The Indian Journal of Labour Economics, Vol. 54, No. 2, 2011

INFLUENCE OF LABOUR WELFARE FACILITIES ON JOB SATISFACTION: A STUDY OF PHARMACEUTICAL COMPANIES IN GOA

Christina De Souza and Silvia Noronha*

This paper highlights the influence of labour welfare facilities on the job satisfaction of employees in Indian and multinational pharmaceutical companies in Goa. A stratified proportionate sample of 201 employees was administered the Labour Welfare Inventory by S.K. Srivastava, (2002) and the Job Satisfaction Scale by Dr. Rita Shresthya and H.C. Ganguli, (1994). The eight dimensions of labour welfare (including education/training, housing, subsidised loans, recreation, safety, canteen, medical facilities, and others) were found to be positively and significantly correlated with the job satisfaction of employees in these companies. Regression analysis specified the dimensions of education/training and others, as indicative of influencing the job satisfaction of employees in these pharmaceutical companies. The results also showed that the statutory labour welfare facilities constitute a better predictor of job satisfaction than the non-statutory labour welfare facilities in these companies. Employees in the multinational pharmaceutical companies in Goa reported better provision of labour welfare facilities and were found to experience a higher level of job satisfaction than their fellow mates in Indian pharmaceutical companies.

I. INTRODUCTION

The major growth in the pharmaceutical sector in Goa started in late 1990s. The pharmaceutical industry has emerged as a major component in the industrial development of the state (Kare, 2004). The five-year tax holiday for Goa announced in the Union Budget in the year 1993, which was further extended to the period up to 31 March 2004, as per Section 80-IB (4) of the Income Tax Act, and the conducive socio-economic environment gave further impetus to the development of the pharmaceutical sector in Goa. From 1995 onwards, an all-round development took place and today pharmaceutical industries in the state have over 120 registered units employing approximately 20,000 people directly, in addition to the 2000 to 3000 personnel employed in the marketing of pharmaceutical products (Salgaocar, 1992).

Goa has, in fact, emerged as a hub for pharmaceutical companies. Indeed, pharmaceuticals constitute the sunrise industry of the state. Goa was able to attract large Indian and multinational pharmaceutical companies during the decade 1993-2003 (Salgaocar, 1992). These included big players like Glenmark, Zydus Cadila Health Care Limited, Unichem, Lupin, Ratio Pharma,

* Christina De Souza is an Associate Professor at Government College of Arts, Science and Commerce, Khandola-Marcela, Goa. Email: *christinade5@yahoo.co.in.* and Silvia Noronha is an Associate Professor in the Department of Economics, Goa University. Email: *silvia29470@yahoo.co.in.*

Watson, Ranbaxy, Aventis, Cipla, and Abbott India Pharmaceuticals Limited. Most of the pharmaceutical units in Goa manufacture basically pharmaceutical formulations.

In a globalised and highly competitive world, pharmaceutical companies are engaged in stiff competition with each other. They need to encourage their workers to perform better, improve their efficiency, and retain good employees. For this purpose, providing adequate labour welfare facilities and promoting job satisfaction assumes importance. The progress of an industry and the development of the nation depend, to a large extent, on the welfare of the workers and their attitude towards work. Against this background, for the purpose of the study, the researchers selected Indian and multinational pharmaceutical companies situated in industrial estates in Goa, and attempted to highlight the labour welfare facilities—both statutory and non-statutory—that influence the job satisfaction of employees in these companies.

II. CONCEPTUAL FRAMEWORK

Job satisfaction is derived from the Latin words *satis* and *facere*, meaning 'enough' and 'to do', respectively. Job satisfaction denotes a process of gaining desired things at the desired level on the job (Chelliah, 1998). The term 'job satisfaction' implies a positive attitude towards one's work, which is global in nature and which results from many specific job-related experiences (Sharma and Bhaskar, 1991). According to Manickavasagam and Sumathi (2000), job satisfaction represents an attitude rather than behaviour, and is hence the outcome of the difference between the actual and expected receipts of rewards from a job. Ganguli (1994) defines job satisfaction as an attitude that results from a balancing and summation of many specific likes and dislikes experienced in connection with the job. It signifies the employees' judgment of how well the job on the whole is satisfying his various needs.

The concept of 'labour welfare' has received inspiration from the concepts of democracy and the welfare state. The term 'labour welfare' is very comprehensive and includes various types of activities undertaken for the economic, social, intellectual and moral benefit of the labour community (Kumar, 1994). Labour welfare implies the setting up of minimum desirable standards and the provision of facilities like healthcare, food, clothing, housing, medical assistance, education, insurance, job security, and recreation, among others, for the benefit of workers. Such facilities enable a worker and his family to lead a good work life, family life and social life (Sarma, 1996).

Report II of the ILO Asian Regional Conference (1947) defined labour welfare as a term which is understood to include such services, facilities and amenities as may be established in or outside the vicinity of undertakings to enable the persons employed in the latter to perform their work in healthy, congenial surroundings, and to provide them with amenities that are conducive to their good health and high morale. In the broader sense, labour welfare is a convenient term covering all those aspects of industrial life that contribute to the well-being of the workers. Labour welfare refers to any agency either statutory or voluntary, which aims at the betterment of workers' conditions (ILO Resolution, 1947).

Labour welfare helps in the development of better workers, which, in turn, helps in the development of a better community and society. The labour welfare measures provided in

an organisation affect the attitudes of employees towards work. Labour welfare facilities satisfy the needs of the employees, which can lead to an improvement in their working life, family life and overall welfare.

III. REVIEW OF LITERATURE

Employee satisfaction is one of the most researched topics of organizational behaviour in India and abroad (Hoppock, 1935; Herzberg, *et al.*, 1957; Ganguli, 1964; Sinha, 1981; Khandwalla, 1988; Sinha and Singh, 1995; Chelliah, 1998). Hoppock (1935) was the first industrial psychologist to introduce the concept of job satisfaction in his classic work, *Job Satisfaction*. According to Hoppock, job satisfaction is any combination of psychological, physiological and environmental circumstances, that cause a person to say, "I am satisfied with the job". He proposed the following six major components of job satisfaction: individual reactions to unpleasant situations; facility of adjusting with other individuals; standing in the socio-economic group with which one has identified; relationship between the demands of the job and the worker's abilities; interest and training; and security and loyalty. Hoppock determined that job satisfaction is a combination of psychological, physiological and environmental conditions emanating from his/her job that induce a sense of satisfaction in the person.

According to Herzberg, *et al.* (1957), it is necessary to identify the needs of the employee. The organisation for which he works must recognise his needs and ensure that they are satisfied. As such, job satisfaction is positively related to the degree to which one's personal needs are fulfilled in the job situation. Studies have shown that an increase in job satisfaction is related not only to the satisfaction associated with the important components of a job but also to the satisfaction of the increasing number of job facets, irrespective of their importance (Warnous and Lawler, 1972; Khaleque and Rehman, 1987).

Various studies have also determined the influence of labour welfare facilities provided by industries and their influence on the job satisfaction enjoyed by employees. One such study was undertaken by Goyal (1995) for six cotton textile industries in the private, public, and co-operative sectors in Punjab, based on a random sample of 350 textile workers. The results of the study revealed that the provision of various statutory labour welfare facilities lead to the job satisfaction of workers. The study suggested that an increase in labour welfare facilities would increase the level of job satisfaction, which, in turn, may help in increasing productivity of textile workers in Punjab.

Srivastava (2004) studied the impact of labour welfare on employees' attitudes and job satisfaction. The sample for this comparative study included 100 workers each from the private and public sectors of Kanpur city. The results of the study determined that better labour welfare facilities have a deep impact on workers' psyche. Workers who benefited from better welfare activities were observed to experience a higher degree of job satisfaction as compared to those who were the recipients of poor welfare facilities in both the private as well as public sectors. Thus better welfare facilities decidedly influence job satisfaction. In a study on labour welfare and job satisfaction, Agnihotri (2002), found that job satisfaction

was significantly related to different dimensions of welfare facilities. This review of literature thus shows that only a few researchers have shown interest in analysing labour welfare facilities and their influence on job satisfaction.

IV. OBJECTIVES OF THE STUDY

The aims of this study are:

(i) To investigate the dimensions of labour welfare that influence the job satisfaction of employees in Indian pharmaceutical companies and multinational pharmaceutical companies in Goa; and

(ii) To determine the relative importance of the statutory and non-statutory labour welfare facilities as a predictor of job satisfaction in Indian and multinational pharmaceutical companies in Goa.

V. HYPOTHESES OF THE STUDY

Ho1: *The dimensions in the Labour Welfare Inventory do not influence the job satisfaction of employees in Indian and multinational pharmaceutical companies in Goa.*

Ho2: *The statutory labour welfare facilities are not better predictors of job satisfaction than non-statutory labour welfare facilities in pharmaceutical companies in Goa.*

VI. METHODOLOGY OF THE STUDY

1. Sample of the Study

The population of the study comprised 841 employees working in the ten selected pharmaceutical companies in Goa (including five Indian and five multinational pharmaceutical companies). Workers and managers were selected from these Indian and multinational pharmaceutical companies in Goa on the basis of proportionate stratified sampling. The sample represents 20 per cent of the managers and workers in each of the selected pharmaceutical companies in Goa. The total sample of the study included 201 respondents, which comprises 24 per cent of the population of the study. In Indian pharmaceutical companies (IPCs), the sample comprised 115 respondents, while that in multinational pharmaceutical companies (MPCs) included 86 respondents.

2. Instruments used for Data Collection

The *Labour Welfare Inventory*, constructed and standardised by S.K. Srivastava (2002) and the standardised scale constructed by Dr. Rita Shresthya and H.C. Ganguli (1994) on *Job Satisfaction*, were administered to the sample studied. The items in these scales were assessed by using Likert's five-point rating scale ranging from 'strongly disagree' (1 point) to 'strongly agree' (5 points) for positive items and the reverse for negative items in the scales administered to the respondents.

The *Job Satisfaction Scale* by Dr. Rita Shresthya and H.C. Ganguli (1994) included seven dimensions, namely, work itself; pay and other financial benefits; promotional and training opportunities; job security; supervision; colleagues/co-workers; and company practices.

These seven dimensions of job satisfaction were covered by 26 items, in which three were negative statements while the others were positive statements.

The reliability of the scale using the test-retest method was: $r=0.90$. The odd-even reliability after using Spearman-Brown's correlation was: $r=0.81$. The validity of the scale was checked through the internal consistency method, that is, item analysis showing low correlations between items and high correlations between item score and total test score.

The *Labour Welfare Inventory* constructed and standardized by S. K. Srivastava (2002) consisted of eight dimensions, namely, education/training; recreation; medical; subsidised loans; canteen; housing; safety and others (related to the general well being of workers, including uniforms, drinking water, toilets, leave facilities, workman's compensation, retirement benefits, rest rooms, and bonus). These eight dimensions were covered under 47 items, all of which were positive statements. The reliability coefficient of the Inventory using the test-retest method was: $r=0.76$ and the index of reliability was 0.84, indicating that the Labour Welfare Inventory is highly reliable and valid. The split-half reliability coefficient was 0.83 and the index of reliability was 0.89, which makes the Inventory reliable and valid.

3. Method of Data Collection

Data was collected from both primary and secondary sources for the purpose of the research. Primary data was collected through field surveys using interview schedules and questionnaire method. Secondary data was collected from books, journals, monographs, and unpublished thesis. A total of 500 scales were administered to the respondents, out of which 350 were received. Of these, the number of fully completed scales was 201 ($N=201$), while in the others some items were left incomplete. Thus, only the completed scales ($N=201$) were selected for the analysis of data, in the research. The 201 usable responses represented a 40.2 per cent response rate.

4. Statistical Techniques Used

The data collected was analysed by using Pearson's coefficient of correlation and multiple regression analysis.

VII. DATA ANALYSIS

Ho1: *The dimensions of the Labour Welfare Inventory do not influence the job satisfaction of employees in Indian and multinational pharmaceutical companies in Goa.*

In order to test the null hypotheses, a correlation matrix between job satisfaction and labour welfare dimensions, and within the labour welfare dimensions was constructed as shown in Appendix Table A1. This was followed by a running of the multiple regression analysis. The findings in the correlation matrix would explain those dimensions in the Labour Welfare Inventory that are significantly correlated with the job satisfaction of employees in the pharmaceutical companies in Goa. The multiple regression analysis would identify the labour welfare dimensions that influence job satisfaction.

It can be observed from Appendix Table A1 that all the eight labour welfare dimensions are positively and significantly correlated with job satisfaction at the 0.01 level. This implies that an increase in any of the labour welfare dimensions is likely to significantly increase the job satisfaction of employees (N=201) in the pharmaceutical companies in Goa. For instance, an increase in education/training will significantly increase the job satisfaction of the employees. Similarly, any increase in recreation facilities, medical facilities, subsidised loans, canteen, safety, housing, and others would have a significant influence on the job satisfaction of employees (N=201) in these companies in Goa. Thus, any effort made by the management of pharmaceutical companies in Goa to increase any labour welfare measure would significantly increase the job satisfaction of their employees.

Although these eight labour welfare dimensions are significantly correlated with job satisfaction, it does not mean that all of them are independent of each other. This can be observed from the correlation matrix, wherein the eight dimensions of labour welfare are highly correlated with each other. For example, education/training is significantly correlated with the other seven labour welfare dimensions at the 0.01 level. Likewise, recreation has a significant correlation with the rest of the dimensions of labour welfare. Thus, it can be said that all the labour welfare dimensions are highly correlated to each other at the 0.01 level of significance. This is but natural because each of these eight dimensions is indeed a composite labour welfare measure. These are the labour welfare facilities that employers provide and that employees expect to receive. An employee who receives good education/training would also like to acquire better recreation facilities, medical facilities, more subsidised loans, improved canteen facilities, housing, safety measures and others. This applies to each of the other labour welfare dimensions as well, which reveals that each of the labour welfare dimensions is significantly correlated with one another. These are very strongly correlated and so they are not independent variables by themselves. This means that the so-called independent variables are not really independent. This is an indication of a multi-collinearity problem, which could make the findings of the study unreliable and lead to large standard errors of the estimators. The problem of multi-collinearity was further realised when a multiple regression was run with job satisfaction as the dependent variable and the dimensions of labour welfare as the independent variables, the results of which are revealed in Table 1. A glance at the Table confirms that there is a multi-collinearity problem, since the value of the R^2 is very high ($R^2 = 0.67$) but quite a few of the coefficients of labour welfare are not statistically significant at the 0.05 level (including medical facilities, subsidised loans, canteen, housing, and safety). The rule of thumb is that if the correlation between the regressors is significant, and if the R^2 is high but quite a few of the coefficients are not statistically significant, it is a sign of the multi-collinearity problem (Gujarati, 2004).

In order to alleviate this problem of multi-collinearity, the researcher tried many specifications with different combinations of the labour welfare dimensions. This finally led to selection of education/training, and others (uniform, water facilities, toilets, retirement benefits, compensation, rest-rooms, bonus, travelling allowance, crèche and leave facilities) as the labour welfare dimensions, since their coefficients were highly significant at the 0.01 level and are thus indicative of their influencing job satisfaction. Other independent variables

Table 1

Multiple Regression Analysis for Multi-collinearity

Model Summary

Model	*R*	*R square*	*Adjusted R square*	*Std. error of the estimate*
1	.823[a]	.678	.656	10.308

a. Predictors: (Constant), Staff MPCs, Gender, Age, Staff, MPCs, Recreation, Subsidised loans, Safety, Canteen, Others, Medical, Housing, Education/Training

ANOVA[b]

Model		*Sum of Squares*	*Df*	*Mean Square*	*F*	*Sig.*
1	Regression	41822.148	13	3217.088	30.278	.000[a]
	Residual	19868.847	187	106.251		
	Total	61690.995	200			

a. Predictors: (Constant), StaffMNC, Gender, Age, Staff, MPCs, Recreation, Subsidised Loans, Safety, Canteen, Others, Medical, Housing, Education/Training

b. Dependent variable: Job satisfaction

Coefficients[a]

Model		*Unstandardised Coefficients*		*Standardised Coefficients*	*t*	*Sig.*
		B	*Std. Error*	*Beta*		
1	(Constant)	30.766	6.476		4.751	.000
	Staff	14.559	2.283	.408	6.376	.000
	Gender	2.561	1.575	.072	1.626	.106
	Age	.271	.102	.127	2.649	.009
	Education/training	1.300	.341	.407	3.808	.000
	Recreation	-.789	.299	-.284	-2.639	.009
	Medical	.325	.312	.069	1.043	.298
	Subsidised loans	.131	.215	.038	.612	.542
	Canteen	.272	.257	.068	1.061	.290
	Housing	.211	.225	.067	.938	.349
	Safety	-.016	.322	-.003	-.049	.961
	Others	.374	.151	.158	2.475	.014
	MPCs	11.650	2.433	.329	4.789	.000
	Staff MPCs	-7.468	3.213	-.179	-2.324	.021

Dependent variable: Job satisfaction total.

Source: Primary data.

such as the dummy variables, multinational pharmaceutical companies—MPCs (D1), gender (D2), staff (D3) and age, were also selected because of their high significant coefficients (0.01 level), which are suggestive that they too influence job satisfaction. These independent variables together would probably be able to explain the maximum variance in job satisfaction. The other independent variables (recreation, medical, subsidised loans, canteen, housing, safety) were dropped because their coefficients were not found to be significant in influencing job satisfaction or were found to be highly correlated with education/training and others. After having selected the independent variables that were indicative of influencing job satisfaction, the researcher once again used the multiple regression analysis to test the null hypothesis Ho1, the results of which unfold in Table 2.

Table 2

Influence of Labour Welfare Dimensions on Job Satisfaction of Employees in Indian and Multinational Pharmaceutical Companies in Goa

Model Summary

Model	R	*R square*	*Adjusted R square*	*Std. Error of the Estimate*
I	.807[a]	.652	.641	10.524

a. Predictors: (Constant), MPCs, Age, Gender, Staff, Others, Education/Training

ANOVA[b]

Model		*Sum of Squares*	*Df*	*Mean Square*	*F*	*Sig.*
1	Regression	40203.393	6	6700.566	60.496	.000[a]
	Residual	21487.602	194	110.761		
	Total	61690.995	200			

a. Predictors: (Constant), MPCs, Age, Gender, Staff, Others, Education /Training

b. Dependent variable: Job satisfaction

Coefficients[a]

Model		*Unstandardised Coefficients*		*Standardised Coefficients*	*t*	*Sig.*
		B	*Std. Error*	*Beta*		
1	(Constant)	37.530	4.636		8.095	.000
	Education/Training	.862	.177	.270	4.872	.000
	Others	.392	.130	.165	3.008	.003
	Age	.321	.101	.150	3.191	.002
	MPCs	10.530	1.708	.297	6.165	.000
	Gender	3.008	1.575	.084	1.910	.058
	Staff	11.316	1.674	.317	6.761	.000

Dependent variable: Job satisfaction

The following multiple regression model emerges on the basis of Table 2:

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 D_1 + \beta_5 D_2 + \beta_6 D_3 + \varepsilon$$

where,

Y = Dependent variable (job satisfaction)

α = Constant term

$\beta_1 \beta_2 .. \beta_6$ = Regression coefficient

$X_1 X_2$ = Dimensions of labour welfare

X_1 = Education / training

X_2 = Others

X_3 = Age

D1 = 1 for MPCs
0 for IPCs

D2 = 1 for Female
0 for Male

D3 = 1 for Manager
0 for Worker

ε = Error term

The regression equation is:

$$Y = 37.5 + .86\ X_1 + .39\ X_2 + .32\ X_3 + 10.5\ D_1 + 3\ D_2 + 11.3\ D_3 \quad (1)$$

Adjusted $R^2 = 0.64$

N=201

For MPCs, the regression equation is:

$$Y\ (D_1 = 1) = 48 + .86\ X_1 + .39\ X_2 + .32\ X_3 + 3\ D_2 + 11.3\ D_3 \quad (2)$$

For IPCs, the regression equation is:

$$Y\ (D_1 = 0) = 37.5 + .86\ X_1 + .39\ X_2 + .32\ X_3 + 3\ D_2 + 11.3\ D_3 \quad (3)$$

Table 2 and Equation (1) emphasise that the coefficients education/training (X_1) and others (X_2) influence job satisfaction. The findings show that a one-unit increase in education/training is likely to increase the level of job satisfaction of respondents in IPCs and MPCs by 0.86 units, while a one-unit increase in others is most likely to increase the level of job satisfaction in these companies by 0.39 units. Moreover, the standardised coefficient of 'education/training' (0.27) is higher than that of 'others' (0.16). This signifies that 'education/training' has a higher influence on job satisfaction than others. Furthermore, the coefficients of education/training (X_1) and others (X_2) are statistically significant at the 0.01 level, as can be observed from their respective t-values. Thus, the null hypothesis, Ho1, which states that the dimensions in the Labour Welfare Inventory do not influence the job satisfaction of employees in Indian pharmaceutical companies and multinational pharmaceutical companies in Goa is not accepted.

Given that the labour welfare dimensions of 'education/training' and 'others' influence the job satisfaction of respondents in the pharmaceutical companies in Goa, a glimpse at regression Equations (2) and (3) indicates that there is a difference in the level of job satisfaction in IPCs and MPCs in Goa. The intercept of MPCs is much higher than that of IPCs, signifying that the respondents in MPCs enjoy a higher level of job satisfaction than their counterparts in IPCs in Goa. Moreover, the adjusted R^2 is 0.64. This indicates that 64 per cent of the variance in the perceived level of job satisfaction is explained by the independent variables. This makes the model a good fit.

It can be concluded from the above discussion that there is a difference in the dimensions of the labour welfare inventory—education/training and others—that influence the job satisfaction of employees in Indian pharmaceutical companies and multinational pharmaceutical companies in Goa. The labour welfare dimension of education/training has more influence on job satisfaction than others.

Ho2: *The statutory labour welfare facilities are not better predictors of job satisfaction than non-statutory labour welfare facilities in pharmaceutical companies in Goa.*

As mentioned earlier, the eight dimensions in the Labour Welfare Inventory include education/training, recreation, medical, subsidised loans, canteen, housing, safety, and others (comprising uniforms, water facilities, toilets, retirement benefits, workman's compensation, rest rooms, bonus, travelling allowance, leave facilities, and crèche). These labour welfare

Table 3

Statutory and Non-statutory Labour Welfare Facilities as Predictors of Job Satisfaction of Employees in Pharmaceutical Companies in Goa

Model Summary

Model	*R*	*R square*	*Adjusted R square*	*Std. error of the estimate*
I	.802[a]	.644	.633	10.646

a. Predictors: (Constant), Age, MPCs, Gender, Staff, Non-Statutory labour welfare facilities, Statutory labour welfare facilities.

ANOVA[b]

Model		*Sum of Squares*	*df*	*Mean Square*	*F*	*Sig.*
I	Regression	39703.542	6	6617.257	58.385	.000[a]
	Residual	21987.453	194	113.337		
	Total	61690.995	200			

a. Predictors: (Constant), Age, MPCs, Gender, Staff, Non-Statutory labour welfare facilities, Statutory labour welfare facilities
b. Dependent variable: Job satisfaction

Coefficients[a]

Model		*Unstandardised Coefficients*		*Standardised Coefficients*	*T*	*Sig.*
		B	*Std. error*	*Beta*		
I	(Constant)	33.296	5.794		5.746	.000
	Non-Statutory	.143	.067	.158	2.131	.034
	Statutory	.276	.084	.251	3.293	.001
	Age	.335	.101	.157	3.320	.001
	MPCs	9.853	1.781	.278	5.533	.000
	Gender	2.893	1.605	.081	1.802	.073
	Staff	11.225	1.699	.315	6.607	.000

a. Dependent Variable: Job satisfaction total

Source: Primary data.

dimensions were categorised into statutory and non-statutory labour welfare facilities. The statutory labour welfare facilities (SLWFs) include medical facilities, canteen, safety, and others, while the non-statutory labour welfare facilities (NSLWFs) incorporate education/ training, recreation, subsidised loans, and housing. An attempt is made here to examine whether the SWLFs or the NSWLFs are predictors of job satisfaction in the pharmaceutical industry in Goa. In order to test this hypothesis, a regression analysis is run that would specify whether the SLWFs or the NSLWFs are predictors of job satisfaction in these companies. The results of this analysis are revealed in Table 3.

The following multiple regression model emerges on the basis of Table 3.

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 D_1 + \beta_5 D_2 + \beta_6 D_3 + \varepsilon$$

where,

Y = Dependent variable (job satisfaction)

α = Constant term

$\beta_1 \beta_2 \ldots \beta_6$ = Regression coefficient

X_1 = Non-statutory labour welfare facilities
X_2 = Statutory labour welfare facilities
X_3 = Age
D1 = 1 for MPCs
0 for IPCs
D2 = 1 for Female
0 for Male
D3 = 1 for Manager
0 for Worker
ε = Error term

The regression equation is

$$Y = 33.2 + .14\,X_1 + .27\,X_2 + .33\,X_3 + 9.8\,D_1 + 2.8\,D_2 + 11.2\,D_3 \quad (4)$$

Adjusted $R^2 = 0.63$

N=201

For MPCs, the regression equation stands as:

$$Y\,(D1 = 1) = 43 + .14\,X_1 + .27\,X_2 + .33\,X_3 + 2.8\,D_2 + 11.2\,D_3 \quad (5)$$

For IPCs, the regression equation is:

$$Y\,(D1 = 0) = 33.2 + .14\,X_1 + .27\,X_2 + .33\,X_3 + 2.8\,D_2 + 11.2\,D_3 \quad (6)$$

From Table 3 and regression Equation (4), it is obvious that the SLWFs (X_2) are better predictors of job satisfaction than the NSLWFs (X_1) in the pharmaceutical companies in Goa. This is because a one-unit increase in the SLWFs is likely to increase the job satisfaction of the respondents in the pharmaceutical companies by 0.27 units, while a one-unit increase in the NSLWFs is likely to increase the job satisfaction of the respondents in these companies by 0.14 units. Moreover, in the pharmaceutical companies, the SLWFs have a better influence on job satisfaction than the NSLWFs, as the standard coefficient of SLWFs (0.25) is greater than the standard coefficients of NSLWFs (0.15). This signifies that the SLWFs have a larger influence on job satisfaction than the NSLWFs in the pharmaceutical companies in Goa. Since the SLWFs constitute a better predictor of job satisfaction than NSWLFs in pharmaceutical companies in Goa, the null hypothesis Ho2 is not accepted.

While comparing the IPCs and MPCs in Goa, the regression Equations (5) and (6) specify that the MPCs in Goa experience a higher level of job satisfaction than the IPCs, given that the SLWFs are better predictor of job satisfaction than the NSLWFs. This can be noticed from the intercepts of the MPCs, which are higher than those of IPCs. Moreover, the adjusted R^2 is 0.63, which makes the regression a good fit, since 63 per cent of the variance in the perceived level of job satisfaction is explained by the independent variables.

It can thus be said that the SLWFs are better predictors of job satisfaction than NSLWFs in pharmaceutical companies in Goa. Thus, if the employers of pharmaceutical companies want to increase the job satisfaction level of their employees, then they need to pay special attention to the SLWFs, which have emerged as better predictors of the job satisfaction of employees than NSLWFs.

VIII. CONCLUSIONS

The conclusions can be drawn on the basis of the above findings are delineated below. The eight dimensions of labour welfare were positively and significantly correlated with job satisfaction. An increase in any of the labour welfare dimensions and improvement in labour welfare facilities would significantly increase the job satisfaction of employees in pharmaceutical companies in Goa. If the pharmaceutical companies improve the welfare facilities for their employees then the job satisfaction of their employees would greatly increase.

Two labour welfare dimensions, namely 'education/training' and 'others' were found to be indicative of influencing job satisfaction. Education/training were more influential in influencing the job satisfaction of employees than the dimension 'others' in the IPCs and MPCs in Goa.

The SLWFs emerged as better predictors of job satisfaction than NSLWFs in pharmaceutical companies in Goa. This was because the SLWFs influenced the job satisfaction of employees to a greater extent than NSLWFs in these companies.

The employees in MPCs were found to experience a higher level of job satisfaction than their counterparts in IPCs, given the labour welfare facilities, including the SLWFs and NSLWFs. The IPCs, therefore, need to work towards increasing the job satisfaction of their employees.

References

Agnihotri, M. (2002), "Labour Welfare Activities and Its Impact on Labourer Behaviour", *PhD. Thesis*, University of Guru Nanak, Amritsar.

Chelliah, C. (1998), "Job Satisfaction in Fertilizers Limited—A Study", *The Journal of Institute of Public Enterprises*, Vol. 21, Nos. 1 and 2, pp. 71-82.

Ganguli, H.C. (1964), in A.S. Lather and S. Gain (2005), "Motivation and Job Satisfaction", *Delhi Business Review*, Vol. 6, No. 1, pp. 77-83.

—— (1994), *Job Satisfaction Scales of Effective Management: Manual for Managers and Social Scientists*, Concept Publishing Company, New Delhi, pp. 1-35.

Goyal, P. (1995), *Labour Welfare and Job Satisfaction*, Deep and Deep Publications, New Delhi, pp. 1-45.

Gujarati, D. (2004), *Basic Econometrics*, Fourth edition, Tata McGraw Hill, New Delhi, pp. 47-57.

Herzberg, F.; Mausner, B.; Peterson, R.O. and Capwell, D.F. (1957), *Job Attitudes: Review of Research and Opinions*, Pittsburgh Psychological Services, Pittsburgh.

Hoppock, R. (1935), *Job Satisfaction*, Harper, New York, pp. 1-25.

ILO Resolution (1947), in C.B. Mamoria and S. Mamoria (1983), *Dynamics of Industrial Relations*, Himalaya Publishing House, Bombay, pp. 368.

Kare, R. (2004), in *Economic Survey 2003-04*, Directorate of Planning, Statistics and Evaluation, Government of Goa.

Khaleque and Rehman (1987), in A.N. Nazir (1998), "Perceived Importance of Job Facets and Overall Job Satisfaction of Bank Employees", *The Indian Journal of Industrial Relations*, Vol. 33, No. 4, pp. 479-89.

Khandwalla (1988), in A.N. Nazir (1998), "Perceived Importance of Job Facets and Overall Job Satisfaction of Bank Employees", *The Indian Journal of Industrial Relations*, Vol. 33, No. 4, pp. 479-89.

Kumar, A. (1994), in A.M. Sarma (1996), *Aspects of Labour Welfare and Social Security*, Himalaya Publishing House, Bombay, pp. 22-59.

Manickavasagam, V. and Sumathi, S. (2000), "A Study of Job Satisfaction among the Employees of Dalmia Magnesite Corporation, Salem", *Manpower Journal*, Vol. 36, No. 3, pp. 95-99.

Salgaocar, D.R. (1992), *Pharmaceutical Industry: 30 Years of Economic Development in Goa 1961-1991*, in Goa Chamber of Commerce and Industry, Volume O.L. da Lapa-Soares, Goa Chamber of Commerce and Industry, Panaji.

Sarma, A.M. (1996), *Aspects of Labour Welfare and Social Security*, Himalaya Publishing House, Bombay, pp. 22-59.

Sharma, B.R. and Bhasker, S. (1991), "Motivation of Public Sector Managers: A Comparative Study", *The Indian Journal of Industrial Relations*, Vol. 26, No. 4, pp. 319-25.

Sinha, (1981), in A.N. Nazir (1998), "Perceived Importance of Job Facets and Overall Job Satisfaction of Bank Employees", *The Indian Journal of Industrial Relations*, Vol. 33, No. 4, pp. 479-89.

Sinha, J.B.P. and Singh, S. (1995), "Employees Satisfaction and Its Organizational Predictors", *The Indian Journal of Industrial Relations*, Vol. 31, No. 2, pp. 135-47.

Srivastava, S.K. (2002), *Manual for Labour Welfare Inventory*, Parikchan Sansthan, Uttar Pradesh.

—— (2004), "Impact of Labour Welfare on Employee Attitudes and Job Satisfaction", *Management and Labour Studies*, Vol. 29, No. 1, pp. 31-40.

Warnous and Lawler, (1972), in A.N. Nazir (1998), "Perceived Importance Of Job Facets and Overall Job Satisfaction of Bank Employees", *The Indian Journal of Industrial Relations*, Vol. 33, No. 4, pp. 479-89.

Appendix Table

Correlation Matrix of Job Satisfaction and Labour Welfare Dimensions

		JS Total	*Education and Training*	*Recreation*	*Medical*	*Subsidised Loans*	*Canteen*	*Housing*	*Safety*	*Others*	*MNC*	*Staff*	*Age*	*Sex*	*Experience*
JS Total	Pearson Correlation	1	.610**	.512**	.506**	.462**	.571**	.510**	.509**	.571**	.541**	.556**	.345**	.041	.263**
	Sig. (2-tailed)		.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.566	.000
	N	201	201	201	201	201	201	201	201	201	201	201	201	201	201
Education and Training	Pearson Correlation	.610**	1	.886**	.652**	.420**	.583**	.716**	.679**	.593**	.423**	.263**	.179*	.064	.069
	Sig. (2-tailed)	.000		.000	.000	.000	.000	.000	.000	.000	.000	.000	.011	.367	.331
	N	201	201	201	201	201	201	201	201	201	201	201	201	201	201
Recreation	Pearson Correlation	.512**	.886**	1	.697**	.548**	.598**	.757**	.612**	.608**	.351**	.215**	.157*	.078	.031
	Sig. (2-tailed)	.000	.000		.000	.000	.000	.000	.000	.000	.000	.002	.026	.272	.662
	N	201	201	201	201	201	201	201	201	201	201	201	201	201	201
Medical	Pearson Correlation	.506**	.652**	.697**	1	.540**	.555**	.620**	.644**	.583**	.387**	.200**	.158*	.030	.058
	Sig. (2-tailed)	.000	.000	.000		.000	.000	.000	.000	.000	.000	.004	.025	.670	.417
	N	201	201	201	201	201	201	201	201	201	201	201	201	201	201
Subsidised Loans	Pearson Correlation	.462**	.420**	.548**	.540**	1	.580**	.575**	.357**	.486**	.418**	.234**	.214**	.061	.164*
	Sig. (2-tailed)	.000	.000	.000	.000		.000	.000	.000	.000	.000	.001	.002	.393	.020
	N	201	201	201	201	201	201	201	201	201	201	201	201	201	201
Canteen	Pearson Correlation	.571**	.583**	.598**	.555**	.580**	1	.583**	.425**	.582**	.547**	.265**	.138	.077	.081
	Sig. (2-tailed)	.000	.000	.000	.000	.000		.000	.000	.000	.000	.000	.051	.279	.252
	N	201	201	201	201	201	201	201	201	201	201	201	201	201	201
Housing	Pearson Correlation	.510**	.716**	.757**	.620**	.575**	.583**	1	.504**	.565**	.390**	.220**	.072	.117	-.039
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000		.000	.000	.000	.002	.312	.099	.582
	N	201	201	201	201	201	201	201	201	201	201	201	201	201	201
Safety	Pearson Correlation	.509**	.679**	.612**	.644**	.357**	.425**	.504**	1	.626**	.316**	.325**	.160*	-.035	.066
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000		.000	.000	.000	.023	.619	.355
	N	201	201	201	201	201	201	201	201	201	201	201	201	201	201
Others	Pearson Correlation	.571**	.593**	.608**	.583**	.486**	.582**	.565**	.626**	1	.354**	.313**	.272**	-.009	.195**
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000	.000		.000	.000	.000	.903	.006
	N	201	201	201	201	201	201	201	201	201	201	201	201	201	201
MNC	Pearson Correlation	.541**	.423**	.351**	.387**	.418**	.547**	.390**	.316**	.354**	1	.223**	.051	-.095	.093
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000	.000	.000		.001	.471	.178	.190
	N	201	201	201	201	201	201	201	201	201	201	201	201	201	201

Staff	Pearson Correlation	.556**	.263**	.215**	.200**	.234**	.265**	.220**	.325**	.313**	.223**	1	.326**	.000	.275**
	Sig. (2-tailed)	.000	.000	.002	.004	.001	.000	.002	.000	.000	.001		.000	.990	.000
	N	201	201	201	201	201	201	201	201	201	201	201	201	201	201
Age	Pearson Correlation	.345**	.179*	.157*	.158*	.214**	.138	.072	.160*	.272**	.051	.326**	1	-.204**	.894**
	Sig. (2-tailed)	.000	.011	.026	.025	.002	.051	.312	.023	.000	.471	.000		.004	.000
	N	201	201	201	201	201	201	201	201	201	201	201	201	201	201
Sex	Pearson Correlation	.041	.064	.078	.030	.061	.077	.117	-.035	-.009	-.095	.000	-.204**	1	-.303**
	Sig. (2-tailed)	.566	.367	.272	.670	.393	.279	.099	.619	.903	.178	.990	.004		.000
	N	201	201	201	201	201	201	201	201	201	201	201	201	201	201
Experience	Pearson Correlation	.263**	.069	.031	.058	.164*	.081	-.039	.066	.195**	.093	.275**	.894**	-.303**	1
	Sig. (2-tailed)	.000	.331	.662	.417	.020	.252	.582	.355	.006	.190	.000	.000	.000	
	N	201	201	201	201	201	201	201	201	201	201	201	201	201	201

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

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