could be established in this context, and this study was purely inductive, and not deductive (Gray, 2013).

Due to the exploratory nature of this study, a qualitative approach to the collection of data was adopted. Qualitative research has several key characteristics. Generalisation can only occur in a theoretical sense from data that were collected in an open (as opposed to a standardised) manner and analysed interpretatively, to establish a theory as an end point. (Flick, 2015).

Qualitative research, as a strategy to gain insight from the unit of analysis, is based on certain underlying assumptions and perspectives. These were considered to have value in the context of blue-collar workers. Wiersma (2008) summarised these assumptions as follows:

- The phenomena are viewed in their entirety, and cannot be reduced to a few interdependent or independent factors.
- Researchers do not impose their assumptions, limitations, and delimitations or definitions on the emerging data. Instead, they record what is observed or collected from the participants in their natural environment.

- Reality is defined by the participants, and the researcher records this reality accurately and without bias.
- Ultimately, conclusions emerge from the data.

The aim of the present study was to gain a deeper understanding from the blue-collar workers, as a collective, on the reality as they perceive, it without manipulation, to identify trends in their responses to the interview questions, which were, in turn, linked to the research questions.

The reasons why qualitative research was considered more appropriate for the present are as follows:

- ethicalEthical considerations, as since the manipulation of the human variable is not acceptable due to the potential for psychological, physical, or mental harm to the participants (Polit, Beck, & Hungler, 2004);
- Human characteristics are inherently not subject to laboratory experimental manipulation,” such as the beliefs and opinions of these blue-collar workers (Polit, et al., 2004); and
- constraints, such as time, personnel, and the type of participants made non-experimental research more suitable (Polit et al., 2004).

Qualitative research is the “assimilation of data in the form of words” (Gray, 2013, Types of Qualitative Data, para. 1). To this end, a total of 16 lower-level, skilled blue-collar workers were interviewed through direct engagement at a mine by means of an interview schedule that was guided by ten key questions. These interviews were semi-structured, and followed an interview guideline that allowed questions to be slightly altered, based on the responses of the interviewees (Remenyi, 2014). The aforementioned allowed a measure of flexibility in gaining insight into the experiences and opinions of the participants regarding motivating factors.

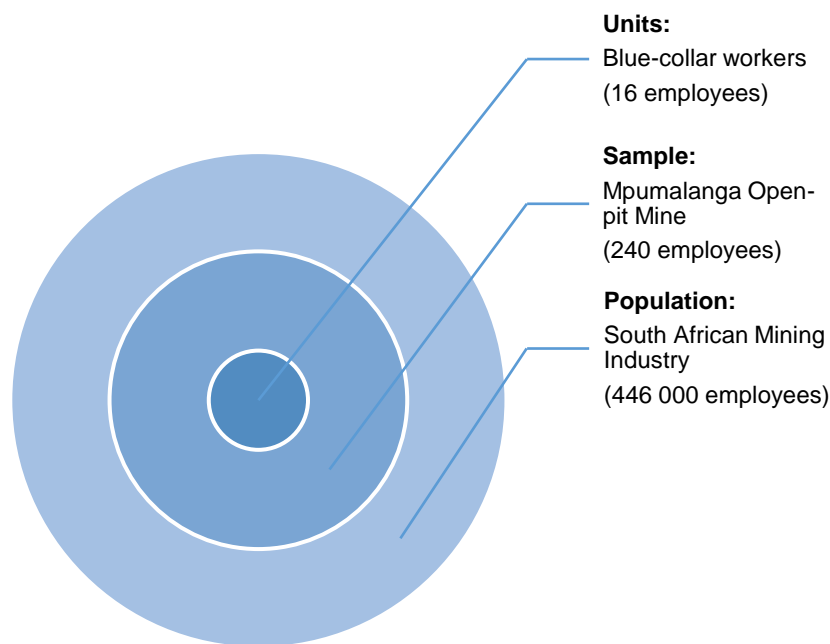
4.2 Unit of Analysis

The unit of analysis is the observable entity that is analysed (Remenyi, 2014). The unit of analysis in the present study was 16 individuals on a similar operating level within the mining sector, with variable historical performance. Qualitative data were collected from each individual, and conclusions were drawn regarding the collective.

4.3 Sampling Framework and Population

The population consists of each individual who may possess the required information that could be included in a research study (Kolb, 2008). As per figure 6 below, the South African mining labour force consists of approximately 446 000 employed individuals (Statistics of South Africa, 2015), who constituted the population from which the sample was extracted. Only one group was selected from the target population to be the sample; the data were exclusively sourced from 16 workers at one open-pit mine that employs approximately 240 workers. Although the data of this study cannot be generalised to the entire population, it was homogenous in nature, as it were sourced from workers in a certain occupation within a specific sector (Bryman, 2015). Therefore, the results provide direction for future studies on the productivity-based motivation of blue-collar workers in the entire population.

Figure 6: Graphic representation of sampling framework



Source: Author's own

4.4 Sample

Sampling refers to the steps taken to select participants from a sub-set of a larger group to participate in a study (Bryman, 2015). The results of analysis of the data obtained from the sample are then used to estimate the characteristics of the larger group (Flick, 2015)(Flick, *Introducing research methodology: A beginner's guide to doing a research*

project, 2015). The sample for the present study was selected from the identified population using the process described in Table 1, below. As the study was exploratory, the sampling method employed was non-probability convenience sampling. The researcher requested management of the mine, which is located in South Africa's Mpumalanga province, to select ten workers whom they considered to be top-level and six bottom-level workers.

Table 1 below depicts how the target was defined by portraying the elements, the sampling units, the extent, and time.

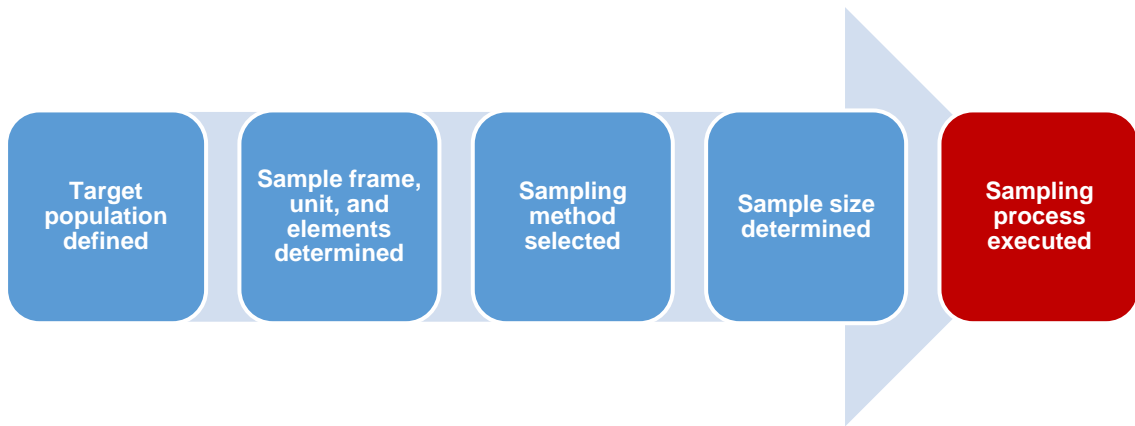
Table 1

Sampling Method, Unit, Extent, and Time

	Qualitative phase
Sampling Units	Industry
Extent	Mpumalanga
When	September 2016
Elements	10 workers identified by management as top-level performers
	6 workers identified by management as below average performers

Non-probability sampling is used when “units are deliberately selected to reflect particular features of, or groups within, the sampled population” (Ritchie, Lewis, Nicholls, & Ormston, 2013). The present study focused on a very specific group, selected by the researcher: skilled blue-collar workers in the mining industry, as opposed to random selection, where “each unit of the population has a known chance of being selected” (Bryman & Bell, 2015, p.187). Furthermore, due to the size of the population, convenience sampling was adopted for ease of access, and focused primarily on the skilled blue-collar workers who operate heavy machinery in the mines operations. The following steps were employed in the sampling process in the present study:

Figure 2. Sampling procedure followed in the present study.



Adapted from Marketing research, an applied orientation (p. 33), by N. K. Malhorta (2010), Upper Saddle River, Pearson. Copyright (2010) by N. K. Malhotra. Adapted with permission.

4.5 Research Instrument

A research instrument is the “means of collecting data” from the selected sample (Collis & Hussey, 2013). In the present study, in-depth, qualitative interviews were conducted with 16 blue-collar workers, using an interview schedule that was designed to collect data through explorative and open-ended questions. This approach enabled the researcher to analyse the data during the course of the interviews through the following types of questions:

Table 2

Types of Questions included in the Research Instrument

Question type	Description
Open-ended	Questions to which a participant replies in his/her own words (Malhorta, 2010)
Closed-ended	Questions that are accompanied by a set of response alternatives; participants have to make a selection from a list of responses (Malhorta, 2010)

The table below indicates how the interview schedule or questionnaire was structurally linked to the three research questions namely:

- Research Question 1:

Is the mining industry suited to a variable wage scheme in the form of productivity-based incentives?

- Research Question 2:
Are blue-collar workers in the mining sector more attuned to individual or departmental performance?
- Research Question 3:
What role does performance management play in productivity?

To enable effective exploration during the interviews, each interview question was linked with a research question, and a probable follow-on question was identified. The linked questions were as follows:

Table 3

Questions Linked to Research Questions

Research Question	Research Instrument Question	Question
1	2.2	What do you like most about your work? (possible motivators)
1	2.3	What do you like least? (possible demotivates)
1/3	2.4	Do you have a performance agreement?
1/3	2.5	Does your organisation do performance reviews?
General	2.6	Do you receive any benefits?
General	2.6	(If yes) What benefits?
2	2.7	How would you rate your own performance?
2	2.7	How would you rate your colleagues' performance?
3	2.8	What motivates you to work?
1/3	2.8	What would make you work harder?
1/3	2.8	What would make an underperformer work harder?
1/3	2.9	Do you think performance-based bonuses will motivate people?

1	2.9	Do you think people will strike less if they get paid more for working harder?
1	2.10	What is the most important part of your remuneration package?

In addition, the questions consisted of:

- individual-based questions, to gather information on the unit;
- organisation-based questions, to establish procedural influences; and
- perception-based questions, to explore the opinions of the participants on aspects that could provide information on the viability of a productivity-based remuneration model.

4.6 Data Collection Process

Data collection commenced with desktop research, focusing on surveys and relevant peer-reviewed journal articles published between 2010 and 2016. Once the ethics protocol had been approved (Remenyi, 2014), the second phase commenced, which consisted of semi-structured interviews by the researcher.

The face-to-face interviews allowed for the collection of detailed information from the interviewees by means of the research instrument and observation. The interviews were semi-structured, and the researcher employed an interview guide to allow questions to be slightly altered based on the responses of the interviewees (Remenyi, 2014). However, the main set of questions remained unaltered, to ensure that the interviews remained focused on the topic (Dudovskiy, 2013).

The interviews were conducted on site, at the mine, to gain insight into the participants' work environment. As the interviews were conducted at their place of employment and the questions touched on contentious issues within the industry, the researcher covertly observed the participant's physical and facial responses to the questions posed. As "observations are one of the prime data collection methods" (Gray, 2013, Observations, para.1), the researcher made notes of these physical and facial responses when applicable, without the knowledge of the interviewees, in an attempt to establish when a interviewee became guarded or was perhaps not answering the question candidly (Flick, 2013).

The interviews were conducted in a workshop, an environment that was familiar to the interviewees, and to avoid disruption of the mine's operations. The researcher

commenced the interviews with casual introductions, and then explained the purpose of the study, consistently stressing that anything said during the course of the interview would remain confidential. It was explained to each interviewee that their names would not be recorded, and that each will be allocated a number only. This was done in an “attempt to create a friendly non-threatening atmosphere”, to ultimately contribute to the comfortable and truthful flow of information (Connaway & Powell, 2010, p.170).

Throughout the interviews, the data were captured with a digital recording device and in handwritten notes made by the researcher on the mannerisms of the interviewees. The digital recordings ensured an accurate account of events and information.

4.7 Data Management

All interviews were digitally recorded and transcribed verbatim. Handwritten notes were made with a LiveScribe™ pen, to ensure that the handwritten notes could easily be linked back to a specific point during the interview. This was also done to duplicate the audio files, should the main audio files become inaccessible for whatever reason. As a precautionary measure against loss of the data, all data were uploaded to a secure Internet storage cloud.

4.8 Data Analysis

The objective of this study was to establish whether the mining industry, with a focus on lower-level blue-collar workers, is suited to productivity-based incentive scheme. A semi-structured questionnaire was employed during in-depth interviews, to gain insight into the aspect that could affect the outcome of this study, namely the individuals, organisational practices, and interviewees’ perceptions. The researcher used content analysis to identify consistencies in the responses of the participants, to establish themes in the data.

The interview was the start of the data analysis process. The analysis of data was based on the interpretation of information, to create a logical flow (Struwig & Stead, 2001). Polit et al. (2004) stated that analysis of qualitative data is a constant active and interactive process, whilst Holloway and Wheeler (2002) stated that data collection and analysis occur simultaneously. Thus, during the course of the interviews, the researcher already started analysing the data by identifying and noting possible themes.

4.8.1. Data preparation

As stated earlier, all of the interviews were digitally recorded, whilst the researcher made notes. Once the interviews were concluded, the audio recordings were manually transcribed. Since an interview transcript facilitates content analysis, care was taken to compile the transcript verbatim, and to including both audible and inaudible responses, such as pauses prior to or during replies.

Once the transcriptions were complete, the content analysis process commenced. Having viewed the transcripts, the researcher noted that software such as Atlas.ti would not provide a feasible mode of analysis. Due to the language barrier, the interviewees used a variety of descriptive words or provided explanations that implied a single concept. In addition, a number of the interviewees requested to be interviewed in Afrikaans, rather than English. Therefore, to ensure reliable results, the researcher coded and analysed the data manually.

4.8.2. Coding Framework

The structured interview questions, provided in Table 3, above, formed the base for the coding framework, and ensured that all the data were considered during the course of content analysis, and that the analysis would be exhaustive (Fick, 2014). By referring to the notes, a code book was established for possible recurring themes. The researcher then commenced reviewing the transcripts in detail, and allocating the established codes to words or passages that related to a specific theme and recording a new code when an additional theme became evident. Once the initial coding had been completed, the material was reviewed a second time by an independent party, to ensure consistency against the final coding frame.

Microsoft Excel was used to analyse the data. The final code frame was entered into spreadsheet rows, and the interviewee identifier codes were allocated a column, to facilitate comparative analysis.

4.8.3. Analysing of coded text

Once the analysis tool had been completed, the data were transferred directly from the coded transcripts. Excel formulas were then established to analyse the data and to identify correlations within the results.

4.8.4. Conclusions from the text

A total of 34 primary findings were identified by considering top-box and bottom-box themes. The researcher then considered each finding independently, and allocated a prefix for relevance to the research questions. Relevant findings were grouped together into six main findings. The remainder of findings that appeared bear no relevance to the three research questions were not disregarded, but will be reported separately.

4.9 Ethics of Research Design

Ethics includes the conduct of a researcher in relation to the rights of research subjects (Saunders, Lewis, & Thornhill, 2009). “Most ethical issues in research fall into one of four categories namely, protection from harm, informed consent, right to privacy, and honesty with professional colleagues” (Leedy & Ormrod, 2012). In the present study, due diligence was employed to ensure that the rights of the interviewees were protected at all times. The required ethical clearance was obtained from the University of Pretoria’s Ethics Committee. In addition, each of the interviewees was informed of the research process, as well as his or her right to withdraw at any point, without negative consequence. Furthermore, each interviewee was informed verbally and in writing of the intentions of the researcher regarding use of the digital recordings and the data collected during the course of the interviews. Each interviewee signed a consent form that included all the aforementioned information, prior to being allowed to participate. This consent form was approved by the University of Pretoria’s Ethics Committee.

4.10 Soundness of the Study

Reliability and validity are standards of quality in research (Bryman & Bell, 2015). The reliability of a study is based on the premise that the same results will be evident if the study were to be conducted again (De Massis & Kotlar, 2014). There are some concerns that, due to the dynamic nature of responsive questioning, results are unlikely to be repeated, and, therefore, establishing reliability in qualitative research should be avoided (Ritchie et al., 2013). However, the soundness of the study can be established through the incorporation of “methodological strategies to ensure the ‘trustworthiness’ of the findings” (Noble & Smith, 2015, p.34). The following table outlines the soundness of the study against the aforementioned methodological strategies:

Table 4

Soundness of the study

Measurement	Application
Truth Value	<p>The researcher established 'truth value' by acknowledging the possibility of bias and consequently, securing an independent research analyst to review the data as analysed to expose possible biases.</p> <p>In addition, the semi-structured interviews were digitally recorded and transcribed, that allowed the researcher to revisit the data for recurring themes.</p>
Consistency / Neutrality	<p>The research process as initially outlined and approved by the University of Pretoria Ethical Committee was consistently followed and is confident that auditability has been achieved.</p> <p>In addition, the researcher discussed the themes with the independent research analyst to eliminate biases.</p>
Applicability	<p>Although the researcher is confident that the findings can be applied to the population, the sample was too small to be considered a representative sample.</p>

4.11 Limitations

This study has several limitations that are a result of uncontrollable factors that restricted the research process and findings:

- The main limitation of the study is that, due to the sample being small, it is not representative of the population; therefore, the findings cannot be generalised (Bryman & Bell, 2015).
- The study was performed within budgetary constraints, which limited the researcher in scheduling follow-up interviews.
- There was a language barrier, as the study was conducted in English and Afrikaans, neither of which was the interviewees' mother tongue. This became evident during the interviews when the participants often requested context or examples in order to answer the questions.

The next chapter outlines the results from the research study.

CHAPTER 5: RESULTS

This chapter summarises the findings from the semi-structured interviews conducted with 16 blue-collar workers from the mining industry.

5.1 Interviews and Participants

Several studies have been conducted on the link between productivity and remuneration, and evidence suggests that the use of variable pay schemes increase employee motivation and productivity (Burke & Hsieh, 2006). However, it has also been found that workers in lower income brackets do not have a positive view of variable pay (Gwatidzo & Benhura, 2013).

Research has shown that the lower the level of the employee in the organisational hierarchy is, the higher his or her preference for monetary rewards will be (Nienaber et al., 2011). Considering the aforementioned, and the fact that no evidence could be found of a similar study having been conducted in the mining sector, 16 workers, classified as manual or blue-collar workers, were selected from the lower income bracket (see Table below).

Table 5

The Study Sample

Identifier	Gender	Age	Occupation	Occupation level	Performance level
X1	Male	44	Plant Manager	Mid	Top
X2	Male	36	Machine Operator	Mid	Top
X3	Male	39	Grader Operator	Low	Top
X4	Female	35	Water Bowser Operator	Low	Bottom
X5	Male	28	Grader Operator	Low	Bottom
X6	Male	44	Mechanic	Low	Top
X7	Male	24	Assistant Mechanic	Low	Bottom
X8	Male	63	Dump Truck Driver	Low	Bottom

X9	Male	25	Diesel Foreman	Mid	Bottom
X10	Male	61	Grader Operator	Low	Bottom
X11	Male	48	Site Supervisor	Mid	Top
X12	Male	25	Mechanic	Low	Top
X13	Male	31	General Worker	Low	Top
X14	Male	50	General Worker	Low	Top
X15	Male	28	Boilermaker	Low	Top
X16	Male	25	General Worker	Low	Top

The face-to-face interviews with the 16 participants were standardised through the use of the interview schedule, with the questions linked to the research questions. The interviews were conducted over the course of two days, each time in a similar environment. The participants were not offered any compensation for their participation.

5.2 Results of the Analysis

5.2.1 General findings

As indicated earlier, the research tool was developed to answer the research questions, and a number of demographic and related questions were included that could possibly be tied back to the research questions. This section briefly highlights some of the general findings:

The majority of the participants had children or family members that were dependent on their income. In addition, the majority of these participants were either the main or the sole provider of their families. Furthermore, all of the main providers had been identified as bottom-level performers by their managers, and the majority of the sole providers had been identified as top-level performers.

Clear and consistent communication was mentioned on several occasions by participants as a tool that management could employ to motivate productivity of workers on all levels of performance. The participants who had been identified as bottom-level performers indicated that, to motivate underperforming workers, management needs to

intervene and communicate in a concise manner what is expected of each individual. This communication should include aspect relating to remuneration and performance management, which, according to the participants, were not communicated well. The aforementioned, combined with the findings discussed below, is an indication that clear and consistent communication is perceived as a motivator for increased productivity.

Participants were also of the opinion that, even though increased productivity is consistently expected, the resources available to execute their duties cannot necessarily handle the additional strain.

5.2.2 Results for Research Question 1: Is the mining industry suited to a variable wage scheme in the form of productivity-based incentives?

This research question was linked to eight interview questions that, in combination, focused on the individual, organisational practices, and perceptions.

a. Benefits in context

To test the perceptions of the workers on the viability of a productivity-based incentive scheme, it had to be established whether these workers understood the concept of benefits. The study found that the concept of benefits or incentives was generally misunderstood, and that participants perceived employer responsibilities such as unemployment insurance and overtime as a benefit, whereas some participants even perceived their salary as a benefit.

Although this particular employer had implemented an informal productivity-based incentive scheme, the majority of the participants were not aware that they were already receiving incentives linked to productivity. It was uncovered that these participants were remunerated at a fixed rate for operating machinery for a certain length of time, whereafter they received supplementary compensation at a higher rate per additional hour they spent operating the machinery. This practice seemed to be exclusive to the machine operators, and was perceived by the participants as normal practice.

Although no uniform wage structure could be detected, benefits that are received by the workers, recurred to varying degrees. These included transport subsidy or company transport, housing or housing subsidy, and bonuses.

The following table provides a summary of the participant's responses.

Table 6

Research Question 1: Participants' Responses regarding Benefits

Theme	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
	↑	↑	↑	↓	↓	↑	↓	↓	↓	↓	↑	↑	↑	↑	↑	↑
Do you receive benefits?																
Yes	X	X	X	X		X	X	X	X	X	X	X	X			X
No															X	
Unsure														X		
What type of benefits do you receive?																
Pension fund	X	X		X				X			X					
Medical aid		X														
Transport subsidy		X		X	X		X	X	X	X						X
Housing allowance		X		X	X		X	X	X	X	X					
Overtime			X											X		
Bonus				X	X	X				X	X		X			
Housing						X							X			X
Company transport	X					X					X					

b. Perceptions of productivity-based incentives

When asked whether performance- or productivity-based incentives would motivate them to increase their output, the majority of the participants responded in the affirmative. Most of these participants had been identified as top-level performers. Most of the participants who felt that performance-based incentives would not motivate them had

been identified as bottom-level performers. When probed on whether their preference would be fringe benefits rather than more money, these participants indicated that they would prefer a higher income. The table below provides a summary of the responses in this regard.

Table 7

Research Question 1: Participants' Responses regarding Productivity-based Incentives

Theme	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
	↑	↑	↑	↓	↓	↑	↓	↓	↓	↓	↑	↑	↑	↑	↑	↑
Do you think performance-based incentives or bonuses will motivate people?																
Yes	X	X	X	X		X		X		X	X	X		X		X
No					X		X		X				X			
Unsure															X	

c. Motivators

To establish the viability of a productivity-based incentive scheme, one needs to ascertain what would motivate increased output. Therefore, participants were asked to list what motivates them to work, and what would drive them to work even harder. They were also asked what they thought would make an underperformer work harder.

The highest-rated motivators were money, benefits, empowerment, and development and training, in that order. Development related to professional development or promotion within the company, and training referred to being equipped with the required knowledge and skills.

The majority of the participants indicated that their salary was the main driving force of their performance. Of these participants, most were bottom-level performers, whereas the majority of the participants who indicated that they were motivated by benefits were top-level performers. Here, some deviation was detected between the different cultures; the majority of participants who indicated that money would motivate them were black African, whereas the majority of the participants who indicated that benefits would motivate them were white. In addition, job security was noted as the strongest motivator

by white participants, whereas job security was not a consideration at all for black Africans.

When the participants were asked what would motivate them to increase their productivity, the majority felt that motivation by management and an increased income would be the main drivers, followed by additional benefits. Although incentives were mentioned as a motivator and a potential tool to increase productivity, some participants noted that the need for increased productivity needs to be clearly and consistently communicated by management. Here, it was observed that the bottom-level performers possibly had a psychological need for inclusivity and to be acknowledged through information dissemination.

When asked to provide individual perceptions on increasing the performance of an underperformer, management intervention, such as counselling, was the strongest recurring theme, followed by increased income, motivation, and training. Interestingly, the majority of the participants who mentioned a higher income were bottom-level performers, whereas motivation was indicated by top-level performers. The table below provides a summary of responses in this regard.

Table 8

Research Question 1: Participants' Responses regarding Motivators

Theme	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
	↑	↑	↑	↓	↓	↑	↓	↓	↓	↓	↑	↑	↑	↑	↑	↑
What motivates you to work?																
Salary/ Money	X	X	X	X	X			X		X		X	X	X		X
Benefits			X				X					X	X	X	X	
Performance bonuses		X	X		X											
Time off			X					X								
Job security	X										X					



Training	X	X	X	X											
Empowerment / Development	X	X	X			X		X		X					
Self-motivation					X					X				X	
Not sure								X							
What would motivate you to work harder/increase productivity?															
More money	X	X			X		X		X		X	X	X		X
Motivation by management	X	X	X		X		X		X	X				X	
Additional benefits						X				X	X	X	X	X	
More time off			X				X								
Improved work environment				X		X						X			X
What do you think would increase the productivity of an underperformer?															
More money	X	X			X		X		X		X	X	X		X
Motivation by management	X	X	X		X		X		X	X				X	
Additional benefits						X				X	X	X	X	X	
More time off			X				X								
Improved work environment				X		X						X			X

In an attempt to validate the above findings to a certain extent, a second set of questions were presented on what participants like most and least about their jobs. This was also done to identify whether there were any motivators already in place that the employer could build on when considering productivity-based incentives.

The study found that workers were more partial to personal development in terms of hard skills, ease of the job, and personal development in terms of soft skills, in that order. The majority of the participants who preferred development of hard skills and all the participants preferred development of soft skills were top-level performers. The majority of the participants who a preference for ease of duties were bottom-level performers.

Furthermore, when asked what they disliked about their jobs, there was equal mention of labour rates and the work environment, followed by social discord, work hours, and insufficient communication from management. The majority of the participants who voiced dissatisfaction with their labour rates were bottom-level performers.

The following table provides a summary of the responses in this regard.

Table 9

Research Question 1: What Participants' Liked and Disliked about their Jobs

Theme	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
	↑	↑	↑	↓	↓	↑	↓	↓	↓	↓	↑	↑	↑	↑	↑	↑	
What do you like most about your work/job?																	
Money/ Salary																	X
Personal development (hard skills)		X				X	X			X		X	X			X	X
Personal Development (soft skills)	X	X				X											
Job clarity/ Clear guidelines			X														
Work is easy/ convenient				X	X			X	X					X			
Not indicated								X			X						
What do you like least about your work/job?																	
Environment		X		X		X	X					X					
Work hours			X						X								

Insufficient communication			X													
Social discord	X	X	X													
Labour rates/ Salary					X		X	X	X							X
Circumstances not within control						X						X				
Not indicated										X	X		X	X	X	

d. Perceptions of impact incentives on strike actions

Participants were asked to give their opinion on whether individuals in the mining sector will strike less if they were paid more for working harder. There was an almost equal split between those who felt there would be fewer strikes and those who felt it would make no difference. The majority of the participants who were of the opinion that it would minimise strike actions were bottom-level performers, whereas those who felt it would make no difference were top-level performers. It was observed that some participants were hesitant to answer this question and tended to lower their voice or seem to be non-committal in their response, regardless of the answer they offered. It was also noted that some of the participants felt that the concept of having to increase productivity for a higher salary was somewhat unjust when they perceived their current salary as unsatisfactory in relation to their current output.

The following table outlines the responses in this regard.

Table 10

Research Question 1: Participants' Responses regarding Strike Actions

Theme	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
	↑	↑	↑	↓	↓	↑	↓	↓	↓	↓	↑	↑	↑	↑	↑	↑
Do you think people will strike less if they get paid more for working harder?																
Yes					X	X	X	X		X		X				

No	X	X	X						X		X				X
Not indicated				X									X		X
No sure												X			

5.2.3 Results for Research Question 2: Are blue-collar workers in the mining sector more attuned to individual or departmental performance?

The research question was linked to two interview questions to determine whether blue-collar workers are more attuned to individual or departmental performance.

a. Perceptions of individual and departmental performance

When participants were requested to rate their performance, the majority rated themselves as good performers, and none rated themselves as poor performers. The majority of the bottom-level performers rated themselves as good performers, whereas the balance of the bottom-level performers was unsure about their performance. Furthermore, it was observed that when bottom-level performers were requested to rate their performance, there was a notable pause before the response in every instance.

When participants were requested to rate the performance of their colleagues, the majority of the participants rated their colleagues' performance as average, at best. When probed further, some participants felt that their performance could not be measured against that of a colleague.

Certain aspect of the responses to Research Question 1 related to Research Question 2. When participants were asked for their perceptions on whether productivity-based incentives would work in the mining context, the majority of the participants who responded negatively were of the opinion that there will always be underperformers who either hinder departmental output, or that they would have to 'carry' them.

The following table outlines the responses in this regard.

Table 11

Research Question 2: Participants' Response regarding Performance

Theme	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
	↑	↑	↑	↓	↓	↑	↓	↓	↓	↓	↑	↑	↑	↑	↑	↑
How would you rate your own performance?																
Good		X	X	X	X	X	X		X		X	X	X		X	X
Average	X													X		
Poor																
Unsure								X		X						
How would you rate the performance of your colleagues?																
Good						X						X			X	
Average	X	X	X		X		X	X			X		X	X		
Poor																X
Unsure									X	X						

5.2.4 Results for Research Question 3: What role does performance management play in productivity?

This research question was linked to three interview questions to explore the role of performance management in productivity and to determine which productivity-based incentives could be implemented in the mining context.

a. Performance management in the mining sector

The majority of the participants confused their job description with their employment contract. However, all of the participants who indicated that they had a job description

were top-level performers, and the participants who indicated that they are unsure whether they had a job description were bottom-level performers.

When asked whether they had a performance agreement, the majority of the participants either indicated that they do not have a performance agreement or that they were unsure. However, all of the participants who indicated that they had a performance agreement, whether formal or informal, had been identified as top-level performers. It was also observed that the concept of a performance agreement was not well understood by most; an explanation had to be provided in most instances.

The participant's view regarding performance reviews were inconsistent. When requested whether their performance was reviewed, either formally or informally, there was an almost equal split between the responses. All the participants who indicated that their performance was reviewed had been identified as top-level performers, whereas the majority of the participants who indicated that they were unsure whether performance reviews were conducted were bottom-level performers.

Furthermore, it was found that workers are not clearly informed on their performance, although management had been sure of who to indicate as top-level and bottom-level performers. In addition, the researcher uncovered that, if a worker had a job description, a performance agreement, and underwent performance reviews, that they were identified as top-level performers. When probed, the participants who responded that their performance was reviewed indicated that, in most instances, the reviews were done inconsistently and were not scheduled at specific intervals.

The following table outlines the responses in this regard.

Table 12

Research Question 3: Participants' Responses regarding Performance Management

Theme	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
	↑	↑	↑	↓	↓	↑	↓	↓	↓	↓	↑	↑	↑	↑	↑	↑
Do you have a job description?																
Yes	X		X			X					X					X



No		X													
Unsure				X	X		X								
Don't know what it is								X				X	X		
Do you have a performance agreement?															
Yes		X										X			
No	X		X			X			X						X
Unsure				X			X	X		X			X		
Don't know what it is					X										
Does your organisation conduct performance reviews/Is your performance reviewed?															
Yes	X	X										X		X	X
No			X		X	X	X		X						X
Unsure				X				X		X			X		

5.3 Conclusion on findings

Chapter 5 outlined the data that were obtained and analysed in response to each of the research questions as outlined in Chapter 3. The results are discussed in Chapter 6.

CHAPTER 6: DISCUSSION OF RESULTS

This chapter discusses the results in detail and in the same sequence as utilised in Chapter 5.

6.1 Discussion of results

South Africa's economy is, to a great extent, dependent on the mining industry, and it accounts for approximately 446 000 of the employed labour force (Statistics of South Africa, 2015). South Africa's labour costs are of the highest labour costs in the world (Maswanganyi, 2014), and it could reasonably be expected productivity would be equally high or improving. However, in reality, wages are increasing, but at a higher rate than productivity. Without improved productivity, the industry cannot sustain the continuously increasing wage demands of the labour market. Therefore, the problem that the present research focused on was wage increases versus productivity, in hopes of identifying motivating factors for blue-collar workers. The results could facilitate the design of a more efficient remuneration system to enhance productivity and keep workers engaged.

6.1.1 General Findings

A research tool was developed to answer the research questions, and, due to the exploratory nature of this study, a number of demographic and general questions were included to investigate and determine whether there were sociological or cultural factors that may influence the findings.

The study found that majority of the participants had children or other family members who were dependent on their income, and majority of the participants either the main or sole provider for their families. When considering the workers in this context, one would expect both the main providers and sole providers to be performing on the same level; however, all the primary providers were identified as bottom-level performers by their managers, and the majority of the sole providers were identified as top-level performers. One could argue that the sole income providers were more motivated by the fact that, without their income, their family would be destitute. Therefore, the socio-economic situation of these workers could be a motivator of higher productivity. As stated by Potuchek (2012), being the sole economic provider is not just about employment, it is about the daily obligation to earn an income for the survival of a family unit, and "leaving the workforce, even temporarily, is not an option" (Potuchek, 1997, p.4). Furthermore,

for these sole income providers, it is not just the behaviour of being employed, but having meaning attached to that behaviour

The majority of the participants lived within a 20km radius of their place of employment, and they participants were provided with a means of transport, either company transport or a transport subsidy. A recent study indicated that longer commutes to work have a negative impact on the personal well-being of workers; they are generally more “anxious, dissatisfied, and have the sense that their daily activities lack meaning” (Sedghi & Arnett, 2014, para.2; Office for National Statistics, 2014). It was noted that all the participants who lived within a 10km radius of the site were identified as top-level performers, which confirms that the distance from their place of work could have an impact on employees’ wellbeing and, thus, productivity.

The study also found that a lack of communication between management and the labour force could be hindering productivity. Some of the participants in this study noted several times that effective communication could motivate both top-level and bottom-level performers. Furthermore, the bottom-level performers strongly indicated that, to address the underperformance of workers, management needs to intervene and communicate the requirements of the organisation and workforce effectively. Productivity can be severely hampered by a “lack of understanding how workers fit into a productive workplace, or why productivity is important,” and this is further complicated by the language barriers that are common at mining sites (Neingo & Tholana, 2016, p.286).

From the interviews, it seemed that being informed was important to the participants, and that if everyone knew exactly what is happening within the operational workspace, it would create a feeling inclusion and co-operation. In one interview, a participant noted that, if management were to communicate the needs of the business in terms of production and how the workers would directly benefit from related incentives, it would make the workers less likely to strike and more likely to increase their productivity. In this instance, the participant used the phrase: "The more the company gets, the more you will get."

It became clear that not all aspects relating to remuneration and performance management were communicated well. Employee performance management and subsequent recognition, as a motivator, plays an integral role in the productivity, and employee recognition has a “huge communication component” that can be used to send an “extremely powerful message” to the workers (Coka, n.d., para.2). Therefore, the lack

of communication in the organisation under study could be seen as a demotivating factor that could be having a negative impact on productivity. This alludes that ineffective management systems within the company, such as “bad communication structures, may be preventing true performance management and optimisation of day-to-day operations” (Schwikkard, 2016, para.20). This finding, among others, is an indication that clear communication could be a strong motivator for increased productivity.

The participants also indicated that, if their employer expected higher productivity, the necessary resources should be of a quality that can withstand the additional and continuous strain. In the mining context, machinery improves working conditions, safety, and productivity and the performance of equipment is directly linked to productivity (Hattingh, Sheer, & Du Plessis, 2010). Therefore, quality resources should be deployed, complemented by efficient maintenance, to “eliminate or mitigate failures and machine downtime” (Arputharaj, 2015). As the literature indicates, consideration should also be given to the fact that effective communication, motivation by management, and operators’ skill levels are controllable factors that directly influence the performance of machinery (Arputharaj, 2015). In the present study, machine operating was one the core functions of the participants, and their performance is dependent on efficient machines.

6.1.2 Discussion of Results for Research Question 1: Is the mining industry suited to a variable wage scheme in the form of productivity-based incentives?

This study found that, although the concept of benefits was generally misunderstood, the participants thought a variable wage scheme may be viable, provided that it was centred around the needs and motivators of the workers.

a. Benefits in context

To test the perceptions of the workers on the viability of a productivity-based incentive scheme, it had to be established whether these workers understood the concept of benefits. The study found that benefits were generally misunderstood, especially by the lower-level workers. Legislation dictates the provision of unemployment insurance and overtime remuneration (The South African Labour Guide, n.d.); however, the participants consistently referred to these as benefits. In some instances, the wages they received were also seen as a benefit. Consequently, when asked to indicate a preference for either fringe benefits or money, the participants selected money. However, the participants did, at a later stage during the interview, indicate that additional benefits

would be a motivator, and, when prompted, stated that a pension fund, medical aid, and a bonus scheme would be of most value. As Nienaber et al. (2011) stated, lower-level staff have a propensity to prefer rewards in the form of money and fringe benefits, and suggested the theory that the lower the level of the employee in the hierarchy is, the higher his or her preference for monetary awards will be. This could be due to insufficient knowledge about the value of fringe benefits.

Although the participants' employer had implemented an informal productivity-based incentive scheme, the majority of the participants were not aware that they were receiving incentives linked to productivity. It was uncovered that these participants were remunerated at a fixed rate for a certain length of time for operating the machinery, and thereafter receive supplementary compensation at a higher rate per additional hour as a performance-based bonus. This practice seemed to be exclusive to the machine operators, and was perceived by the participants as normal practice, and could have been misinterpreted as overtime remuneration. Previous research also found that the concept of a benefit is generally misunderstood across sectors, and resultantly, under-appreciated (Fischer, 2003).

No uniform wage structure was indicated by the participants and benefits varied; these included a transport subsidy or company transport, housing or a housing subsidy, and bonuses.

b. Perceptions of productivity-based incentives

The participants in this study were of the opinion that a productivity-based incentive scheme would be viable in the company under study. However, this opinion was almost exclusively held by the participants who had been identified as top-level performers. The participants who had been identified as bottom-level performers were of the opinion that performance-based incentives would not encourage higher performance. Considering the aforementioned, one could infer that productivity-based incentives could work, but that a number of factors should be considered first.

Several studies have been conducted on the link between productivity and remuneration, and "evidence suggests there is a growing use of variable pay schemes in firms to increase employee motivation and productivity" (Burke & Hsieh, 2006, p155). Variable pay includes performance-based remuneration in the form of incentive plans that focus on piece rates, whereby workers are incentivised additionally above a specific production rate (Blinder, 2011). Although the participants' employer has implemented a similar

incentive plan, it has been done in a very informal manner. In this instance, productivity was linked to time spent keeping the machines operational, which may not be an effective approach. Productivity being solely linked to time may result in exhaustion and, ultimately, burnout and reduced physical and mental well-being of the worker in his or her attempt to maintain the increased output for a higher income. A further complication is that “burnout, especially work-related burnout, may be a risk for overall survival” of workers (Ahola, Väänänen, Koskinen, Kouvonen, & Shirom, 2010, p.51).

Variable pay schemes have been successfully implemented in companies in various sectors. If employees receive a market-related guaranteed package and are given the opportunity to supplement his or her income through increased output, they may be encouraged to work harder and, thus, increase the productivity of the organisation as a whole. However, without an integrated and practical approach to productivity measurement that links all of the organisation’s various operations through key productivity indicators that clearly outlines productivity measurements, as well as the objectives of said measurements, the productivity-based incentive scheme will not be reliable or sustainable (Spring Singapore, 2011).

c. Motivators

To establish the viability of a performance- or productivity-based incentive scheme, one needs to ascertain what would motivate increased productivity. The present study found that the strongest motivators were money, benefits, empowerment, and development and training, in that order.

Motivation is defined as a dominant, internal drive at a given point in time that cannot be stimulated by another individual, but only by creating an environment that will enable that person to respond to a need (Rabey, 2001). When considering the aforementioned in the present context, one can infer that simply increasing incentives without instituting measures to stimulate motivation, will be counterproductive in increasing productivity, as a need will only be momentarily satisfied, which will not stimulate continuous drive. However, establishing an environment where workers have clear goals against which they can be practically and reliably measured could stimulate a drive response to consistently satisfy a need.

When the participants were asked what would motivate them to increase their productivity even more, the majority of the participants felt that motivation by management and an increased income would be the main drivers, followed by additional

benefits. Although incentives were mentioned as a motivator and potential tool to increase productivity, some participants noted that the need for increased productivity needs to be clearly and consistently communicated by management. It was observed that the lower-level workers possibly had a psychological need for inclusivity and to be acknowledged through information dissemination. Therefore, one should take into consideration the value and impact of extrinsic versus intrinsic rewards for motivation. The majority of organisations follow the trend of focusing on extrinsic motivation, such as financial rewards; however, it is believed that a constant focus on extrinsic motivators could ultimately depress intrinsic motivation. Once intrinsic motivation, such as enjoyment, learning, and a sense of belonging, becomes depressed, the worker tends to disengage from his work, and no amount of money will truly satisfy him or her (Chamorro-Premuzic, 2013). Although this is a controversial topic in research, some consideration should be given to the research that has consistently established the validity of intrinsic motivation and its effect on productivity in the workplace. As the chief executive officer of Hogan Assessment Systems, Tomas Chamorro-Premuzic, stated, “Intrinsic motivation is also a stronger predictor of job performance than extrinsic motivation,” and it is, therefore, feasible that higher financial awards could “inhibit not only intrinsic motivation, but also job performance” (Chamorro-Premuzic, 2013, para.14).

However, one should not discount the need for economic equality, since it can be a strong de-motivator, but this should not be used as a tool for motivation. Economic equality should be addressed separately. Some key concepts that could facilitate intrinsic motivation are: management focusing on communication with the workers, acknowledging perspectives, encouraging initiative, providing meaningful feedback, and, more importantly, offering choices (Thomas, 2009). Each of the aforementioned concepts will ultimately facilitate the feeling that they are making a meaningful contribution (Thomas, 2009).

6.1.3 Discussion of Results for Research Question 2: Are blue-collar workers in the mining sector more attuned to individual or departmental performance?

This research question attempted to establish whether workers would be more receptive to individual or departmental productivity-based incentive schemes.

a. Perception on individual and departmental performance

From the outside, it seems as if workers in the South African mining industry are focussed on the wellbeing of their colleagues through the united front that they so eagerly display,

and should, therefore, be more focussed on the department or section in which they are based. However, this study found that this is not the case.

It is interesting that none of the workers rated themselves as bottom-level performers, although almost half of the participants were identified as such by their managers. The majority of the participants felt that they were top-level performers, and the majority of the bottom-level performers rated themselves as top-level performers, whereas the remaining bottom-level performers were unsure of their level of performance. The present study established that the majority of the participants did not have performance agreements, and that no performance reviews were conducted with them. It was also established that there was a general lack of communication from management regarding performance. Considering these findings, one could argue that a lack of knowledge causes this inability to judge performance (Highhouse, Dalal, & Salas, 2013). The result is the Dunning-Kruger effect, a form of meta-ignorance, where inept or poor-performing workers “have little insight into their incompetence” (Dunning, 2011, p.247).

Some of the participants felt that one cannot measure one’s performance against that of another employee, but did not substantiate their opinion. The majority of the participants felt that their colleagues’ performance was average, at best, when compared to their own performance. Some participant felt that there would always be poor performers whom the rest will have to ‘carry.’ This sentiment could lead to a breakdown in departmental cohesion, which would inevitably lead to unachieved departmental goals (Hussein, 2011). Considering the aforementioned, it could be argued that the participants would prefer individual performance-based incentives to departmental or team incentives.

6.1.4 Discussion of Results for Research Question 3: What role does performance management play in productivity?

This research question attempted to establish the role of performance management in productivity, because performance management is integral to a viable productivity-based incentive scheme.

a. Performance management in the mining sector

Performance management has increased in importance in recent years, due to the constant pressure on organisations to improve their profitability (Seotlela, 2014). In the present study, several questions that centred around performance management were posed to participants, which led to the participants raising several issues in this regard.

Firstly, it was established that not all the participants had job descriptions and performance agreements, and not all received performance reviews. The majority of the participants confused their job description with their employment contract. All the participants who indicated that they did have a job description were top-level performers, and participants who indicated that they were unsure whether they had a job description were bottom-level performers.

When asked whether they had a performance agreement, the majority of the participants either indicated that they do not have a performance agreement or that they were unsure. All the participants who indicated that they did have a performance agreement, whether formal or informal, had been identified as top-level performers. It was also observed that the concept of a performance agreement was not well understood by most, as an explanation had to be provided in most instances.

When probed on whether their performance was reviewed, either formally or informally, there was an almost equal split in the responses. All the participants who indicated that their performance was reviewed had been identified as top-level performers, whereas the majority of the participants who indicated that they were unsure whether performance reviews were conducted were bottom-level performers. Resultantly, a correlation was established that if a participant had a job description and a performance agreement and received performance reviews, he or she had been consistently identified as a top-level performer by managers.

Based on the above, the value of job descriptions in performance management should be recognised. A job description outlines the responsibilities and duties of a worker in relation to the operational objectives of an organisation, and is, therefore, imperative in performance management (Seotlela, 2014). One can then argue that the absence of a job description may create uncertainty amongst workers regarding what is expected of them and what their contribution is to the organisational as a whole. This, coupled with the link to intrinsic motivation, may be why the participants without a job description were rated as bottom-level performers. Contrastingly, a present job description seems to be one of three elements that contributed to being rated a top performer. Considering that a job description enables comparative performance measurement, one cannot disregard the “link between describing the job and developing appropriate performance standards” (Pille, 2010, para.6).

Armstrong (2006) states that a performance management system aligns employee performance with organisational needs, and an effective performance management system should define the performance requirements and generate an agreement as a guideline (Gruman & Saks, 2011). This is supported by Mone and London (2010), that stated that performance management, if effectively applied, assists in creating and sustaining “high levels of employee engagement, which leads to higher levels of performance.” (p.227). Furthermore, performance management is vital in defining the relationship between the employee and employer, and the focus should be on input and output expectations (Dadi, 2012) of both the employee and the employer (Aggarwal & Bhargava, 2008).

The present researcher noted that majority of participants without performance agreements and appraisals had been identified as bottom-level performers. It could therefore be argued that the absence of performance appraisals and a performance agreement as a measurement tool negatively affects the engagement and productivity of a worker.

Furthermore, communication on policies and procedures has to be optimised, and these have to be consistently applied. The present study found that the organisation’s current performance management system is not applied consistently across the organisation for the lower-level workers. From a cursory conversation with management it was noted that they are not sure how to implement performance agreements for lower-level workers, because their duties were simple. In the mining context, where of the duties of positions are simple, it is difficult to establish an objective measurement and performance management system; such systems are already said to be the most difficult system to implement in organisations (Pulakos, 2009).

Therefore, based on the results of the study and the fact that majority of participants without performance agreements and appraisals were identified as bottom performers, it can be argued that the absence of performance appraisals and a performance agreement as a measurement tool, negatively affects the engagement and performance output or productivity of the worker.

6.2 Conclusion on Results

When one considers the findings of the present study, it is evident that a variable productivity-based incentive scheme may be viable in the mining sector; however, due consideration should be given to several aspects before this is attempted.

Firstly, an up-to-date job description is required to outline the responsibilities and duties of the workers in relation to the operational objectives, to facilitate the development of appropriate performance expectations in relation to the job. These performance expectations should be in the form of a performance agreement that establishes and formalises employee–employer expectations, and the worker should then be measured against this agreement at regular intervals, to facilitate employee engagement. Without the aforementioned, a practical and sustainable approach to productivity measurement will not be possible.

In addition, the incentives should be related to the needs and motivators of the workers, and these incentives should not be purely extrinsic. Management will need to establish a platform for the development and maintenance of intrinsic motivators, to create a sense of job satisfaction to prevent workers from disengaging.

Finally, in the context of this study, it appears as if the mining industry may not be suited to a departmental productivity-based incentive scheme. Apart from the fact that the study found that participants were more attuned to individual performance and reluctant to have their performance rating include the performance of a colleague, a number of these workers operated independently, that would make departmental performance measurement impractical.

The next chapter covers conclusions, recommendations for future research, and limitations.

CHAPTER 7: CONCLUSION

7.1 Introduction

The present study identifies methods that South African companies could employ to enhance productivity. Sixteen participants were interviewed on motivational factors that would increase their productivity.

7.2 Research Background and Objectives

In the 20 years since South Africa's first democratic elections, research has indicated that the level of productivity in South Africa remains higher than wages. Returns-oriented investments, such as are seen in the mining sector, are the leading cause of the implementation of labour-saving technology, which lowers the workers' share of the income (Burger, 2015). Because of the shortage of skilled labour and limited managerial positions for the mining employees, the means of remuneration remains skewed for blue-collar workers (Rasool & Botha, 2011). The research compares the known theoretical elements of the labour force in the mining sector in South Africa with the reality of 16 participants surveyed.

7.3 Main Findings and Recommendations

Clear communication motivates both top and bottom performing staff and it is perceived that this will increase overall productivity, as it enhances the feeling of inclusiveness. The availability of resources and equipment is a major determinant of employees' productivity. Clear communication and training are a necessary need and incentive for the low-level staff in the industry. Good governance, includes transparency through communication, and according to Stuckler et al. (2010), good governance in the mining sector is essential for resolving the social-economic elements that increase the plights of the low socio-economic workers (Stuckler, Basu, & Mckee, 2010). The affirmative action of South Africa enacted in 1998 has served to reduce inequalities in the nation. A similar approach in the mining sector is necessary, which focuses on direct empowerment and managerial control through communication. Direct empowerment will ensure that the disadvantage low-level workers become part owners of the firms where they work, through their unions.

It was established that that not all the workers had job descriptions. Without a job description, there is no foundation from which to develop a practical performance management system that can be linked to productivity-based incentives.

That said, is the present researcher is of the opinion that a productivity-based incentive scheme could be viable in the mining industry. However, such a scheme would require preparation of the workers, operational environment, and administrative processes to create an environment that is conducive for such an incentive scheme. These include instituting administrative processes, such as a performance management system that includes a measurement tool for productivity, providing the workers with the necessary resources and tools to enable an increase in productivity, and management focusing on communicating goals and the significance of individual contributions to the ultimate goals of the organisation. Without a performance management system, a productivity-based incentive scheme will not be possible. A formal performance management system that can be implemented for a large workforce needs to be developed. This performance management system should make provision for training, development, and possibly succession of the workers to maintain motivation to increase productivity, and then be rewarded accordingly.

7.4 Recommendations for Future Research

Based on the findings of the present study, there is a need for future research on a productivity performance measurement tool to evaluate individual employee output for the mining industry, to facilitate an inclusive and efficient remuneration system.

Future research should focus on the specific actions that various strike-resolving agreements have established to assess whether they are practical and their overall contribution to positive changes for the low social-economic workforce in the mining sector.

Furthermore, this study should be repeated with a representative sample of the whole population. This study should be conducted qualitatively to establish themes, and these themes should then be used as a base for the quantitative questions to establish validity and reliability of the study.

A more in-depth study is proposed on human resource management in the mining industry that focus on blue-collar workers. This study should include an evaluation of the performance management systems.

A study is proposed on the induction processes of blue-workers in the mining industry to establish whether application legislation and rights are communicated by the employer, instead of union representatives.

A further study is proposed that focus on the personal development of low-level, unskilled blue collar workers.

7.5 Limitations

The present study's sample was small, which affects the soundness of the research, and, therefore, the findings may not be generalisable to the mining industry as a whole. Furthermore, this study only uncovered a very small portion of a bigger challenge within the industry.

The time limit and the complex nature of the social issues that surround mining workers increased the burden of choosing a more representative sample.

Cultural differences and language barrier inhibited the study where the current researcher was unable to establish the truthfulness of the answers or ascertain true interpretation of responses.

7.6 Concluding Remarks

The aim of this study is establish if it would be possible to implement a productivity-based incentive scheme within the mining environment. Although this study establish that it could be possible, there are several factors to would prevent such a scheme from being sustainable. Finally, strong evidence, derived from the literature and data, supports the qualitative findings, however, it should be noted that this study was not exhaustive.

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APPENDICES

APPENDIX 1: CONSISTENCY MATRIX

Title: Linking remuneration for productivity: A South African perspective in the mining industry

Research Questions	Literature Review	Data Collection Tool	Analyses
<p>Research Question 1:</p> <p>Is the mining industry conducive for a variable wage scheme in the form of productivity-based incentives?</p>	<p>Ahola et al. (2010)</p> <p>Blinder (2011)</p> <p>Burke & Hsieh (2006)</p> <p>Chamorro-Premuzic (2013)</p> <p>Fischer (2003)</p> <p>Nienaber et al. (2011)</p> <p>Rabey (2001)</p> <p>Spring Singapore (2011)</p> <p>The South African Labour Guide (n.d.)</p> <p>Thomas (2009)</p>	<p>Interview Question 2.2</p> <p>Interview Question 2.3</p> <p>Interview Question 2.4</p> <p>Interview Question 2.5</p> <p>Interview Question 2.8</p> <p>Interview Question 2.9</p>	<p>Manual content analysis of open and closed ended questions</p>
<p>Research Question 2</p> <p>Are blue-collar workers more attuned to individual or</p>	<p>Dunning (2011)</p> <p>Highhouse et al (2013)</p> <p>Hussein (2011)</p>	<p>Interview Question 2.7</p>	<p>Manual content analysis of open and closed ended questions</p>

departmental performance within the mining sector?			
<p>Research Question 3</p> <p>What role does performance management play in productivity?</p>	<p>Aggarwal & Bhargava (2008)</p> <p>Armstrong (2006)</p> <p>Dadi, (2012)</p> <p>Gruman & Saks (2011)</p> <p>Mone and London (2010)</p> <p>Pille (2010)</p> <p>Pulakos (2009)</p> <p>Seotlela (2014)</p>	<p>Interview Question 2.2</p> <p>Interview Question 2.4</p> <p>Interview Question 2.5</p> <p>Interview Question 2.8</p> <p>Interview Question 2.9</p>	<p>Manual content analysis of open and closed ended questions</p>

APPENDIX 2: ETHICAL CLEARANCE

Dear Dr John Beneke

Protocol Number: **Temp2016-01620**

Title: **LINKING REMUNERATION FOR PRODUCTIVITY: A SOUTH AFRICAN PERSPECTIVE IN THE MINING INDUSTRY**

Please be advised that your application for Ethical Clearance has been APPROVED.
You are therefore allowed to continue collecting your data.

We wish you everything of the best for the rest of the project.

Kind Regards,
Adele Bekker

APPENDIX 3: PARTICIPATION AND CONSENT LETTER

LETTER FOR PERMISSION TO INTERVIEW EMPLOYEES

Dear Sir/Madam

RE: REQUEST FOR PERMISSION TO DO RESEARCH AT _____ MINE

I, Dr John Beneke, hereby wish to apply for permission to conduct research at the _____ mine in Mpumalanga.

My research topic is **“Linking Remuneration for Productivity: A South African Perspective in the Mining Industry.”** The purpose of this study is to gain insight into the motivating factors that drive employee productivity. In addition, this study could identify a means through which two opposing sides can operate to increase both the profitability of the company through increased productivity, as well as address wage inequalities in a mutually beneficial manner.

My research target audience will involve a number of your blue-collar workers that operate heavy machinery; eight workers identified by management as top performers and eight workers identified by management as below average performers. Furthermore, this study will involve semi-structured interviews with these sixteen workers. It is noted that any information obtained through these interviews will be treated with the strictest confidentiality and will be used solely for the purposes of this research study.

In addition, it is noted that I have obtained that the University of Pretoria Ethical Committee has reviewed my questions, and I have, subsequently been granted ethical clearance to conduct this research study.

It is my presumption that the research findings will make a creditable contribution towards linking performance with remuneration in the mining industry. I look forward to your response.

Should you have any questions or concerns, please do not hesitate to contact me.

Yours sincerely,

Dr John Beneke
jrbeneke@gmail.com
084 474 1324

LETTER OF CONSENT FOR RESEARCH INTERVIEW

Dear Participant

You are invited to participate in an academic research study conducted by an MBA student from the GIBS Business School at the University of Pretoria. **The purpose of the study is to gain a better understanding of what motivates an employee within the mining sector to increase productivity.**

Please note the following:

- This is an anonymous study survey and your name will not appear on any document published as a result of this study. The answers you give will be treated as strictly confidential since you cannot be identified in person based on the answers you give.
- With your kind permission, the interview will be audio-recorded to facilitate collection of accurate information and later transcribed for analysis. All information you provide is considered completely confidential. Your name will not appear in any publication resulting from this study and any identifying information will be omitted from the report. However, with your permission, anonymous quotations may be used. Data collected during this study will be retained on a password protected computer for 12 months in my locked office. There are no known or anticipated risks to you as a participant in this study
- Your participation in this study is very important to us. You may, however, choose not to participate and you may also stop participating at any time during the interview without any negative consequences.
- The interview should not take more than 60 minutes of your time.
- Should you have any questions or concerns, please do not hesitate to either consult me, or my supervisor. The details are as follows:

Researcher: Dr John Beneke

e-mail: jrbeneke@gmail.com

Phone: 084 474 1324

Supervisor: Dr Mark Bussin

e-mail: drbussin@mweb.co.za

Phone:

Please sign the form to indicate that:

- You have read and understand the information provided above.
- You give your consent to participate in the study on a voluntary basis.

Participant Signature

Date

Researcher Signature

Date

APPENDIX 4: INTERVIEW SCHEDULE

RESEARCH INTERVIEW SCHEDULE

Researcher: Dr John Beneke
Student Number: 15407102
Research Topic: Linking Remuneration for Productivity: A South African perspective in the mining industry

The purpose of this interview schedule is to elicit information from blue-collar workers in the mining industry on the motivating factors of productivity. The following schedule will be used to guide the participants:

1. OPENING

I am Dr John Beneke, an MBA student from the Gordon Institute of Business Studies. I am conducting a study for my thesis on what motivates workers in the mining industry to work harder.

I would like to ask you some questions about you personally, the type of work you do, your experiences in the working environment, and your opinion on the benefits currently offered to you.

There are no right or wrong answers. I hope to use the information I get from these interviews to better understand what motivates you personally, and to establish for my research study, whether it is possible to make positive changes to the benefit structures in the mining industry.

This interview should not take longer than 60 minutes of your time. As per your consent letter, you are reminded that you can refuse to answer a question if the question makes you uncomfortable. You are also welcome to stop the interview at any time if you no longer wish to participate.

2. BODY

Let me start by asking you some questions about yourself. These questions will help me better understand you as an individual.

- 2.1. Can you tell me a bit about yourself?
 - a. Where do you live?
 - b. How far do you travel every day?
 - c. How big is your family?
 - d. Are you the main provider in your family?

I am now going to ask you some questions about the work you do. This will help me understand the work you do, and how you experience your working environment.

- 2.2. Can you tell me a bit about your work?
 - a. What do you do?
 - i. Do you have a job description?
 - b. How long have you been doing this work?
 - c. How long have you worked at company?
 - d. What do you like the most about your work?
 - e. What do you like the least about your work?
- 2.3. Do you have a performance agreement?
 - a. If yes: can you tell me a bit more about it?
 - b. How often are you evaluated?

- 2.4. Can you please tell me a little about your working environment?

The following couple of questions will be about the company you work for.

- 2.5. Does your employer have a remuneration policy in writing?
 - a. If yes: have you seen it?
 - b. If yes: can you tell me what you understand about this document?
- 2.6. Does your employer offer you any other benefits, apart from your salary?
 - a. If yes: can you tell me a bit about these benefits?

The last part of the interview will have questions about your performance and what you think motivates people to work harder.

- 2.7. Can you tell me a little about your job performance?
- How have you performed during the time that you have worked here?
 - Can you tell me, compared to the people you work with, how you would rate your own performance?
 - Why?
- 2.8. Can you give me a list of what your employer can do to make you work harder?
- What do you think are the reasons why some people do not work as hard as others?
 - Can you tell me what your employer can do to motivate the laziest person that works with you, to work harder?
- 2.9. Do you think it will be fair if harder working people get paid more than people who are not working as hard, or only doing enough not to get into trouble?
- Why?
 - Do you think people would strike less if they get paid more for working harder?
- 2.10. What is the most important part of your remuneration?
- What do you think is the best way of remunerating people?

3. CLOSING

It was a pleasure to have had the opportunity to get to know you a little better. I would like to summarise what we have discussed.

- Brief summary of what was discussed will be relayed back to the participantrespondent.

We appreciate the time you took to participate in this interview. If there is anything else you feel might be helpful for me to know, please feel free to contact me.

Thank you again; your contribution will be vital to my research study.

APPENDIX 5: SUMMARY OF PARTICIPANTS

ID	Race	Gender	Age	Occupation	Occupation Level	Performance Level
X1	White	Male	44	Plant Manager	Mid	Top
X2	Black	Male	36	Machine Operator	Mid	Top
X3	Colour	Male	39	Grader Operator	Low	Top
X4	Black	Female	35	Water Bowser Operator	Low	Bottom
X5	Black	Male	28	Grader Operator	Low	Bottom
X6	Black	Male	44	Mechanic	Low	Top
X7	Black	Male	24	Assistant Mechanic	Low	Bottom
X8	Black	Male	63	Dump Truck Driver	Low	Bottom
X9	Black	Male	25	Diesel Foreman	Mid	Bottom
X10	Black	Male	61	Grader Operator	Low	Bottom
X11	White	Male	48	Site Supervisor	Mid	Top
X12	White	Male	25	Mechanic	Low	Top
X13	Black	Male	31	General Worker	Low	Top
X14	Black	Male	50	General Worker	Low	Top
X15	Black	Male	28	Boilermaker	Low	Top
X16	Black	Male	25	General Worker	Low	Top



APPENDIX 6: CODE BOOK

Research Question	Interview Question	Indicator	Codes	Code Description		
0	2.1	Distance to work one way	D1	0-10km		
			D2	11-20km		
			D3	21-30km		
			D4	31-40km		
			D5	41-50km		
			D6	50km or more		
		Family size	F1	Single; without children		
			F2	Single; with children		
			F3	Married no Children		
			F4	Married 1 child		
			F5	Married 2 children		
			F6	Married 3 children		
			F7	Married 4 children		
		Are you the main provider	P1	Sole		
			P2	Main		
			P3	Joined		
			P4	Not indicated		
		1 & 3	2.2	Do you have a job description?	JD1	Yes
					JD2	No
JD3	Unsure					
JD4	Don't know what it is					
2.3	What do you like most about your work? (motivators)		LM1	Money		
			LM2	Personal Development (Hard Skills)		
			LM3	Personal Development (Soft Skills)		
			LM4	Job Clarity/Clear Guidelines		
			LM5	Its Easy/Convenient		



			LM6	Not indicated
	2.3	What do you like least? (demotivates)	LL1	Environment
			LL2	Working Hours
			LL3	Insufficient communication
			LL4	Politics/Relational discord/Social Discord
			LL5	Labour rates/ Salary
			LL6	Circumstances not within my control
			LL7	Not Indicated
	2.4	Do you have a performance agreement?	PA1	Yes
			PA2	No
			PA3	Unsure
			PA4	Don't know what it is
	2.4	Does your organisation do performance reviews?	PR1	Yes
			PR2	No
			PR3	Unsure
	2.5	Does your organisation have a remuneration policy?	RP1	Yes
			RP2	No
			RP3	Not sure
			RP4	Don't know what it is
1		Do you receive any benefits?	B1	Yes
			B2	No
			B3	Unsure
	2.6	What benefits?	BT1	Pension Fund
			BT2	Medical Aid
			BT3	Transport Subsidy
			BT4	Housing Allowance
			BT5	Time Off
			BT6	Overtime
			BT7	Bonus



			BT8	Housing
			BT9	Company Transport
2	2.7	Own Performance	P1	Good
			P2	Average
			P3	Poor
			P4	Unsure
			P5	Not Indicated
		Colleague Performance	P1	Good
			P2	Average
			P3	Poor
			P4	Unsure
			P5	Not Indicated
1	2.8	What motivates you to work?	M1	Money
			M2	Benefits
			M3	Performance bonuses
			M4	Time off
			M5	Other Bonuses
			M6	Job Security
			M7	Psychological
			M8	Training
			M9	Empowerment/Development
			M10	Self-Motivation
			M11	Not Sure
			M12	Not Indicated
		What would make you work harder?	YH1	More Money
			YH2	Motivation
			YH3	Additional Benefits
			YH4	More Time Off
			YH5	Improved Working Environment /Facilities



			YH6	Unsure
		What would make a underperformer work harder?	OH1	More Money
			OH2	Motivation by Management
			OH3	Self-Motivation
			OH4	Time Off
			OH5	Training
			OH6	Management Intervention
			OH7	Unsure
3	2.9	Do you think performance based bonuses will motivate people?	PBB1	Yes
			PBB2	No
			PBB3	Not Sure
1		Do you think people will strike less if they get paid more for working harder?	ST1	Yes
			ST2	No
			ST3	Not Indicated
			ST4	Not Sure