



Job Satisfaction: What Factors in the Coal Mining Industry will Lead to Higher Satisfaction?

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Abstract: In recent years, employee turnover has become a challenge that every human resource department is concerned with. The purpose of this paper is to explore the level of job satisfaction in the coal mining industry. This paper also determines the relationship between company employees and five work-related factors that are considered influential in minimizing employee turnover. A total of 66 questionnaires out of a 100 were useable for this study. The conclusion was that work-life balance, growth opportunities and managerial support play a significant role in job satisfaction. Salary and company culture did not contribute significantly towards job satisfaction. This study contributes to companies' success by investigating components that contribute to job satisfaction among employees.

Keywords: Job satisfaction, Coal mining, Work-Life balance, Growth opportunities, Managerial support

1. Introduction

Job satisfaction has been one of the most researched areas in social sciences. Satisfaction of employees is highly desirable for any organization that wants to be competitive in its market niche. Many researchers have explained job satisfaction in previous researches. Siang (2015) describes job satisfaction as the feelings regarding your job and how happy you feel within that job. This can be affected by many factors such as company policies and interpersonal relationships. Holland (2018) explained that job satisfaction is dependent on a lot of factors within an individual's control. He stated that satisfaction is known to influence not only employees but also their organizations. Unsatisfied workers are known to have lower productivity levels, poor performance, more job stress and higher turnover rates. Low job satisfaction can also lead to low morale and loyalty to the organization.

Medina (2017) found that an individual's goal orientation can influence their training and training satisfaction. Goal orientation and satisfaction were found to be positively related. This implies that highly satisfied employees tend to be highly goal-oriented. Harari et al (2018) addressed literature gaps with respect to major facets of enthusiasm and assertiveness. Enthusiasm was directly related to job satisfaction. This shows that employees who have the drive to achieve tend to be more satisfied in their jobs. Izvercian et al (2016) found out that six main job satisfaction variables emerged with sub-elements. They included determinants in a new honeycomb model of job satisfaction variables which offer a strategic perspective for human resources management.

2. Literature Review

2.1 Job Satisfaction

Many researchers have studied Job satisfaction. Herzberg (1959) is one of the earliest researchers known to have studied this area. He theorized that job satisfaction is influenced by two set factors. These factors are satisfiers and dissatisfiers which can also be referred to as hygiene factors and motivators. He listed hygiene factors as company and administrative policies, supervision, salary, interpersonal relationships and working conditions. The motivators were the work itself, recognition, achievement, responsibility and advancement opportunities.

According to Aiken (2002), organizational and managerial support has a big effect on job satisfaction and dissatisfaction. Managerial support is important in eliminating job dissatisfaction and improving employee retention. According to the author, job satisfaction increases with an increase in managerial support. According to Clark (1997), gender satisfaction differential disappears for the young, more educated professionals and those in male-dominated workplaces. According to Clark et al (1996) workers reported satisfaction levels are shown to be inversely related to their comparison wages. Satisfaction levels were also shown to decline with the level of education. The author's findings point to job satisfaction decrease with an increase with wages.

Yuen et al (2018) analyzed the core determinants of job satisfaction and performance of seafarers. The results showed that job satisfaction is correlated with job performance. Stress levels associated with working onboard, rewards attractiveness and the appeal of job design have high impacts on the job. According to these authors, job satisfaction increases with an increase in compensation. Gul et al (2018) did a study on faculty members of universities. They found that individual's job satisfaction from high power distance culture depends on their cultural norms because they give more preference to cultural norms than their own needs and demands. Thies and Serratt (2018) found that factors that contributed to nursing degree faculty job satisfaction were interpersonal interactions, professional status and autonomy and dissatisfaction was associated with salary, organizational policies and the workload. These authors findings proved that professional status which can be linked to great growth and promotional opportunities led to better satisfied employees. In addition, interpersonal relationships which can actually be influenced by managerial support led to job satisfaction. The study showed an importance in interpersonal relations, salary and organizational policies which are some of the factors studied in this research.

Shen and Tang (2018) explored the roles of transfer of training and job satisfaction in the relationship between training and customer service quality. The results showed that training indirectly influences customer service quality through the mediation of transfer of training and job satisfaction. This training will be greatly influenced by managerial support which is the fifth factor being studied in this research. Diriwaechter and Shvartsmana (2018) analyzed how individual job satisfaction is affected by salary changes. The results showed that wage increase have a statistically significant positive effect on job satisfaction for up to four years after the increase. The study proved that salary does play an important role in job satisfaction. Daud (2016) explored the level of job satisfaction and tried to determine the relationship between the individual and work-related factors on job satisfaction of employees. The study was done cause job hopping and employee turnover are becoming a recent phenomenon. The author found that salary, growth opportunities and maturity level led to higher job satisfaction. The current study will try to investigate how salary and growth opportunities influence job satisfaction. It will either agree or disagree with Daud study.

Jo and Shim (2015) found that work-related characteristics especially coworkers' and supervisors' support significantly affect police officer's job satisfaction. They also found that neither demographics nor community characteristics influenced job satisfaction. The study once again proved a positive relationship between job satisfaction and managerial support. Ong and Theseira (2016) found that individuals at the start of their careers may overestimate the extent to which risk matching matters for their future job satisfaction. These risk matching matters might play a huge role in the long term with respect to salary and growth opportunities. Jung et al (2017) investigated doctoral level researchers' job satisfaction related to the employment sector while controlling for demographic and work characteristics. The findings suggested that scientists at a higher level of collaboration tend to report a higher level of job satisfaction. Academic scientists proved to be more satisfied than those in industry. Collaboration is closely related to managerial support and their study proved that the more managerial support there is, the more the job satisfaction. Schlett and Ziegler (2014) hypothesized that job satisfaction depended less on cognitions and found that their hypothesis was correct. Eyupoglu et al (2017) accounted for uncertainty and vagueness of obtained initial data information they proposed a fuzzy rule based approach to evaluate job satisfaction in an organization.

Tarvid (2015) studied job satisfaction of tertiary graduates taking into account differences between bachelors and masters. They found that master's degree tends to decrease job satisfaction. Masters graduates were found to be more sensitive to career opportunities than bachelors. The results showed that the most important groups influencing job satisfaction are content, risks and compensation and support activities. This study agreed that job satisfaction and salary are positively correlated.

Liu and White (2011) found that the primary determinants of job satisfaction were intrinsic factors that the work that

they do makes employed satisfied. Gender, job positions, education levels, work experience and hospital size were not significant in determining job satisfaction. Job-related predictors of job satisfaction were ability utilization and recognition. Hauff et al (2015) wanted to find out how national culture moderates different job characteristics' influences on job satisfaction. Results showed that some job characteristics' impacts vary significantly between countries. Jongil and Choi (2017) investigated how and whether different sources of social support influenced quality of life and job satisfaction among teachers. The findings revealed that director-colleague support predicted job satisfaction. These results proved that managerial support is of the utmost importance in job satisfaction among the teachers.

Pohl and Galletta (2017) investigated supervisor emotional support as a strong determinant of job satisfaction. The results showed that cross-level interactions were significant for job satisfaction. The employees with high levels of work engagement showed high levels of job satisfaction and this relationship was stronger when the supervisor emotional support at group level was high. This also proves that managerial support is very important for job satisfaction among the employees. Holland (2018) identified five key factors to job satisfaction. Engagement in the work is believed to lead to more focus and productivity. Regardless of the job, employees want to feel respected in the workplace. They tend to be more satisfied when they are well-respected and appreciated. They also state that fair pay and a happy balanced life contribute to job satisfaction. This study in part proved that employees are interested in work-life balance, growth opportunities and salary.

2.2 Coal Mining Industry

South Africa produces more than 255 million tonnes of coal per year. More than 92 % of coal used in the African continent comes from South Africa. From these statements is easy to see why it is important for this sector to value its human resources. Many studies have been done about different sectors in South Africa. A study by Tshianeo (2018) looked at the aviation industry. The author aimed at investigating whether operational efficiency depend on the different airport sizes in the country. In a study by Hasan and Mauliah (2015), they tried to establish the relationship between three job characteristics constructs that is work engagement, intrinsic motivation and job satisfaction in a coal mining industry. The results indicated a positive relationship between job satisfaction, work engagement and intrinsic motivation among workers. Their study proved that intrinsic motivators such as recognition and knowledge are important for high productivity levels in the coal mining industry. They proposed that human resources interventions are required in order to deal with enhancing work engagement and job satisfaction. Although the coal mining industry covered here is in another country either than South Africa the results of these study is valuable for the current research. They deal with job satisfaction in the coal mining industry.

Masia and Pienaar (2011) investigated the relationship between work stress, job insecurity, satisfaction and commitment to safety compliance in the mining industry. The results showed that work stress and job insecurity had a negative relationship with safety compliance. The researchers found that only job satisfaction was a significant predictor of safety. Although exploratory, this study suggests that promoting job satisfaction may improve safety compliance. Therefore, it's important for the coal mining industry employer to find out those factors that employees feel will contribute to their satisfaction and provide these to their employees.

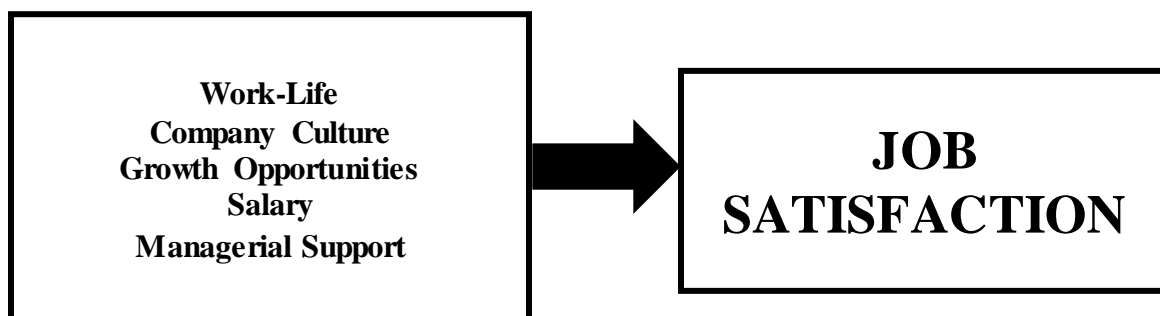


Figure 1: Theoretical Framework for job satisfaction

The objective of this study is to determine those factors that contribute towards job satisfaction in the coal mining industry.

3. Methodology

3.1 Samples

The sample of the study consisted of the coal mining industry employees working for a coal mining company in South Africa. To achieve the study objectives, data was collected from online sources and some questionnaires were sent out to individuals employed in the coal mining industry.

3.2 Data Analysis Technique

A Likert type scale was used to respond to survey statements. This is the expression with five intervals from 1 to 5, with 1 being strongly disagree and 5 being strongly agree. Statistical analysis is performed through statpages.info website which basically contains a straightforward JavaScript implementation of a standard iterative method to maximize Log Likelihood Function (LLF).

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3.3.1 Cronbach Alpha

It is commonly used to test for reliability. It is used for any tests on which scores are produced by summing the scores of two or more test items. This test is used to determine if items are consistent with one another.

$$\alpha = \left(\frac{N}{N-1} \right) \left(1 - \frac{\sum V_i}{V_T} \right) \tag{1}$$

Where:

N= the number of the item

V_1, V_2, \dots, V_k = the variation of 1,2,..K item points

V_T = the variation of the scale score

3.3.2 Logistic Regression

Logistic regression is used to model binary dependent variables. This is designed for binary outcomes. These models estimate probabilities of events as functions of independent variables.

$$\ln \left(\frac{P}{1-P} \right) = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \dots + \beta_K X_K \tag{2}$$

Where:

P= the probability that Y=1

X = the variables

Y= either 0 or 1

4. Result and Discussion

4.1 Profile and Data Frequency

A total of 100 questionnaires were sent out. 77 questionnaires were sent back .Only a total of 66 (66%) were useable for this study .From this sample of 66 respondents , 60.6% are male .Bachelor’s degree holders amounted to 59.1%.The respondents with 4 to 6 years work experience amounted to 40.9% .Respondents in professional jobs but not yet in management were at 45.5%.The respondents mostly held a minimum of a Bachelor’s degree at 84.8% , the respondents with only Bachelor’s degrees were at 59.1%.of the 66 respondents , 60.6% were male. These details are represented in Table 1 below.

Frequency polygons which are graphical devices for understanding the shape of distributions, have been used to understand the distribution of the data collected. These serve the same purpose as histograms, although they compare a set of data. The independent variables were collected with the help of a Likert Scale. A Likert Scale is a psychometric scale commonly involved in research that employs questionnaires. It is mainly used to scale responses in survey

research. This is named after Rensis Likert who was both a psychologist and an inventor. When responding to a Likert item, respondents specify their level of agreement or disagreement on a symmetric agree -disagree scale for a series of statements.

A Likert item is simply a statement that the respondent is asked to evaluate by giving it a quantitative value on any kind of subjective or objective dimension with the level of agreement /disagreement being the dimension most commonly used. The format of a typical five-level Likert item could be:

Strongly disagree, Disagree, Neither Agree nor Disagree, Agree, Strongly Agree.

The above format has been used for our study.

In Figure 2: Out of all the 66 respondents, Agree was the most common choice for respondents with 30 respondents saying that salary is good and 24 respondents saying that growth opportunities are good. However, 21 respondents chose Neither agree nor Disagree for available growth opportunities.

In Figure 3: 28 respondents under Work-Life balance and 26 respondents under Company Culture Neither Agree nor Disagree about these variables being good.

In Figure 4: 26 respondents Neither Agreed nor Disagreed that company culture is good .21 respondents also Neither Agree nor Disagree that growth opportunities are good. 24 respondents Agree that Growth Opportunities are good.

Table 1: Demographic profile

GENDER	Number	Percentage (%)
Male	40	60.6
Female	26	39.4
EDUCATION		
Advanced degrees	17	25.7
Bachelors	39	59.1
Diploma	6	9.1
Certificate	4	6.1
WORK EXPERIENCE (YEARS)		
1 to 3	13	19.7
4 to 6	27	40.9
7 to 9	8	12.1
10 to 12	12	18.2
13 to 15	6	9.1
TYPE OF WORK		
Managerial	20	30.3
Professional	30	45.5
Technical	3	4.5
Administration	9	13.6
Customer Service	4	6.1

In Figure 5: Of all the respondents, 30 under salary, Agree that the salary is good while 17 neither Agree nor Disagree .25 respondents Neither Agree nor Disagree that Managerial Support is good.

The most common category was Agree for Salary with 30 respondents agreeing. This was followed by 28 respondents who Neither Agreed nor Disagreed with the idea that the company has Work-Life balance. This is shown in Table 2.

For all the variables studied in Table 2, the most chosen option by the employees was Neither Agree nor Disagree followed by Agree.

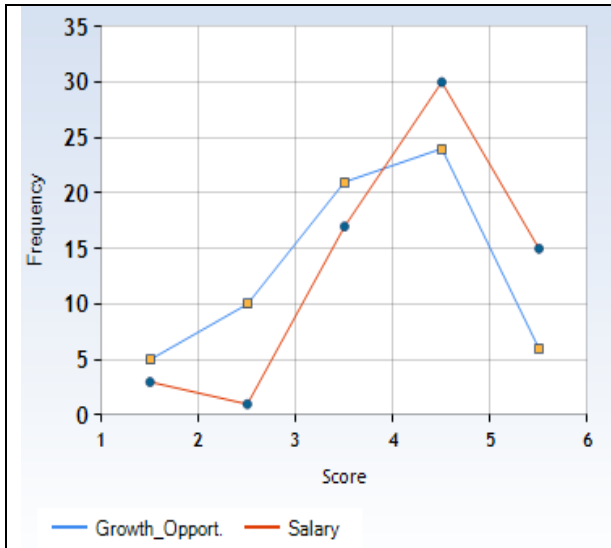


Figure 2: Growth Opportunities versus Salary

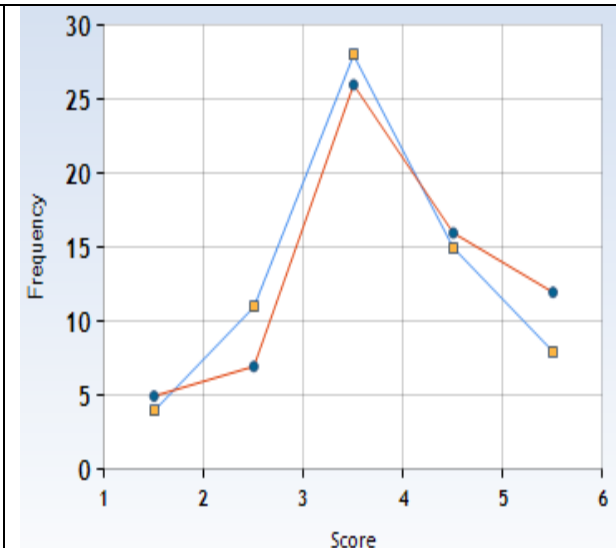


Figure 3: Work Life balance versus Company culture

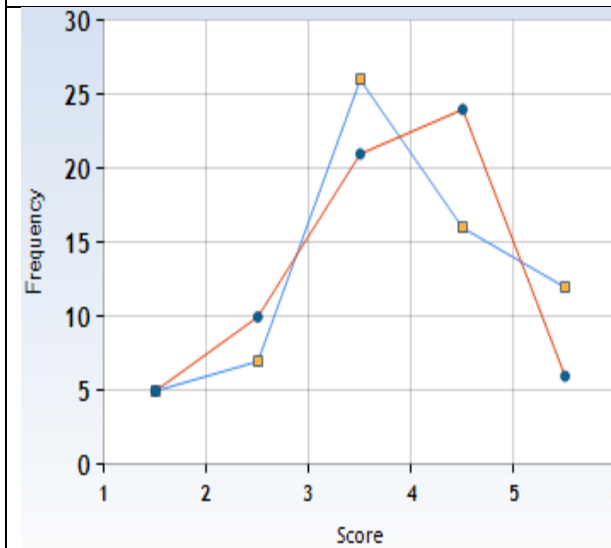


Figure 4: Company Culture versus Growth Opportunities

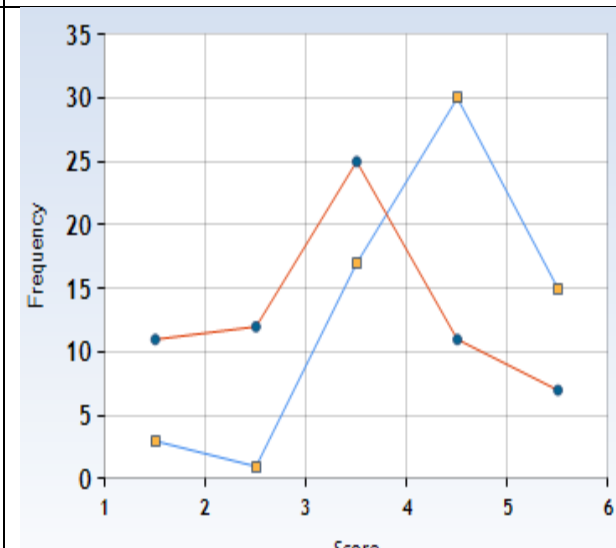


Figure 5: Salary versus Managerial Support

Table 2: Highest Frequency and the corresponding option

VARIABLE	Highest Frequency	Option
Work-Life	28	Neither Agree nor Disagree
Company Culture	26	Neither Agree nor Disagree
Growth Opportunities	24	Agree
Salary	30	Agree
Managerial Support	25	Neither Agree nor Disagree

4.2 Reliability Test

The valuable opinion of the coal mining industry employees is shown below through different tables that show responses towards job satisfaction. The Cronbach Alpha shows the reliability of data from the questionnaire. According to Statics How to (2017), a Cronbach Alpha of between 0.7 and 0.8 is acceptable, between 0.8 and 0.9 is good and above 0.9 is excellent. Cronbach alpha reliability tests were conducted for each variable under investigation. A Cronbach alpha of 0.7 will be the minimum acceptable alpha for this study. Cronbach Alpha is a good way to interpret alpha for dichotomous questions and Likert scale questions. According to these calculations, the minimum Cronbach alpha value was 0.7426 for Company Culture. The maximum was 0.8017 for salary. All the variables were found to be internally consistent since all the Cronbach values were above 0.7. This point to the data collected as being more reliable and valuable for job satisfaction analysis these results are represented in Table 3 below.

Table 3: Reliability Test Analysis

VARIABLE	N	Standard alpha	Cronbach alpha
Work-Life	66	0.7991	0.7989
Company Culture	66	0.7429	0.7426
Growth	66	0.749	0.7517
Salary	66	0.8008	0.8017
Managerial Support	66	0.7669	0.7677
OVERALL	66	0.8096	0.8107

To further investigate the relationship between the independent variables and the dependent variable i.e. job satisfaction, regression analysis was done. The theoretical framework looked at Work-Life balance, Company culture, Growth opportunities, Salary and managerial support as independent variables.

Using the multiple regression formula, the dependent variable, Job satisfaction was regressed onto all the independent variables. This is to determine the impact of these five independent variables on job satisfaction. Table 4 shows the regression of these independent variables onto job satisfaction. It was found that the constant, Work-Life balance, Growth and managerial support contribute significantly to the regression model at $\beta = -28.68$ ($p < 0.05$), $\beta = 3.22$ ($p < 0.05$), $\beta = 3.39$ ($p < 0.05$), $\beta = 1.58$ ($p < 0.05$) respectively.

Table 4: Regression Analysis

VARIABLE	N	Beta, β	P-value	Standard Error
Constant		-28.68	0.014 ($p < 0.05$)	11.63
Work-Life	66	3.22	0.035 ($p < 0.05$)	1.53
Company Culture	66	0.32	0.624	0.65
Growth	66	3.39	0.012 ($p < 0.05$)	1.35
Salary	66	1.35	0.169	0.98
Managerial Support	66	1.58	0.03 ($p < 0.05$)	0.73

5. Discussion

The result of the study showed a positive relationship between the independent variables and the dependent variable, job satisfaction. The employees in this industry showed that these independent variables play an important role in job satisfaction. In order for businesses to operate at their highest productivity levels, since competition between businesses is of utmost importance, it is important for these businesses to consider what they are offering their employees. These employers should be willing to offer their employees those incentives that they view as being important in their daily lives. For this study, the independent variables studied were Work-Life balance, Company culture, Growth, Salary and

managerial support. The sample of employees studied showed from their responses and consequently the regression analysis that salary and company culture are not the factors that they really want to see an improvement in. They preferred managerial support, opportunities for growth and work-life balance in order for them to be more satisfied in their jobs. Opportunities for growth seemed to be the most required factor for job satisfaction at a beta of 3.39 followed by balanced work-life at beta= 3.22. This need for work-life balance has been supported by a study done by Jensen et al.(2017) who showed that entrepreneurs' innovation was shown to benefit their job satisfaction with the balance between work and family. These employees are not so concerned about their salaries as everybody would expect. These findings support a study by Clark et al. (1996) which proved that employees' satisfaction levels are shown to be inversely-related to their comparison wages. This means that in the long-term salary is not the only motivator for job satisfaction.

The regression results showed a positive relationship between job satisfaction and work-life balance. Managerial support also had significant impact on job satisfaction these results are supported by Babin and Boles (1996) study which argued that supervisory support is helpful in increasing job satisfaction. Company culture and salary did not have a significance on job satisfaction.

6. Conclusion

The study assessed the factors leading to job satisfaction for coal mining industry employees. The study also concluded that these independent variables i.e. Work-Life balance, Growth and managerial support play a significant role in job satisfaction. However, salary and company culture did not contribute significantly towards job satisfaction. This study contributes to company success by investigating components that contribute to job satisfaction among employees. This leads to higher commitment levels to the employer by the employees. As the company progresses due to high commitment, this will in turn contribute greatly to the economy of the country. This study was able to answer the objectives of the research. It is important for employers to improve on the factors that contribute to job satisfaction in order to retain their employees.

The results of the study cannot be generalized to other industries including other mining industries. The sample size also plays a role in limiting this study. Due to time limitations, the sample size studied was too small for these results to be generalized to all coal mining industry employees. It will be good to redo the study with a larger sample size which can include respondents from all the coal mining companies in the country.

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