Job Satisfaction at SAPREF
(South African Petroleum Refinery)

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Abstract

This research aims to assess the utility of Herzberg's Two-Factor Theory in explaining employee job satisfaction at SAPREF. More specifically, it is aimed at identifying the factors that have a strong influence on job satisfaction among employees at SAPREF and seeing if there is a difference in job satisfaction among various grades, ages and genders of employees.

To achieve this goal, a self-administered questionnaire was used to collect data. Data analysis techniques such as multiple regression analysis were used to identify the factors that have a strong influence on job satisfaction among employees at SAPREF. Then, the Chi-Square test helped to see if there is a difference in job satisfaction among various grades, genders and ages of employees.

The results of this research have shown that the top factors that led to employee job satisfaction were working conditions, interpersonal relations, recognition, advancement and growth, achievement and company and administrative policies. It was also found that employees at SAPREF, in general, do not differ in job satisfaction factors regardless of their position in the company, age and gender. However, it can be said that the slight significant differences that emerged from the study were found in terms of the work itself (repetitive work), responsibility (job well done) and company and administrative policies (participation in the company policies) for the position in the company. Concerning age, the significant difference was found in supervision (good method for evaluating individual performance) and salary (sufficient incentives). In the gender category, the only difference was observed in interpersonal relations (team culture).

Key words: assessment, utility, Herzberg's Two Factor Theory, employee job satisfaction, grade, age, gender.

I. Introduction

This introduction presents the problem statement, research questions, and objectives.

1.1 Problem Statement

Organisations today are recognising the importance of having a highly energised workplace. To bring this about, they are using more self-managed work teams, allowing for more worker participation, and empowering their employees (Decenzo and Robbins, 1999). Therefore, job satisfaction continues to be a

major topic of human resources management, because it is assumed that it exerts an important influence on the actions and behaviour of employees in organisations. It is regarded as a very important human resources variable in the pursuit of organisational success and it must be taken into account for managing effectiveness and quality.

At SAPREF, the problem of job dissatisfaction among employees is due to the inability of managers to fulfil their role. According to Ceruti (2003), the problems appear for example when managers fail to praise a team when a job is well done and to give regular personal and direct comments on performance levels. Also, communication with subordinates is not open and frequent enough and often leads to a perception of dishonesty. Managers create this perception when there is bad news to communicate or confidential information. Consequently, employees mistrust their supervisors or managers because they feel that they do not receive honest feedback from them and these employees are concerned that they will be victimised if they say what they really think. This is a serious reflection on management's ability to create a trustworthy working environment.

In addition, according to the comments from the report, managers are not spending enough time in direct contact with their teams. This indicates a strong need on the part of most employees due to uncertainty around job security. While a less secure working environment is a present reality, such anxiety can undermine job satisfaction and productivity (Ceruti, 2003). The aim of this research is to help the managers of SAPREF to improve the above situation.

The purpose of this paper is to assess whether Herzberg's Two Factor Theory of job satisfaction can be applied at SAPREF. A questionnaire survey was used and the relationships between different job factors and employee job satisfaction were identified. It also determined the factors that need to be developed to enhance the operational effectiveness and eventually maximize employee job satisfaction at SAPREF.

1.2 Research Questions
The purpose of the paper is to evaluate the utility of Herzberg's Dual Factor Theory in explaining employee job satisfaction levels at SAPREF. The main research questions are:
1. What job factors have the most influence on employee satisfaction levels at SAPREF?
2. Is there a difference in job satisfaction levels among various grades, gender and age of employees?

1.3 Objectives of the Paper
1. The first objective is to identify the factors that have a strong influence on job satisfaction among employees at SAPREF.

2. The second objective is to see if there is a difference in job satisfaction between various grades, gender and age of employees.

II. Material and Methods

This part aims to explain the methods and procedures of investigation used in this research. As the methodological approach adopted in this research is quantitative, the details of the study's population, the sample drawn and the sampling procedures undertaken were provided. In addition, statistical analyses were performed on the results obtained from the respondents and conclusions were drawn from this quantitative information. The reader will gain understanding of the whole process of data collection and the findings of the research.

2.1 Sampling

The target population of this research was all employees of SAPREF (585 people). Non-probability sampling was used. Judgement sampling was used and respondents were selected based on their degree of education and their work experience as this may affect their understanding of the company's performance and employee job satisfaction. A sample of 61 respondents was selected from SAPREF and self-administered questionnaires were distributed to them.

2.2 Sources of Information

Data sources were primary and secondary sources. The primary information was gathered through the respondents via questionnaires. Secondary data was collected from various materials which include textbooks, journals articles, studies that have been carried out in this area before and internet articles.

2.3 Data Collection

Data was gathered from the selected sample using the questionnaire. A self-administered questionnaire consisting of biographical items and specific instruments for measuring job satisfaction was used. The questionnaire consisted of structured, closed questions.

The questionnaire was focused on Herzberg's theory where respondents were asked to rate how important ten dimensions of job satisfaction (work itself, achievement, recognition, responsibility, advancement, company and adminis-trative policies, supervision, salary, interpersonal relations and working conditions) influence their job satisfaction. The Likert scale(1-Very high satisfaction, 2- High satisfaction 3- Average satisfaction, 4-Low satisfaction and 5-Dissatisfaction) was selected because respondents were asked to categorise the factors leading to job satisfaction. A demographic questionnaire was also used.

2.4 Methods of Data Analysis

The aim of the present article was to assess the utility of Herzberg's two-factor theory in explaining employee job satisfaction at SAPREF. All statistical analyses (descriptive statistics, Chi-Square Test and Multiple Regression) were carried out using SPSS 11.5.

The Chi-Square was judged to be useful in this research for testing the significance of observed differences between variables. It was used to test if the observed differences between managers and workers in the sample were statistically significant enough to conclude that such differences exist in the population.

Multiple regression was used because according to Babbie and Mouton (2002), it is the best known and most widely used multivariate technique. The regression procedure is a powerful tool that works well with two, three, or more independent variables. This method is the statistical procedure best suited to this study because it helped the researcher to identify the most important job satisfaction factors at SAPREF and compared them with those found by Herzberg.

III. Results

This section presents the results of the research in detail. These were obtained through frequencies, percentages and cross-tabulations from descriptive statistics, Chi-Square Test and multiple regression analysis.

3.1 Identification of Factors with the Most Influence on Employee Job Satisfaction at SAPREF

This section identifies the most important job satisfaction factors at SAPREF and compares them with those found by Herzberg, Mausner and Snyderman (1959) and other researchers. As stated above, multiple regression analysis, a form of general linear modelling is a multivariate statistical technique used to examine the relationship between a single dependent variable and a set of independent variables (Hair et al., 1998). The purpose of this research is to examine the relationship between Job Satisfaction as dependent variable, and work itself, achievement, recognition, responsibility, advancement, company and administrative policies, supervision, salary, interpersonal relations, and working conditions as independent variables.

Table 3.1 The analysis of variance

Model		Sum of Squares	df	Mean Square	F	Sig
1	Regression	3.918	6	.653	4.968	.000 (a)
	Residual	7.098	54	.131		
	Total	11.016	60			

a. Predictors: (Constant), working conditions, interpersonal relations, recognition, advancement and growth, achievement and company and administrative policies

b. Dependent Variable: Job satisfaction

The objective of the analysis of variance is to determine whether the model that results from the analysis is statistically significant. This analysis shows the sum of squares explained by the regression equation and the residual sum of squares. The residual sum of squares is the variability in the dependent variable, which is left unexplained by the regression equation. The F statistic is obtained by dividing the Mean Square regression by the Mean Square residual. If F is significant (the probability value labelled Sig is less than 0.05), one can conclude that R Square is significantly different from zero. This means that it can be assumed that there is a linear relationship between the predictors and the dependent variable and that the regression equation allows predicting the dependent variable (Foster, 2002).

According to Table 3.1, F is significant because F value is 4.968 and P value is .000, which is less than .05. This confirms that there is a close relationship between job satisfaction and working conditions, interpersonal relations, recognition, advancement and growth, achievement and company and administrative policies.

Table 3.2 Excluded variables

Model		Beta In	t	Sig	Partial correlation	Collinearity statistics Tolerance
1	Supervision	.006(a)	.028	.978	.004	.261
	Responsibility	-.055(a)	-.353	.725	-.048	.507
	Work itself	.128(a)	.929	.357	.127	.631
	Salary	-.178(a)	-1.152	.254	-.156	.495

a Predictors in the Model: (Constant), working conditions, interpersonal relations, recognition, advancement and growth, achievement and company and administrative policies

b Dependent Variable: Job satisfaction

In the above table showing the excluded variables, the t values for supervision, responsibility, work itself and salary are not significant because their levels of significance are more than 0.05. It can be concluded that these variables do not have the ability to predict job satisfaction.

3.2 Relation Between Job Satisfaction and Various Grades, Age and Gender in the Company (SAPREF)

The second objective of this article was to see if there is a difference in job satisfaction of employees regarding their position in the company, age and gender. Hence, this section will dwell on these issues. Cross-Tabulations and Chi-Square test are used to analyse the data from the respondents. The Chi-Square statistic enables the researcher to test if the observed differences between variables in the sample are sufficiently large to conclude that such differences exist in the population.

3.2.1 Relation between job satisfaction and various grades

Concerning the demographic information, respondents are divided into four categories: seven percent are Top Managers, 31 percent Middle Managers, 23 percent supervisors while 39 percent are in the category of other employees. To examine if there is a difference in job satisfaction between these categories, the comparison was done between them and ten job satisfaction factors: work itself, achievement, recognition, responsibility, advancement and growth (motivator factors) and company and administrative policies, supervision, salary, interpersonal relations and working conditions (hygiene factors). Respondents were asked to choose their answers among very high satisfaction, high satisfaction, average, low satisfaction and dissatisfaction.

According to the findings from this research, it can be concluded that there is no statistical significant difference in job satisfaction regarding the position in the company of employees at SAPREF except a slight difference in work itself (repetitive work), responsibility(job well done) and company and adminis-trative policies(participation in the company policies).

3.2.2 Relation between job satisfaction and age

The focus of this section is to determine if there is variability of job satisfaction regarding the age of employees at the workplace. As specified previously, the respondents in this study are classified in four categories: 18 percent respondents are less than 30 years old, 39 percent are between 31-40 years, 25 percent between 41-50 while 18 percent are older than 50 years. To see if there is a difference in job satisfaction with regard to the different categories of age, the cross-tabulation table gives the number of cases in each cell of the table followed by chi-square tests table showing the value of chi-square (labelled Pearson Chi-Square).

According to the findings from this research no statistically significant diffeence in job satisfaction was found between four categories of age because the majority of the F values have the observed level of significance that exceeds 0.05. It can be said that job satisfaction of employees at SAPREF is not influenced by age of people, in other words, no statistically significance differ-

rence in job satisfaction was found among different categories of age except slight difference in terms of supervision, salary and interpersonal relations.

3.2. 3 Relation between job satisfaction and gender
The aim of this subsection is to see whether gender has influence on employees' job satisfaction at SAPREF. The sample of respondents was made of 67 percent male and 33 percent female. Cross-tabulation tables and Chi-Square tests helped the researcher to see if there is difference in job satisfaction between male and female.

According to the findings from this research, no statistically significant difference between male and female was found because the majority of the observed level of significance are greater than 0.05. However, a slight difference could be observed in the area of interpersonal relations (team culture). At this point, 69 percent of the male and 31 percent of the female were very highly satisfied. 100 percent of those who expressed high satisfaction were female. This difference is statistically significant because the observed level of significance of F (4.239) is less than 0.05 (0.040). Therefore, it can be concluded that gender does not have much influence on employees' job satisfaction.

IV. Discussions

The first objective of this article was to identify the most important job satisfaction factors for employees at SAPREF. The research therefore was designed to investigate the job content (motivators) and job context (hygiene) factors contributing to job satisfaction among those employees. Furthermore, the research attempted to determine whether using this instrument would yield the same results as those of Herzberg, Mausner and Snyderman (1959).

According to the findings obtained from the respondents, all variables have a bearing on job satisfaction. However, emphasis must be placed on working conditions, interpersonal relations, recognition, advancement and growth, achievement, and company and administrative policies. In other words, according to the regression analysis, these independent variables predict job satisfaction better than other independent variables. This means that the strongest relationship exists between them. Considering that these factors lead to job satisfaction, this research has similarities with the research conducted by O'Brien (2003) in Thailand, where it was found that among top factors that led to job satisfaction were relationship with peers, being successful and having good relationship with the boss, working conditions and having challenging work and being encouraged.

In comparison with Herzberg, Mausner and Snyderman's research (1959) some of the above variables are considered as motivator factors (recognition, advancement and growth, achievement) and others as hygiene factors (working conditions, interpersonal relations, company and administrative policies). However, this research showed that both factors were sources of job satisfaction

for employees at SAPREF. This study confirms the study conducted by Dunnette, Campbell and Hakel (1967) where they reported that motivator factors could cause dissatisfaction and hygiene factors could cause satisfaction.

As noted in the problem statement, according to Ceruti (2003), the main problem at SAPREF was first about the recognition where managers failed to praise the teams when a job was well done and to give regular personal and direct comments on performance. Second, the communication of managers and supervisors with subordinates was not open and frequent enough. As a result, employees mistrust their supervisors. The third problem was related to less secure working conditions. According to the findings from this study, it was revealed that recognition and working conditions are the factors that have most influence on job satisfaction of employees at SAPREF according to the regression analysis. This could be due to the improvement of human resource management from 2003 up to the date on which this study was conducted (December 2004). However, supervision, responsibility, work itself and salary remain the factors that need to be improved in order to enhance job satisfaction at SAPREF.

In summary, the findings showed that some of the motivator factors, on one hand, were sources of satisfaction for many employees. On the other hand, for other employees, they were sources of dissatisfaction, just as some of hygiene factors were also sources of satisfaction rather than dissatisfaction. This is a reversal of Herzberg, Mausner and Snyderman's study (1959) which concluded that hygiene factors are sources of dissatisfaction rather than satisfaction. However, the present research recognizes the importance of Herzberg's theory in explaining employees' job satisfaction and the application of this theory depends on the needs and expectations of employees.

Considering the second objective, it is evident from the results that employees at SAPREF do not differ in job satisfaction factors regarding their position in the company, age and gender. However, from the findings it can be said that the only significant differences that emerged from the study were found in the work itself (repetitive work), responsibility (job well done), and company and administrative policies (participation in the company policies) for the position in the company. Concerning age, the significant difference was found in supervision (good method for evaluating individual performance) and salary (sufficient incentives). Regarding gender, the only difference was observed in interpersonal relations (team culture).

V. Conclusion and Recommendations

5.1 Conclusion
The aim of the present paper was to assess the utility of Herzberg's Two-Factor Theory in explaining employee job satisfaction at SAPREF. As stated previously, the first objective was to identify the job satisfaction factors that

have a strong influence on employees at SAPREF. Based on multiple regression analysis, it can be concluded that the following factors explain job satisfaction better than others: working conditions, interpersonal relations, recognition, advancement and growth, achievement and company and administrative policies. From the findings, it was revealed that this study differs slightly from Herzberg, Mausner and Snyderman's. For them, motivator factors (work itself, achievement, recognition, responsibility and advancement and growth) lead to job satisfaction while hygiene factors (company and administrative policies, supervision, salary, interpersonal relations and working conditions) lead to job dissatisfaction. This is not the case at SAPREF, because both factors lead to job satisfaction. In other words, some of motivator factors and some of hygiene factors are sources of job satisfaction as the remainder of motivator and hygiene factors could be sources of job dissatisfaction.

From the findings, there is also a contradiction between this study and that of Herzberg, Mausner and Snyderman (1959). However, Herzberg's Two-Factor Theory remains useful in explaining employee job satisfaction because it can help managers to determine the most important job satisfaction factors for their employees so as to maintain them and enhance those factors that need improvement.

The second objective was to see if there is a difference in job satisfaction among different grades, age and gender at SAPREF. The observed differences among respondents range from top managers, middle managers, supervisors and other employees. The respondents in different categories of age and male and female were tested using Chi-Square statistic.

From this research, it was found out that employees at SAPREF, in general, do not differ in job satisfaction factors no matter what their position in the company, their age or gender are. This was confirmed by the Pearson Chi-Square test where the majority of the level of significance are greater than 0.05. This means that there is no statistically significant difference between those variables.

5.2 Recommendations
It was revealed, from the findings of this research that the following factors do not contribute to employee job satisfaction at SAPREF: supervision, salary, work itself and responsibility. In order to enhance the effective employee job satisfaction, the following could be useful for managers:

1. Although hygiene issues are not the source of satisfaction for some employees, they must be dealt with first to create an environment which favours employee satisfaction and motivation. To decrease dissatis-faction in the area of supervision, it is important to start with making wise decisions when someone is appointed as a supervisor. This is because the

role of supervisor is extremely difficult, since it requires leadership skills and the ability to treat all employees fairly.

2. In the workplace, salary is not a motivator for some employees, but they do want to be paid fairly. If individuals believe they are not compensated well, they will be unhappy. It might be necessary to carry out salary surveys to see whether the employees are satisfied with their salaries and incentives in comparison with their colleagues within the company or in the counterpart companies. It is also important to be sure that the policies related to salaries, raises and bonuses are clear.

3. The most important factor in employee satisfaction is helping individuals to believe that the work they are doing is important and meaningful. Hence, managers should share stories of success about how an employee's actions made a real difference in the company.

4. Job satisfaction is not only the task of managers. Each employee in the organization is concerned and has to do his best to accomplish his task properly. Communication between subordinates and superiors must also be open and frequent enough to allow everyone to articulate his opinion whenever it is necessary.

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