Case Study:

Empirical Study on Effect of Welfare Facilities on Job Satisfaction

Nanjundeswaraswamy T.S.[1]*, Vanishree Beloor[2], Swamy D.R.[2] and Nagesh P.[3]
1. Department of Mechanical Engineering, JSS Academy of Technical Education, Bangalore 560060, INDIA
2. Department of Industrial Engineering and Management, JSS Academy of Technical Education, Bangalore 560060, INDIA
3. Center for Management Studies, Sri Jayachamarajendra College of Engineering, Mysore, INDIA
*nswamy.ts@gmail.com

Abstract

Employee Retention and Absenteeism are the major challenges for any organization in the current competitive world. Retaining of talents is possible through the effective implementation of Quality of Work Life (QWL) drives. Employee welfare measure is one among the QWL drive. A sample of 50 employee's responses were considered for the study and the data was analyzed using K-S Single sample Test and K-S Two-Sample Test conducted to check the stated Hypothesis and Regression analysis. Structural Equation Modeling was designed.

Keywords: Retention, Absenteeism, QWL, Structural Equation, Welfare Measures, Job Satisfaction.

Introduction

Employee welfare refers to the facilities provided to the employees such as canteen, restroom and recreation facilities and all other services that contribute to the well-being of the employee. Welfare measures are concerned with the general well-being and efficiency of the workers. In the early stages of industrialization, welfare activities for factory workers did not receive adequate attention. Employers were not inclined to accept the financial burden of welfare activities.

Hence the State had to intervene in the discharge of its welfare responsibility, by using its persuasive powers or by forcing legislation where persuasion failed. Compulsory provisions are thus incorporated in the Factories Act, 1948 with respect to the health, safety and welfare of workers engaged in the manufacturing process. Employee welfare facilities provide the healthy working environment and develop sure of belonging towards organization among workers more responsible and efficient. Employee welfare is required in improving the conditions of workers life, raising their efficiency and productivity building up a stable labor force and minimizing the chances of conflict between the labor and the management. Facilities help motivate and retain employees.

Most welfare facilities are hygiene factors, which according to Herzberg, create dissatisfaction if not provided. If an employee is in a favorable mood, provided with satisfiers and then motivation will take place. Welfare facilities, besides removing dissatisfaction, help to develop loyalty in workers towards the organization. Welfare measures may be both Statutory and Nonstatutory. Laws require the employer to extend certain benefits to employees in addition to wages or salaries.

Employee welfare facilities in the organization affect the behavior of the employees as well as on the productivity of the organization. While getting the work done by employees the management must provide required good facilities to all employees in such a way that employees become satisfied and they work harder and more efficiently and more effectively.

Welfare is a broad concept referring to a state of living of an individual or a group in a desirable relationship with the total environment – ecological, economic and social. It aims at social development by such means as social legislation, social reform social service, social work and social action. The object of economic welfare is to promote economic production and productivity and through development by increasing equitable distribution. Labor welfare is an area of social welfare conceptually and operationally. It covers a broad field and connotes a state of well-being, happiness, satisfaction, conservation and development of human resources.[1]

Employee welfare is an area of social welfare conceptually and operationally. It covers a broad field and connotes a state of well-being, happiness, satisfaction, conservation and development of human resources and also helps in motivating an employee. The basic purpose of employee's welfare is to enrich the lives of employees and to keep them happy.

Review of Literature

Souza[2] research revealed that labour welfare measure is significantly associated with employee job satisfaction. In this study following eight dimensions of welfare measures are used education/training, recreation, medical, subsidized loan, canteen, housing, safety and others.

Srinivas[8] identified four important dimensions of welfare facilities: medical, canteen, working environment, safety measures etc. Sindhu[9] research argued that employee welfare measures increase the productivity of the employees. Following welfare dimensions are used in the research: canteen facilities, good water to drink, clean and hygiene restrooms, regular medical checkups, health insurances, employee assistance programme and grievance handling department. Nanda and Panda[5] study depicted a better kind

of welfare activities leading to an effective working environment in turn organization will get better productivity. They used different dimensions of welfare schemes like medical allowance; death relief fund, insurance, housing and transportation facilities recreation club etc.

Jayanthi et al[3] study showed that there is a significant relationship between employee welfare measures and productivity of the industry. Following welfare measure are considered for the study: personnel policy, present scale of pay, leaves and advances, sitting facilities, service of children education, housing facilities, uniform facilities, gratuity, provident fund, first aid medical provisions, safety standards and employee state insurance plans.

From the literature review, based on the frequency of usage of the welfare measures following five components are considered: Medical facilities, Transport facilities, First aid facilities, Canteen facilities and Recreational facilities.

The objectives of the current research are:

1. To analyze the welfare facilities provided by the organization.
2. To find out the relationship between employee welfare facilities and employee satisfaction.

Design of Questionnaire

Based on the literature review, five components of employee welfare facilities are considered for the present study. The structured questionnaire designed for the study is 'close-ended' in nature. Each section has multiple questions to cover different parameters with a Five-point Likert scale with "1" being "strongly disagree" and "5" being "strongly agree". The questionnaire consists of 35 close-ended questions. Factor analysis was conducted to reduce the questions.

Data were collected to analyze the stated objectives from primary sources. Primary data is gathered from the direct interview with a questionnaire. For the study, convenience sampling is used with a sample size of 50 respondents of the public sector organization.

The sampling adequacy test was performed through Kaiser-Meyer-Olkin (KMO) statistic. Table 1 presents the SPSS output of data for factor analysis. Since KMO values are greater than 0.6, it is considered to be adequate.[4] Therefore the Kaiser-Meyer-Olkin measure of sampling adequacy with a value of 0.636 was acceptable.

Table 1
KMO and Bartlett's Test results

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.636
Bartlett's Test of Sphericity	Approx. Chi-Square	82.601
	df	35
	Sig.	.000

Table 2
Summary of Principal Component Analysis

Total Variance Explained									
Component	**Initial Eigenvalues**			**Extraction Sums of Squared Loadings**			**Rotation Sums of Squared Loadings**		
	Total	**% of Variance**	**Cumulative %**	**Total**	**% of Variance**	**Cumulative %**	**Total**	**% of Variance**	**Cumulative %**
1	1.913	14.665	14.665	1.913	14.665	14.665	1.552	13.088	13.088
2	1.561	13.851	28.516	1.561	13.851	28.516	1.487	12.619	25.707
3	1.523	11.881	40.397	1.523	11.881	40.397	1.453	11.38	37.087
4	1.366	10.954	51.351	1.366	10.954	51.351	1.433	11.237	48.324
5	1.264	9.929	61.28	1.264	9.929	61.28	1.38	10.859	59.183
6	1.005	6.182	67.462						
7	0.971	5.936	73.398						
8	0.815	5.823	79.221						
9	0.774	5.532	84.753						
10	0.74	5.287	90.04						
11	0.66	3.112	93.152						
12	0.547	2.809	95.961						
13	0.531	2.689	98.65						
14	0.329	1.35	100						
Extraction Method: Principal Component Analysis.									

Table 3
Summary of rotated component matrix

Rotated Component Matrix[a]					
	Component				
	1	**2**	**3**	**4**	**5**
Q16	.686				
Q03	.610				
Q11	.600				
Q04	.590				
Q10	.510				
Q30		.778			
Q06		.633			
Q02		.514			
Q01		.510			
Q07		.500			
Q18			.691		
Q19			.641		
Q21			.621		
Q24			.520		
Q29				.749	
Q33				.650	
Q17				.617	
Q22				.600	
Q25					.823
Q13					.814
Q28					.624
Q26					.600
Q27					.550
Q14					.520
Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization.					
a. Rotation converged in 34 iterations.					

Barlett's Test of Sphericity (82.601, df. 35, Sig.0.723) showed that the values are significant and hence acceptable implying that non-zero correlations existed at the significance level of 0.000, it provided an adequate basis for proceeding with the factor analysis.

Exploratory Factor analysis was conducted to reduce the number of questions using principal component analysis. The summary of principal components analysis is shown in table 2.

Further, in order to assess the appropriateness of the data for factor analysis, the commonalities derived from the factor analysis were reviewed. These were all relatively large (greater than 0.5, falling in the range 0.500 to 0.823), suggesting that the data set was appropriate.[10] The final version having fifty items was finalized for the scale. To interpret the factors and construct the final version, only those variables having a loading of at least 0.50 on a single factor were considered. Factor loadings of 0.50 or greater are "Practically significant" for a sample size of 100.[11] Table 3 summarized the extraction of nine components through the factor analysis.

Hypothesis: The framework of welfare facilities and Job satisfaction was developed and relevant hypothesis for the present study was prepared by considering the stated objectives. The formulated research hypotheses are:

H_{01}: There is a significant relationship between medical facilities and job satisfaction.

H_{02}: There is a significant relationship between transport facilities and job satisfaction.

H_{03}: There is a significant relationship between first aid facilities and job satisfaction.

H_{04}: There is a significant relationship between canteen facilities and job satisfaction

H_{05}: There is a significant relationship between recreational facilities and job satisfaction.

Data Analysis

The data was collected through a specially designed questionnaire administered to the 65 employees. 59 employees gave filled questionnaires, out of that, 09 questionnaires were rejected because of invalid and in corrected feedbacks. Finally, 50 questionnaires were considered for the analysis. A database was developed to incorporate and process the surveyed data. This database was designed using Microsoft Excel and SPSS software. The responses of the final questionnaire are fed into the designed database for the purpose of analysis and report generation.

To test the stated hypothesis Kolmogorov Smirnov (K-S) Single Sample Test was conducted for surveyed data.

Medical facilities:

The monetary quantity of the medical provisions:

H_0: The monetary amount of the medical provisions is within reasonable limits

H_1: The monetary amount of the medical provisions is not within reasonable limits

Table 3
Summary of the factor analysis

Factors	Measurable variables	Weights	Eigenvalues	Variance	Accumulated
Medical facilities	Amount of Monetary benefits	.686	1.552	13.088	13.088
	Cover all ailments	.610			
	Premium Amount	.600			
	Kind of treatment	.590			
	Number of dependents	.510			
Transport facilities	Convenient	.778	1.487	12.619	25.707
	On time	.633			
	Transportation cost	.514			
	Condition of vehicles	.510			
	Safe Transportation	.500			
First aid facilities	First aid facilities on campus	.691	1.453	11.38	37.087
	Qualified staffs	.641			
	Speed of treatment	.621			
	Availability of ambulance	.520			
Canteen facilities	Prices of food	.749	1.433	11.237	48.324
	Food available	.650			
	Hygienic	.617			
	Quick service	.600			
Recreational facilities	Recreational provisions	.823	1.380	10.859	59.183
	Recreational events happen frequently	.814			
	outdoors recreational facilities	.624			
	Purpose	.600			
	Family get together	.550			
	organized on the regular basis	.520			

Table 4
Status of the monetary quantity of the medical provisions

Opinion	Observed Respondents	Observed Proportion	Observed Cumulative proportion	Expected Respondents	Null Proportion	Null Cumulative proportion	Absolute difference observed and null	D Calculated	$D_{0.05}$
Strongly Agree	7	0.14	0.14	10	0.2	0.2	0.06	0.32	0.192
Agree	29	0.58	0.72	10	0.2	0.4	0.32		
Neither Agree nor Disagree	9	0.18	0.9	10	0.2	0.6	0.3		
Disagree	3	0.06	0.96	10	0.2	0.8	0.16		
Strongly Disagree	2	0.04	1	10	0.2	1	0		

$D_{Calculated}$ = 0.32, the table value of D at 5% significance level is given by $D_{0.05}$= 0.192

Since the calculated D value is greater than the critical value, hence reject the null hypothesis. From K-S Single Sample Test, it can be concluded that the monetary amount provided for medical purpose for employees is not sufficient.

The medical provisions cover all ailment:
H_0: The medical provisions cover all ailments of employees
H_1: The medical provisions will not cover all ailments of employees.

$D_{Calculated}$ = 0.34, the table value of D at 5% significance level is given by $D_{0.05}$= 0.192

Since the calculated D value is greater than the critical value, hence reject the null hypothesis. From K-S Single Sample Test, it can be concluded that medical provisions will not cover all ailments of employees.

The percentage of premium towards usage of medical provisions
H_0: The premium amount towards medical provisions is only a small percentage of employee salary.

H_1: The premium amount towards medical provisions is large percentage of employee salary.

$D_{Calculated}$ = 0.26, the table value of D at 5% significance level is given by $D_{0.05}$= 0.192

Since the calculated D value is greater than the critical value, hence reject the null hypothesis. From K-S Single Sample Test, it can be concluded that premium amount towards medical provisions is large percentage of employee salary.

Quality of medical provisions offered to employees:
H_0: Best kind of medical facilities are offered to the employees.

H_1: Medical facilities offered to the employees are not good.

Table 5
Status of the medical provisions cover all ailment

Opinion	Observed Respondents	Observed Proportion	Observed Cumulative proportion	Expected Respondents	Null Proportion	Null Cumulative proportion	Absolute difference observed and null	$D_{Calculated}$	$D_{0.05}$
Strongly Agree	8	0.16	0.16	10	0.2	0.2	0.04	0.34	0.192
Agree	29	0.58	0.74	10	0.2	0.4	0.34		
Neither Agree nor Disagree	9	0.18	0.92	10	0.2	0.6	0.32		
Disagree	3	0.06	0.98	10	0.2	0.8	0.18		
Strongly Disagree	1	0.02	1	10	0.2	1	0		

Table 6
Quantity of the premium towards medical provisions

Opinion	Observed Respondents	Observed proportion	Observed Cumulative proportion	Expected Respondents	Null Proportion	Null Cumulative proportion	Absolute difference observed and null	$D_{Calculated}$	$D_{0.05}$
Strongly Agree	6	0.12	0.12	10	0.2	0.2	0.08	0.26	0.192
Agree	26	0.52	0.64	10	0.2	0.4	0.24		
Neither Agree nor Disagree	11	0.22	0.86	10	0.2	0.6	0.26		
Disagree	7	0.14	1	10	0.2	0.8	0.2		
Strongly Disagree	0	0	1	10	0.2	1	0		

Table 7
Quality of medical provisions offered to employees

Opinion	Observed Respondents	Observed proportion	Observed Cumulative proportion	Expected Respondents	Null Proportion	Null Cumulative proportion	Absolute difference observed and null	$D_{Calculated}$	$D_{0.05}$
Strongly Agree	6	0.12	0.12	10	0.2	0.2	0.08	0.26	0.192
Agree	26	0.52	0.64	10	0.2	0.4	0.24		
Neither Agree nor Disagree	11	0.22	0.86	10	0.2	0.6	0.26		
Disagree	6	0.12	0.98	10	0.2	0.8	0.18		
Strongly Disagree	1	0.02	1	10	0.2	1	0		

$D_{Calculated} = 0.26$, the table value of D at 5% significance level is given by $D_{0.05} = 0.192$

Since the calculated D value is greater than the critical value, hence reject the null hypothesis. From K-S Single Sample Test, it can be concluded that Medical facilities offered to the employees are not good.

Medical provisions offered to employees to cover all the dependents:

H_0: Medical provisions offered to employees to cover all the dependents.

H_1: Medical provisions offered to employees will not cover all the dependents.

Table 8
Medical provisions offered to employees to cover all the dependents

Opinion	Observed Respondents	Observed proportion	Observed Cumulative proportion	Expected Respondents	Null Proportion	Null Cumulative proportion	Absolute difference observed and null	$D_{Calculated}$	$D_{0.05}$
Strongly Agree	11	0.22	0.22	10	0.2	0.2	0.02	0.3	0.192
Agree	13	0.26	0.48	10	0.2	0.4	0.08		
Neither Agree nor Disagree	21	0.42	0.9	10	0.2	0.6	0.3		
Disagree	3	0.06	0.96	10	0.2	0.8	0.16		
Strongly Disagree	2	0.04	1	10	0.2	1	0		

$D_{Calculated} = 0.30$, the table value of D at 5% significance level is given by $D_{0.05} = 0.192$

Since the calculated D value is greater than the critical value, hence reject the null hypothesis. From K-S Single Sample Test, it can be concluded that medical provisions offered to employees will not cover all the dependents.

Transport facilities:

Convenient Transport facilities offered to the employees

H_0: Transport requirement offered by the company is convenient.

H_1: Transport requirement offered by the company are not convenient.

Table 9
Convenient Transport facilities offered to the employees

Opinion	Observed Respondents	Observed proportion	Observed Cumulative proportion	Expected Respondents	Null Proportion	Null Cumulative proportion	Absolute difference observed and null	$D_{Calculated}$	$D_{0.05}$
Strongly Agree	7	0.14	0.14	10	0.2	0.2	0.06	0.32	0.192
Agree	16	0.32	0.46	10	0.2	0.4	0.06		
Neither Agree nor Disagree	23	0.46	0.92	10	0.2	0.6	0.32		
Disagree	3	0.06	0.98	10	0.2	0.8	0.18		
Strongly Disagree	1	0.02	1	10	0.2	1	0		

$D_{Calculated}$ = 0.32, the table value of D at 5% significance level is given by $D_{0.05}$= 0.192

Since the calculated D value is greater than the critical value, hence reject the null hypothesis. From K-S Single Sample Test, it can be concluded that transport requirements offered by the company are not convenient.

On time Transport facilities offered to the employees
H_0: Transport provisions offered is always on time.

H_1: Transport provisions offered is not on time.

Table 10
On time Transport facilities offered to the employees

Opinion	Observed Respondents	Observed proportion	Observed Cumulative proportion	Expected Respondents	Null Proportion	Null Cumulative proportion	Absolute difference observed and null	$D_{Calculated}$	$D_{0.05}$
Strongly Agree	8	0.16	0.16	10	0.2	0.2	0.04	0.32	0.192
Agree	16	0.32	0.48	10	0.2	0.4	0.08		
Neither Agree nor Disagree	22	0.44	0.92	10	0.2	0.6	0.32		
Disagree	3	0.06	0.98	10	0.2	0.8	0.18		
Strongly Disagree	1	0.02	1	10	0.2	1	0		

$D_{Calculated}$ = 0.32, the table value of D at 5% significance level is given by $D_{0.05}$= 0.192

Since the calculated D value is greater than the critical value, hence reject the null hypothesis. From K-S Single Sample Test, it can be concluded that transport provisions offered are not on time.

The contribution towards transport:
H_0: For minimum amount, company provides transport facilities.

H_1: The cost of company transport facilities is huge.

Table 11
The contribution towards transport

Opinion	Observed Respondents	Observed proportion	Observed Cumulative proportion	Expected Respondents	Null Proportion	Null Cumulative proportion	Absolute difference observed and null	D Calculated	$D_{0.05}$
Strongly Agree	7	0.14	0.14	10	0.2	0.2	0.06	0.34	0.192
Agree	17	0.34	0.48	10	0.2	0.4	0.08		
Neither Agree nor Disagree	23	0.46	0.94	10	0.2	0.6	0.34		
Disagree	3	0.06	1	10	0.2	0.8	0.2		
Strongly Disagree	0	0	1	10	0.2	1	0		

$D_{Calculated}$ = 0.34, the table value of D at 5% significance level is given by $D_{0.05}$= 0.192

Since the calculated D value is greater than the critical value, hence reject the null hypothesis. From K-S Single Sample Test, it can be concluded that the cost of company transport facilities is huge.

Level of vehicles condition provided for employees transportation:

H_0: Company provides good condition vehicles for employee transportation.

H_1: Company provides bad condition vehicle for employee transport facilities.

Table 12
Level of vehicles condition provided for employees transportation

Opinion	Observed Respondents	Observed proportion	Observed Cumulative proportion	Expected Respondents	Null Proportion	Null Cumulative proportion	Absolute difference observed and null	D Calculated	$D_{0.05}$
Strongly Agree	6	0.12	0.12	10	0.2	0.2	0.08	0.32	0.192
Agree	21	0.42	0.54	10	0.2	0.4	0.14		
Neither Agree nor Disagree	19	0.38	0.92	10	0.2	0.6	0.32		
Disagree	3	0.06	0.98	10	0.2	0.8	0.18		
Strongly Disagree	1	0.02	1	10	0.2	1	0		

$D_{Calculated}$ = 0.32, the table value of D at 5% significance level is given by $D_{0.05}$= 0.192

Since the calculated D value is greater than the critical value, hence reject the null hypothesis. From K-S Single Sample Test, it can be concluded that company provides bad condition vehicle for employee transport facilities.

Safe and sure transport system:

H_0: Company provides safe and sure transport facilities.

H_1: Company does not provide safe and sure transport facilities.

Table 13
Status of Transport is safe and sure

Opinion	Observed Respondents	Observed proportion	Observed Cumulative proportion	Expected Respondents	Null Proportion	Null Cumulative proportion	Absolute difference observed and null	$D_{Calculated}$	$D_{0.05}$
Strongly Agree	6	0.12	0.12	10	0.2	0.2	0.08	0.34	0.192
Agree	20	0.4	0.52	10	0.2	0.4	0.12		
Neither Agree nor Disagree	21	0.42	0.94	10	0.2	0.6	0.34		
Disagree	2	0.04	0.98	10	0.2	0.8	0.18		
Strongly Disagree	1	0.02	1	10	0.2	1	0		

$D_{Calculated}$ = 0.34, the table value of D at 5% significance level is given by $D_{0.05}$= 0.192

Since the calculated D value is greater than the critical value, hence reject the null hypothesis. From K-S Single Sample Test, it can be concluded that company does not provides safe and sure transport facilities.

First aid facilities
First aid provision in campus:
H_0: Company provides first aid facilities in the campus.

H_1: Company does not provide first aid facilities in the campus.

Table 14
First aid provision in campus

Opinion	Observed Respondents	Observed proportion	Observed Cumulative proportion	Expected Respondents	Null Proportion	Null Cumulative proportion	Absolute difference observed and null	$D_{Calculated}$	$D_{0.05}$
Strongly Agree	4	0.08	0.08	10	0.2	0.2	0.12	0.3	0.192
Agree	25	0.5	0.58	10	0.2	0.4	0.18		
Neither Agree nor Disagree	16	0.32	0.9	10	0.2	0.6	0.3		
Disagree	3	0.06	0.96	10	0.2	0.8	0.16		
Strongly Disagree	2	0.04	1	10	0.2	1	0		

$D_{Calculated}$ = 0.3, the table value of D at 5% significance level is given by $D_{0.05}$= 0.192

Since the calculated D value is greater than the critical value, hence reject the null hypothesis. From K-S Single Sample Test, it can be concluded that company does not provide first aid facilities in the campus.

Availability of qualified staffs to manage first aid
H_0: Company provides qualified staff to manage first aid.

H_1: Company does not provide qualified staff to manage first aid.

Table 15
Availability of qualified staffs to manage first aid

Opinion	Observed Respondents	Observed proportion	Observed Cumulative proportion	Expected Respondents	Null Proportion	Null Cumulative proportion	Absolute difference observed and null	D Calculated	$D_{0.05}$
Strongly Agree	7	0.14	0.14	10	0.2	0.2	0.06	0.3	0.192
Agree	18	0.36	0.5	10	0.2	0.4	0.1		
Neither Agree nor Disagree	20	0.4	0.9	10	0.2	0.6	0.3		
Disagree	2	0.04	0.94	10	0.2	0.8	0.14		
Strongly Disagree	3	0.06	1	10	0.2	1	0		

$D_{Calculated} = 0.3$, the table value of D at 5% significance level is given by $D_{0.05} = 0.192$

Since the calculated D value is greater than the critical value, hence reject the null hypothesis. From K-S Single Sample Test, it can be concluded that company does not provides qualified staffs to manage first aid.

The speed of first aid treatment facilities:
H_0: Company provides speedy first aid facilities to employees.

H_1: Company does not provide speedy first aid facilities.

Table 16
The speed of first aid treatment facilities

Opinion	Observed Respondents	Observed proportion	Observed Cumulative proportion	Expected Respondents	Null Proportion	Null Cumulative proportion	Absolute difference observed and null	D Calculated	$D_{0.05}$
Strongly Agree	11	0.22	0.22	10	0.2	0.2	0.02	0.22	0.192
Agree	16	0.32	0.54	10	0.2	0.4	0.14		
Neither Agree nor Disagree	14	0.28	0.82	10	0.2	0.6	0.22		
Disagree	6	0.12	0.94	10	0.2	0.8	0.14		
Strongly Disagree	3	0.06	1	10	0.2	1	0		

$D_{Calculated} = 0.22$, the table value of D at 5% significance level is given by $D_{0.05} = 0.192$

Since the calculated D value is greater than the critical value, hence reject the null hypothesis. From K-S Single Sample Test, it can be concluded that company does not provide speedy first aid facilities.

Availability of ambulance to shift the patient to the nearest hospital
H_0: Ambulance is available to shift the patient to the nearest hospital.

H_1: Ambulance is not available to shift the patient to the nearest hospital.

Table 17
Availability of ambulance to shift the patient to the nearest hospital

Opinion	Observed Respondents	Observed proportion	Observed Cumulative proportion	Expected Respondents	Null Proportion	Null Cumulative proportion	Absolute difference observed and null	$D_{Calculated}$	$D_{0.05}$
Strongly Agree	5	0.1	0.1	10	0.2	0.2	0.1	0.28	0.192
Agree	29	0.58	0.68	10	0.2	0.4	0.28		
Neither Agree nor Disagree	8	0.16	0.84	10	0.2	0.6	0.24		
Disagree	8	0.16	1	10	0.2	0.8	0.2		
Strongly Disagree	0	0	1	10	0.2	1	0		

$D_{Calculated}$ = 0.28, the table value of D at 5% significance level is given by $D_{0.05}$= 0.192

Since the calculated D value is greater than the critical value, hence reject the null hypothesis. From K-S Single Sample Test, it can be concluded that ambulance is not available to shift the patient to the nearest hospital.

First aid boxes are available on the vehicle used for transportation:

H_0: First aid boxes are available in the vehicles.

H_1: First aid boxes are not available in the vehicles.

Table 18
Available in first aid box in the transportation vehicles

Opinion	Observed Respondents	Observed proportion	Observed Cumulative proportion	Expected Respondents	Null Proportion	Null Cumulative proportion	Absolute difference observed and null	$D_{Calculated}$	$D_{0.05}$
Strongly Agree	10	0.2	0.2	10	0.2	0.2	0	0.24	0.192
Agree	22	0.44	0.64	10	0.2	0.4	0.24		
Neither Agree nor Disagree	10	0.2	0.84	10	0.2	0.6	0.24		
Disagree	4	0.08	0.92	10	0.2	0.8	0.12		
Strongly Disagree	4	0.08	1	10	0.2	1	0		

$D_{Calculated}$ = 0.24, the table value of D at 5% significance level is given by $D_{0.05}$= 0.192

Since the calculated D value is greater than the critical value, hence reject the null hypothesis. From K-S Single Sample Test, it can be concluded that first aid boxes are not available in the vehicles.

Canteen Facilities:

The prices of food available in the canteen are subsidized:

H_0: Company provides subsidized canteen facilities.

H_1: Company does not provide subsidized canteen facilities.

Table 19
The prices of food available in the canteen

Opinion	Observed Respondents	Observed proportion	Observed Cumulative proportion	Expected Respondents	Null Proportion	Null Cumulative proportion	Absolute difference observed and null	$D_{Calculated}$	$D_{0.05}$
Strongly Agree	11	0.22	0.22	10	0.2	0.2	0.02	0.26	0.192
Agree	15	0.3	0.52	10	0.2	0.4	0.12		
Neither Agree nor Disagree	17	0.34	0.86	10	0.2	0.6	0.26		
Disagree	6	0.12	0.98	10	0.2	0.8	0.18		
Strongly Disagree	1	0.02	1	10	0.2	1	0		

$D_{Calculated}$ = 0.26, the table value of D at 5% significance level is given by $D_{0.05}$= 0.192

Since the calculated D value is greater than the critical value, hence reject the null hypothesis. From K-S Single Sample Test, it can be concluded that company does not provide subsidized canteen facilities.

The food available in the canteen is tasty
H_0: Company canteen provides tasty food.

H_1: Company does not provide tasty food.

Table 20
Status of the food available in the canteen is tasty

Opinion	Observed Respondents	Observed proportion	Observed Cumulative proportion	Expected Respondents	Null Proportion	Null Cumulative proportion	Absolute difference observed and null	$D_{Calculated}$	$D_{0.05}$
Strongly Agree	7	0.14	0.14	10	0.2	0.2	0.06	0.28	0.192
Agree	12	0.24	0.38	10	0.2	0.4	0.02		
Neither Agree nor Disagree	25	0.5	0.88	10	0.2	0.6	0.28		
Disagree	1	0.02	0.9	10	0.2	0.8	0.1		
Strongly Disagree	5	0.1	1	10	0.2	1	0		

$D_{Calculated}$ = 0.28, the table value of D at 5% significance level is given by $D_{0.05}$= 0.192

Since the calculated D value is greater than the critical value, hence reject the null hypothesis. From K-S Single Sample Test, it can be concluded that company does not provide tasty food.

The food prepared and offered is hygienic:
H_0: Company canteen provides hygienic food.

H_1: Company does not provide hygienic food.

Table 21
Status of the food prepared and offered is hygienic

Opinion	Observed Respondents	Observed proportion	Observed Cumulative proportion	Expected Respondents	Null Proportion	Null Cumulative proportion	Absolute difference observed and null	D Calculated	$D_{0.05}$
Strongly Agree	4	0.08	0.08	10	0.2	0.2	0.12	0.2	0.192
Agree	13	0.26	0.34	10	0.2	0.4	0.06		
Neither Agree nor Disagree	23	0.46	0.8	10	0.2	0.6	0.2		
Disagree	5	0.1	0.9	10	0.2	0.8	0.1		
Strongly Disagree	5	0.1	1	10	0.2	1	0		

$D_{Calculated} = 0.2$, the table value of D at 5% significance level is given by $D_{0.05} = 0.192$

Since the calculated D value is greater than the critical value, hence reject the null hypothesis. From K-S Single Sample Test, it can be concluded that company does not provide hygienic food.

The service in the canteen is quick:
H_0: Company canteen provides quick service.

H_1: Company does not provide quick service.

Table 22
Status of the service in the canteen is quick

Opinion	Observed Respondents	Observed proportion	Observed Cumulative proportion	Expected Respondents	Null Proportion	Null Cumulative proportion	Absolute difference observed and null	D Calculated	$D_{0.05}$
Strongly Agree	7	0.14	0.14	10	0.2	0.2	0.06	0.24	0.192
Agree	13	0.26	0.4	10	0.2	0.4	0		
Neither Agree nor Disagree	22	0.44	0.84	10	0.2	0.6	0.24		
Disagree	6	0.12	0.96	10	0.2	0.8	0.16		
Strongly Disagree	2	0.04	1	10	0.2	1	0		

$D_{Calculated} = 0.24$, the table value of D at 5% significance level is given by $D_{0.05} = 0.192$

Since the calculated D value is greater than the critical value, hence reject the null hypothesis. From K-S Single Sample Test, it can be concluded that company does not provide quick service.

Variety of food available in the canteen:
H_0: Company canteen provides a variety of food to employees.

H_1: Company canteen does not provide variety of food to employees.

Table 23
Status of variety of food available in the canteen

Opinion	Observed Respondents	Observed proportion	Observed Cumulative proportion	Expected Respondents	Null Proportion	Null Cumulative proportion	Absolute difference observed and null	D Calculated	$D_{0.05}$
Strongly Agree	10	0.2	0.2	10	0.2	0.2	0	0.22	0.192
Agree	15	0.3	0.5	10	0.2	0.4	0.1		
Neither Agree nor Disagree	16	0.32	0.82	10	0.2	0.6	0.22		
Disagree	6	0.12	0.94	10	0.2	0.8	0.14		
Strongly Disagree	3	0.06	1	10	0.2	1	0		

$D_{Calculated}$ = 0.22, the table value of D at 5% significance level is given by $D_{0.05}$= 0.192

Since the calculated D value is greater than the critical value, hence reject the null hypothesis. From K-S Single Sample Test, it can be concluded that company canteen does not provide variety of food to employees.

Recreational facilities
Recreational provisions are available on the campus to spend leisure:
H_0: Company provides in campus recreational facilities during leisure.

H_1: Company does not provide in campus recreational facilities during leisure.

Table 24
Status of Recreational provisions are available on the campus to spend leisure

Opinion	Observed Respondents	Observed proportion	Observed Cumulative proportion	Expected Respondents	Null Proportion	Null Cumulative proportion	Absolute difference observed and null	D Calculated	$D_{0.05}$
Strongly Agree	10	0.2	0.2	10	0.2	0.2	0	0.26	0.192
Agree	16	0.32	0.52	10	0.2	0.4	0.12		
Neither Agree nor Disagree	17	0.34	0.86	10	0.2	0.6	0.26		
Disagree	4	0.08	0.94	10	0.2	0.8	0.14		
Strongly Disagree	3	0.06	1	10	0.2	1	0		

$D_{Calculated}$ = 0.26, the table value of D at 5% significance level is given by $D_{0.05}$= 0.192

Since the calculated D value is greater than the critical value, hence reject the null hypothesis. From K-S Single Sample Test, it can be concluded that company does not provide in campus recreational facilities during leisure.

Frequency of recreational events in the organization:
H_0: Company arranges recreational events frequently.

H_1: Company does not arrange recreational events frequently.

Table 25
Frequency of recreational events in the organization

Opinion	Observed Respondents	Observed proportion	Observed Cumulative proportion	Expected Respondents	Null Proportion	Null Cumulative proportion	Absolute difference observed and null	D Calculated	$D_{0.05}$
Strongly Agree	15	0.3	0.3	10	0.2	0.2	0.1	0.24	0.192
Agree	17	0.34	0.64	10	0.2	0.4	0.24		
Neither Agree nor Disagree	10	0.2	0.84	10	0.2	0.6	0.24		
Disagree	5	0.1	0.94	10	0.2	0.8	0.14		
Strongly Disagree	3	0.06	1	10	0.2	1	0		

$D_{Calculated}$ = 0.24, the table value of D at 5% significance level is given by $D_{0.05}$= 0.192

Since the calculated D value is greater than the critical value, hence reject the null hypothesis. From K-S Single Sample Test, it can be concluded that company does not arrange recreational events frequently.

Staff taken outdoors for the purpose of recreation:
H_0: Company takes employees outside for recreational events.

H_1: Company does not take employees outside for recreational events.

Table 26
Staff taken outdoors for the purpose of recreation

Opinion	Observed Respondents	Observed proportion	Observed Cumulative proportion	Expected Respondents	Null Proportion	Null Cumulative proportion	Absolute difference observed and null	D Calculated	$D_{0.05}$
Strongly Agree	17	0.34	0.34	10	0.2	0.2	0.14	0.24	0.192
Agree	14	0.28	0.62	10	0.2	0.4	0.22		
Neither Agree nor Disagree	11	0.22	0.84	10	0.2	0.6	0.24		
Disagree	5	0.1	0.94	10	0.2	0.8	0.14		
Strongly Disagree	3	0.06	1	10	0.2	1	0		

$D_{Calculated}$ = 0.24, the table value of D at 5% significance level is given by $D_{0.05}$= 0.192

Since the calculated D value is greater than the critical value, hence reject the null hypothesis. From K-S Single Sample Test, it can be concluded that company does not take employees outside for recreational events.

Family get together organized on the regular basis:
H_0: Frequently company arranges a family get-together for employees frequently.

H_1: Frequently company does not arrange family get-together for employees frequently.

Table 27
Status of Family get together are organized on the regular basis

Opinion	Observed Respondents	Observed proportion	Observed Cumulative proportion	Expected Respondents	Null Proportion	Null Cumulative proportion	Absolute difference observed and null	D Calculated	$D_{0.05}$
Strongly Agree	18	0.36	0.36	10	0.2	0.2	0.16	0.3	0.192
Agree	17	0.34	0.7	10	0.2	0.4	0.3		
Neither Agree nor Disagree	7	0.14	0.84	10	0.2	0.6	0.24		
Disagree	7	0.14	0.98	10	0.2	0.8	0.18		
Strongly Disagree	1	0.02	1	10	0.2	1	0		

$D_{Calculated}$ = 0.3, the table value of D at 5% significance level is given by $D_{0.05}$= 0.192

Since the calculated D value is greater than the critical value, hence reject the null hypothesis. From K-S Single Sample Test, it can be concluded that company does not arrange family get-together for employees frequently.

Staff is satisfied with recreational provision:
H_0: Staffs are satisfied with the recreational provision.

H_1: Staffs are unsatisfied with the recreational provision.

Table 28
Staffs are satisfied with recreational provision

opinion	Observed Respondents	Observed proportion	Observed Cumulative proportion	Expected Respondents	Null Proportion	Null Cumulative proportion	Absolute difference observed and null	D Calculated	$D_{0.05}$
Strongly Agree	22	0.44	0.44	10	0.2	0.2	0.24	0.28	0.192
Agree	12	0.24	0.68	10	0.2	0.4	0.28		
Neither Agree nor Disagree	9	0.18	0.86	10	0.2	0.6	0.26		
Disagree	6	0.12	0.98	10	0.2	0.8	0.18		
Strongly Disagree	1	0.02	1	10	0.2	1	0.0		

$D_{Calculated}$ = 0.28, the table value of D at 5% significance level is given by $D_{0.05}$= 0.192

Since the calculated D value is greater than the critical value, hence reject the null hypothesis. From K-S Single Sample Test, it can be concluded that staff is unsatisfied with the recreational provision.

Relationship between Medical Facilities and Job satisfaction:
H_0: There is a significant relationship between medical facilities and job satisfaction.

H_1: There is no significant relationship between medical facilities and job satisfaction.

Table 29
Relationship between Medical Facilities and Job satisfaction

opinion	Job satisfaction Observed Respondents	Job satisfaction Observed proportion	Job satisfaction Observed Cumulative proportion	Medical Facilities Observed Respondents	Medical Facilities Observed proportion	Medical Facilities Observed Cumulative proportion	Absolute difference Job satisfaction and Medical Facilities	D Calculated	$D_{0.05}$
Strongly Agree	9	0.18	0.18	8	0.16	0.16	0.02	0.1	0.192
Agree	19	0.38	0.56	25	0.5	0.66	0.1		
Neither Agree nor Disagree	16	0.32	0.88	12	0.24	0.9	0.02		
Disagree	4	0.08	0.96	4	0.08	0.98	0.02		
Strongly Disagree	2	0.04	1	1	0.02	1	0		

$D_{Calculated}$ = 0.1, the table value of D at 5% significance level is given by $D_{0.05}$= 0.192

Since the calculated D value is less than the critical value, hence accept the null hypothesis. From K-S Two-Sample Test, it can be concluded that there is a significant Relationship between medical facilities and job satisfaction

Relationship between Transport facilities and Job satisfaction:

H_0: There is a significant relationship between transport facilities and job satisfaction.

H_1: There is no significant relationship between transport facilities and job satisfaction.

Table 30
Relationship between Transport facilities and Job satisfaction

opinion	Job satisfaction Observed Respondents	Job satisfaction Observed proportion	Job satisfaction Observed Cumulative proportion	Transport Facilities Observed Respondents	Transport Facilities Observed proportion	Transport Observed Cumulative proportion	Absolute difference Job satisfaction and Transport Facilities	D Calculated	$D_{0.05}$
Strongly Agree	9	0.18	0.18	7	0.14	0.14	0.04	0.06	0.192
Agree	19	0.38	0.56	18	0.36	0.5	0.06		
Neither Agree nor Disagree	16	0.32	0.88	22	0.44	0.94	0.06		
Disagree	4	0.08	0.96	3	0.06	1	0.04		
Strongly Disagree	2	0.04	1	1	0.02	1.02	0.02		

$D_{Calculated}$ = 0.06, the table value of D at 5% significance level is given by $D_{0.05}$= 0.192

Since the calculated D value is less than the critical value, hence accept the null hypothesis. From K-S Two-Sample Test, it can be concluded that there is a significant relationship between transport facilities and job satisfaction.

Relationship between First Aid Facilities and Job satisfaction:

H_0: There is a significant relationship between first aid facilities and job satisfaction.

H_1: There is no significant relationship between first aid facilities and job satisfaction.

Table 31
Status of Relationship between First Aid Facilities and Job satisfaction

opinion	Job satisfaction Observed Respondents	Job satisfaction Observed proportion	Job satisfaction Observed Cumulative proportion	First Aid Facilities Observed Respondents	First Aid Facilities Observed proportion	First Aid Facilities Observed Cumulative proportion	Absolute difference Job satisfaction and First Aid Facilities	$D_{Calculated}$	$D_{0.05}$
Strongly Agree	9	0.18	0.18	7	0.14	0.14	0.04	0.04	0.192
Agree	19	0.38	0.56	22	0.44	0.58	0.02		
Neither Agree nor Disagree	16	0.32	0.88	14	0.28	0.86	0.02		
Disagree	4	0.08	0.96	5	0.1	0.96	0		
Strongly Disagree	2	0.04	1	2	0.04	1	0		

$D_{Calculated}$ = 0.04, the table value of D at 5% significance level is given by $D_{0.05}$= 0.192

Since the calculated D value is less than the critical value, hence accept the null hypothesis. From K-S Two-Sample Test, it can be concluded that there is significant relationship between first aid facilities and job satisfaction.

Relationship between Canteen Facilities and Job satisfaction:

H_0: There is a significant relationship between canteen facilities and job satisfaction.

H_1: There is no significant relationship between canteen facilities and job satisfaction.

Table 32
Status of Relationship between Canteen Facilities and Job satisfaction

Opinion	Job satisfaction Observed Respondents	Job satisfaction Observed proportion	Job satisfaction Observed Cumulative proportion	First Aid Facilities Observed Respondents	Canteen facilities Observed proportion	Canteen facilities Observed Cumulative proportion	Absolute difference Job satisfaction and Canteen facilities	$D_{Calculated}$	$D_{0.05}$
Strongly Agree	9	0.18	0.18	8	0.16	0.16	0.02	0.12	0.192
Agree	19	0.38	0.56	14	0.28	0.44	0.12		
Neither Agree nor Disagree	16	0.32	0.88	21	0.42	0.86	0.02		
Disagree	4	0.08	0.96	5	0.1	0.96	0		
Strongly Disagree	2	0.04	1	3	0.06	1.02	0.02		

$D_{Calculated}$ = 0.12, the table value of D at 5% significance level is given by $D_{0.05}$= 0.192

Since the calculated D value is less than the critical value, hence accept the null hypothesis. From K-S Two-Sample Test, it can be concluded that there is a significant relationship between canteen facilities and job satisfaction

Relationship between Recreational Facilities and Job satisfaction:

H_0: There is a significant relationship between recreational facilities and job satisfaction.

H_1: There is no significant relationship between recreational facilities and job satisfaction.

Table 33
Status of Relationship between Recreational Facilities and Job satisfaction

Opinion	Job satisfaction Observed Respondents	Job satisfaction Observed proportion	Job satisfaction Observed Cumulative proportion	Recreational facilities Observed Respondents	Recreational facilities Observed proportion	Recreational facilities Observed Cumulative proportion	Absolute difference Job satisfaction and Recreational facilities	D Calculated	$D_{0.05}$
Strongly Agree	9	0.18	0.18	16	0.32	0.32	0.14	0.14	0.192
Agree	19	0.38	0.56	15	0.3	0.62	0.06		
Neither Agree nor Disagree	16	0.32	0.88	11	0.22	0.84	0.04		
Disagree	4	0.08	0.96	5	0.1	0.94	0.02		
Strongly Disagree	2	0.04	1	2	0.04	0.98	0.02		

$D_{Calculated}$ = 0.14, the table value of D at 5% significance level is given by $D_{0.05}$= 0.192

Since the calculated D value is less than the critical value, hence accept the null hypothesis. From K-S Two-Sample Test, it can be concluded that there is a significant relationship between recreational facilities and job satisfaction.

Regression equation for Job satisfaction and components of welfare measures: Multiple regression analysis was applied to identify the influence of five components of welfare measures on Job satisfaction of employees. In the present research, five welfare components are considered as independent variables and job satisfaction as the dependent variable.

Table 34
Analysis of Variance

Source	DF	SS	MS	F	P
Regression	5	5.4756	1.0951	166994.58	0.000
Residual Error	43	0.0003	0.0000		
Total	48	5.4758			

The regression equation is:
JOB = 0.00418 + 0.216 MF + 0.214 TF + 0.177 FAF + 0.179 CF + 0.214 RF

S = 0.00256081 R-Sq = 100.0% R-Sq(adj) = 100.0%

From the regression equation, it is identified that for one value of Job satisfaction, Medicinal facilities (MF) contribute 0.216 (regression coefficient), this is the maximum contribution and minimum contributor is First Aid Facilities (FAF) 0.177. Value of R^2 is 1, P < 0.00 that indicates that Job satisfaction accounts for 100% variation in the dependent variable.

Structural Equation Modeling: Structural equation modeling was done using Amos and SPSS Software.

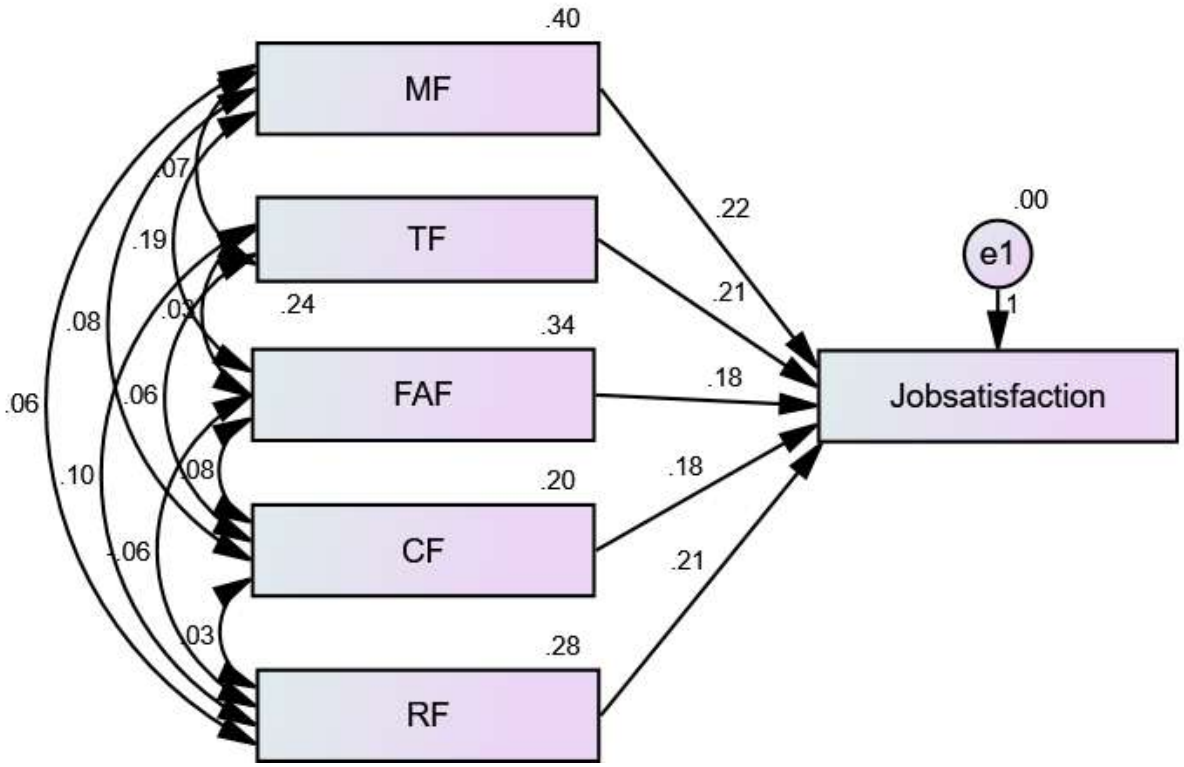

Figure 1: Structural equation model

Table 35
Regression Weights: (Group number 1 - Default model)

	Estimate	S.E.	C.R.	P	Label
Job satisfaction <--- FAF	.177	.001	230.252	***	
Job satisfaction <--- CF	.179	.001	211.290	***	
Job satisfaction <--- MF	.216	.001	313.581	***	
Job satisfaction <--- TF	.214	.001	269.485	***	
Job satisfaction <--- RF	.214	.001	279.325	***	

Table 36
Pearson Correlation coefficient

Welfare Measures	Pearson Correlation coefficient	P value	Significance level
Medical facilities	0.770	0.000	Significance
Transport facilities	0.634	0.000	Significance
First aid facilities	0.568	0.000	Significance
Canteen facilities	0.576	0.000	Significance
Recreational facilities	0.500	0.000	Significance

Correlation between Job satisfaction and components of Welfare measures: To find out the magnitude of influence of welfare Measure components on employees Job satisfaction, Pearson correlation test was conducted for 5% level of significance and it reveals $p<0.05$ for all the components. The result of hypotheses test was presented in table 36. From this, it is concluded that there is a positive correlation between Job satisfaction and Welfare measures.

From the correlation analysis, it is revealed that medical facilities provided by employees are the predominant components (r= 0.77) affecting on employee job satisfaction.

Conclusion

This study investigates the relationship between employees' welfare facilities and employees' job satisfaction. The relationships between the study variables (welfare facilities and job satisfaction) were analyzed by conducting an

empirical study. The data for the study was collected by using the structured questionnaire as the method for data collection. As it is suggested in the literature, for this study five welfare drives were considered: Medical facilities, Transport facilities, First aid facilities, Canteen facilities and Recreational facilities. After analyzing the empirical data, statistically significant relationships between employees' job satisfaction and the five drives of welfare measures were found. Employee job satisfaction was significantly associated with all five welfare drives.

The findings of this study suggest that organizations need to understand the factors affecting job satisfaction in order to increase their employees' job satisfaction and to manage turnover, intention to quit and absenteeism as the correlates of dissatisfaction.

References

1. Ahmed A., Zaman Y. and Khattak A., Impact of H.R practices on employee's job satisfaction: A case study from fertilizer industry of Pakistan, *Management Science Letters*, **7(5)**, 225-232 **(2017)**

2. De Souza C.A.M., Labour welfare and job satisfaction: a comparative study of Indian pharmaceutical companies and multinational pharmaceutical companies in Goa, Doctoral dissertation, Goa University **(2009)**

3. Jayanthi K., Kumar P.A. and Manju V., A study on labour welfare measures in Salem steel plant, *Asian Journal of Research in Social Sciences and Humanities*, **2(3)**, 180-197 **(2012)**

4. Kaiser H.F. and Rice J., Little Jiffy, Mark IV, *Educational and Psychological Measurement*, **34**, 111-117 **(1974)**

5. Nanda N.I.B.E.D.I.T.A. and Panda J.K., Challenges and effectiveness of industrial relation environment in Indian Industries study on Rourkela Steel Plant, Raurkela Odisha, India, *International Journal of Financial Services and Management Research*, **2(6)**, 163-174 **(2013)**

6. Okoe A., Boateng H. and Mensah T., The effects of job satisfaction, employee commitment, workplace friendship and team culture on service recovery performance, *Management Science Letters*, **6(11)**, 713-722 **(2016)**

7. Prayogo L., Pranoto B. and Purba H., Employee satisfaction analysis with human resource index, *Management Science Letters*, **7(5)**, 233-240 **(2017)**

8. Shrinivas K.T., A study on employee's welfare facilities adopted at Bosch Limited, Bangalore, *Research Journal of Management Sciences*, **2(12)**, 7-11 **(2013)**

9. Sindhu S., Role of organization in welfare measures for employees, *International Journal of Research in IT & Management*, **2(9)**, 36-40 **(2012)**

10. Stewart D.W., The application and misapplication of factor analysis in marketing research, *Journal of Marketing Research*, **XVIII**, 51-62 **(1981)**

11. Black W.C., Babin B.J., Anderson R.E. and Tatham R.L., Multivariate data analysis, 7th ed., Upper Saddle River, NJ, Pearson Education **(2009)**.

(Received 21st December 2018, accepted 28th January 2019)