

A STUDY ON IMPACT OF PERFORMANCE APPRAISAL ON EMPLOYEE SATISFACTION IN IT SECTOR

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ABSTRACT

In today's economy, especially in case of the Indian economy the contribution of Services industry is very important and a large part of the labor force is engaged in this industry. Within the Services industry a major chunk is of the IT companies which are also the largest employer of the youth in the country. Given the importance that the IT industry has for their human resources it is obvious that they adopt global practices in training and evaluating their employees. This study is aimed at finding out analytically what factors impact the employee's satisfaction regarding the appraisal processes followed in their organization. The study has found that there is strong relation between team related factors in the appraisal and employee satisfaction pertaining to performance appraisal. The analysis has also captured the differences in satisfaction across different types of appraisal processes followed across the different organization.

Keywords: *Employee satisfaction, Performance Appraisal, Appraisal process, IT Sector*

I. INTRODUCTION

Performance appraisal is considered to be constant source of complaints and dissatisfaction for employees across geographies and industries. The closest comparison that performance appraisals receive is that of some dreaded examination where the future course of an individual's career is to be decided. It is common to find that people attribute their companies' appraisal process to be the reason for their lack of progress in the organization. And given the fact that the IT industry in India has so far generated 2.5 million direct employments it is indeed necessary to know and understand the factors that affect the satisfaction of these employees from these performance appraisals.

The study of factors relating to the satisfaction of employees with regards to Performance Appraisal has covered a number from factors related to the individual, his team, the company culture, etc. In our current context of IT performance appraisals, we find that the IT industry has a very high attrition rate. A perception is there that due to the voluminous recruitments done by the IT industry on an annual basis, performance appraisals often do not capture the proper parameters and hence there is a huge amount of voluntary attrition. Big players in the industry such as TCS (13.6%), Cognizant (17.1%), Infosys (21.0%) and Wipro (17.6%) all had above 12% attrition in the Financial Year 2015-16, which implied that for every 100 hires the companies lost more than 12 employees. Because of such high attrition rates and at the same time the contribution of the IT sector to the Indian economy, we felt the need to conduct our project on factors affecting satisfaction of employees to the Appraisal process.

II. REVIEW OF LITERATURE

Job satisfaction refers to a positive emotional and pleasurable mental state of an employee as a result of his actions towards the tasks allotted to him in an organization. Performance Appraisal is intended to capture the efforts made by the employee. In today's day and age any performance appraisal cannot be deemed as totally perfect. Performance Appraisals have often led to dissatisfaction and discontent.

The history of Performance Appraisals can be traced to the early 20th century. Employee satisfaction with regards to his work became a paramount feature of the 20st century. The assessment of employee satisfaction can be traced to the 1930's where psychologists like Uhrbrock in the "Journal of Psychology" and Kornhauser in "Industrial psychology in England, Germany and the United States" talk about attitude measurement

techniques to assess factory worker attitudes. Over time this evolved and current measurement tries to understand employee satisfaction based on culture, diversity, ethnicity, relationships with colleagues, work distribution etc.

India is the world's largest sourcing destination for the IT industry, accounting for 52% of US\$124-130 billion market. IT employs about 10 million people in India and contributes heavily to the technical transformation of the country. The IT/Software Industry has put India on the world stage and has projected an image of technical excellence over which a lot of our financial ratings, loans and developmental funds depends.

Since employment opportunities are huge in this sector, employee retention is difficult and hence the high attrition rates of the major Indian IT behemoths. In Indian IT companies the performance is measured using several procedures and at varying frequency. But the major pitfall is that there is a huge amount of grievance with respect to this process. Over the last 30 years a lot of different performance appraisal systems have been tried by IT companies. Initially there used to be qualitative evaluation based on confidential reports from where it moved towards relative rankings leading to greater objectivity and quantification. After this there came forced distribution also called the bell-curve method, which was initially revered and later reviled. Currently there is the trend of 360-degree feedback which consists of feedback from a plethora of stakeholders – clients, colleagues, juniors and seniors.

This multitude of appraisal techniques led us to consider the satisfaction levels with the appraisal process in this industry and made us undertake this study to better explore, understand and analyze the evolving contours of performance management in India.

Bernardin and Beatty (*Performance Appraisal: Assessing Human Behaviour at Work 1984*) also state that trust in the performance appraisal system refers to the extent of which appraisers and subordinates believe that the performance data would be used objectively.

In performance appraisal process, employee attitude to the system is strongly related to the satisfaction with the process. As per Boswell & Boudreau in '*Separating the developmental and evaluative performance appraisal uses*' (2002), perceptions of fairness with the system are important aspects which contribute to the effectiveness. McDowell & Fletcher (2004) as well claim that employee attitudes determine effectiveness of the performance appraisal process.

F Valerie (1996) in the Personnel Journal Vol.75 under the article "Older Workers fend for themselves" writes that failures in appraisal systems occur because of a lack of participation and involvement of employees in the appraisal process, especially in establishing their targets or getting feedback from them with regards to the outcomes. Hence participation plays an important role in satisfaction of employees with the appraisal process.

India's largest IT services company Tata Consultancy Services (TCS) has done away with the Bell Curve Model of employee appraisal. This was following other global tech giants like IBM and Accenture who have done away with this model. Yearly reviews are now giving way to continuous process of feedback to employees at regular intervals. For instance, IBM has revamped its yearly appraisal process by doing away with annual appraisals and bringing out a new system called Checkpoint. Unlike annual mechanisms where a yearly review of the performance is done, this system looks into continuous feedback.

As in the bell curve model the managers can give only a limited number of employees in the top performers' category, employees who have actually performed exceedingly well through the year might be forced to be categorized in the Average performers' category for some valid Bell curve requirements. This will lead to loss of morale among the employees.

III. OBJECTIVES OF STUDY

The Objectives of Study are as follows: -

1. To understand the various factors of the appraisal process which affect the satisfaction of employees
2. To understand the significance of the factors in driving the satisfaction of the employees
3. To understand the appraisal process which is termed to be most fair by the employees

HYPOTHESIS

The research tests following hypotheses:

H01: Satisfaction does not depend on the independent variables like *team bonding, appraiser competency, frequency of appraisal etc.*

H02: The satisfaction scores are not dependent on the type of appraisal

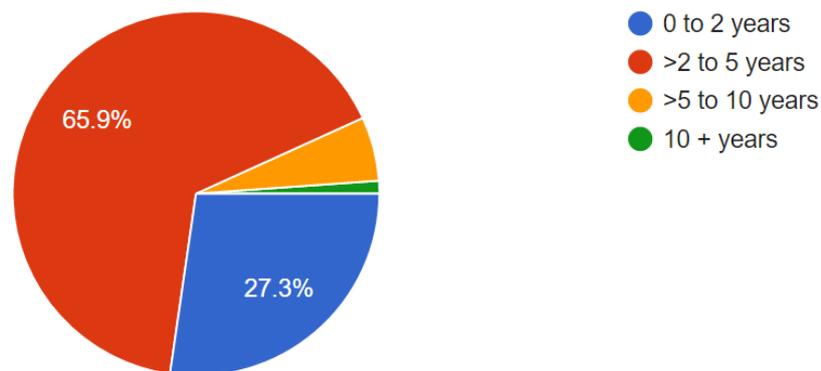
H03: The satisfaction score is not dependant on the salary level of the employees

IV. VARIABLE SELECTION

Factors Affecting Employee Satisfaction	Authors quoted	Questions used to Measure the Factor
Transparency of Appraisal	Angelo S DeNisi & Robert D Pritchard	Unbiasedness of appraiser
	Bernardin and Beatty	Rate the fairness of the promotion
		Who evaluates performance
Employee Attitude	Boswell & Boudreau	Satisfaction with the appraisal process
	Angelo S DeNisi and Robert D Pritchard	How well is the evaluation process implemented
		Recommendations given in the appraisal applied by the employee
Employee Participation	F Valerie (1996)	How well is the ratings in the appraisal process aligned with expectations
		Satisfaction with the method of assignment of performance objectives
		Rate the importance given to your feedback while deciding the objectives
Espirit De Corps	Castka, P., Sharp, J.M and Bamber, C.J (2003)	Team Bonding, Communication between factors, Autonomy in decision making clearly demarcated roles and responsibilities, importance given to your opinion and quality of task offered to you within
		Competency of appraiser
Frequency of Feedback	Dr. Siddique, Prodesh (2015)	Frequency of monitoring appraisal
		Satisfaction with the frequency of appraisal

V. DATA COLLECTION

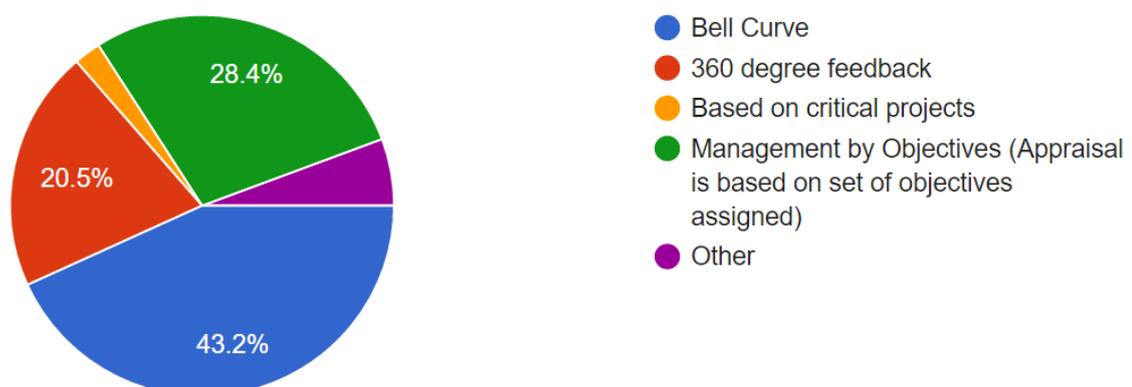
A survey was floated between 12th November between 18th November and 112 responses were received. The recipients were assured that their responses will be kept confidential as the data involved aspects of appraisal systems of various organizations. A self-administered simple questionnaire with 20 questions was created in English. The questions revolved around four major categories of factors, in line with our findings – System related, Appraiser related, Team related and Pre & Post Appraisal related. Various categories of experience brackets were targeted as follows:



Out of the 112 responses obtained, 38 were randomly selected participants of PGDM programme having previous work experience in IT sector. The rest 72 were working professionals from **29 organizations** spread across India. The majority of the organizations had the following Appraisal systems:

- a. Bell Curve
- b. Management by Objectives
- c. 360-degree feedback

The distribution of types of appraisal systems is as shown below:



VI. DATA ANALYSIS

H01: Satisfaction does not depend on the independent variables like team bonding, appraiser competency, frequency of appraisal etc.

H1: Satisfaction depends on the independent variables

To start with, a Regression model was used to understand the impact of the independent variables on the output variable – satisfaction. To include non-metric variable – type of appraisal system, two dummy variables – Dummy1 and Dummy2 were created to include them in the regression model. The objective of regression model was to study the significance of factors as well as the multi-collinearity characteristics. In case of multi-collinearity, Factor analysis will be carried out after regression.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.882 ^a	0.778	0.758	0.48751	0.778	12.809	17	88	0

a. Predictors: (Constant), reco impl, Dummy1, Autonomy in decision making, Team Bonding, Dummy2, Appr compet, Clearly demarcated roles , Ratings meet expec, Rate the frequency, Appr Bias, Process implementation, Quality of task in team, Asgn per obj, Team communication, Importance given to opinion, Fairness of promo, Feedb imp

Based on the model summary, the R Square value of 0.778 suggests that the independent variables explain upto 77% variation on the employee satisfaction.

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	51.752	17	3.044	12.809	.000 ^b
	Residual	14.735	88	.238		
	Total	66.488	105			

a. Dependent Variable: Satisfaction

b. Predictors: (Constant), reco impl, Dummy1, Autonomy in decision making, Team Bonding, Dummy2, Appr compet, Clearly demarcated roles , Ratings meet expec, Rate the frequency, Appr Bias, Process implementation, Quality of task in team, Asgn per obj, Team communication, Importance given to opinion, Fairness of promo, Feedb imp

Based on the ANOVA output, the regression model is significant at p=0.00, which is substantiated with high value of F of 12.89=09 corresponding to 17,88 degrees of freedom

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
		1	(Constant)	.179			.348	
	Team Bonding	.019	.082	.018	.227	.821	.551	1.814
	Team communication	.158	.105	.145	1.498	.139	.381	2.627

Autonomy in decision making	-.213	.081	-.224	-	2.610	.011	.584	1.73
Clearly demarcated roles	.024	.086	.026	.283	.778	.430		2.324
Importance given to opinion	.124	.096	.133	1.288	.203	.336		2.981
Quality of task in team	-.126	.080	-.144	-	1.581	.119	.430	2.328
Dummy1	.078	.141	.039	.551	.583	.707		1.414
Dummy2	.056	.160	.026	.353	.726	.668		1.498
Rate the frequency	.171	.077	.182	2.226	.030	.534		1.873
Process implementation	.415	.082	.444	5.075	.000	.568		1.760
Ratings meet expec	.144	.085	.152	1.690	.096	.443		2.257
Fairness of promo	.270	.094	.297	2.866	.006	.334		2.994
Appr compet	-.079	.087	-.078	-.905	.369	.476		2.102
Appr Bias	.077	.085	.081	.901	.371	.439		2.278
Asgn per obj	-.173	.100	-.171	-	1.720	.090	.362	2.759
Feedb imp	.123	.093	.142	1.326	.190	.313		3.199
reco impl	-.006	.092	-.007	-.067	.947	.356		2.811

From the coefficient tables, collinearity exists for several variables. Hence Factor analysis needs to run to combine the factors having multi-collinearity. After which a regression can be re-run to find significant factors. Also to find the major variables entering the regression equation, Step wise regression was run.

6.1 Stepwise Regression

Variables Entered/Removed^a

Model	Variables Entered	Variables Removed	Method
1	Process implementation		Stepwise (Criteria: Probability-of-F-to-enter <= .050, Probability-of-F-to-remove >= .100).
2	Rate the frequency		Stepwise (Criteria: Probability-of-F-to-enter <= .050, Probability-of-F-to-remove >= .100).
3	Fairness of promo		Stepwise (Criteria: Probability-of-F-to-enter <= .050, Probability-of-F-to-remove >= .100).
4	Ratings meet expec		Stepwise (Criteria: Probability-of-F-to-enter <= .050, Probability-of-F-to-remove >= .100).

a. Dependent Variable: Satisfaction

Looking at the variables entered/ removed table of the stepwise regression analysis, we find that only 4 independent variables contribute in increasing the R square significantly – **Process Implementation, Rate the frequency, Fairness of promo and Ratings meet expectations**. These are the variables which explain maximum part of the variation in the dependent variable – **Satisfaction**.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.749 ^a	.561	.556	.61158	.561	99.757	1	88	.000
2	.804 ^b	.646	.637	.55311	.085	18.366	1	87	.000
3	.827 ^c	.684	.671	.52606	.038	9.119	1	86	.003
4	.839 ^d	.704	.689	.51183	.021	5.287	1	85	.024
a. Predictors: (Constant), Process implementation									
b. Predictors: (Constant), Process implementation, Rate the frequency									
c. Predictors: (Constant), Process implementation, Rate the frequency, Fairness of promo									
d. Predictors: (Constant), Process implementation, Rate the frequency, Fairness of promo, etc.									

This table explains the contribution that the independent variables have in explaining the variation of the dependent variable – Satisfaction. The table shows that process implementation explains the highest variation – **56.1%**, and the other variables too explain the dependent variable in a significant manner. We keep these variables and exclude the remaining variables as the R square change by adding those variables is not too significant. The R square value of having the four variables is 70.4% which is really good for social science topics. Also, the adjusted R square is almost the same as R square, confirming that the number of observations taken for the analysis is sufficient.

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	37.313	1	37.313	99.757	.000 ^b
	Residual	29.175	87	.374		
	Total	66.488	88			
2	Regression	42.931	2	21.466	70.166	.000 ^c
	Residual	23.556	86	.306		
	Total	66.488	88			
3	Regression	45.455	3	15.152	54.750	.000 ^d
	Residual	21.033	85	.277		
	Total	66.488	88			
4	Regression	46.840	4	11.710	44.701	.000 ^e

Residual	19.647	84	.262	
Total	66.488	88		

- a. Dependent Variable: Satisfaction
- b. Predictors: (Constant), Process implementation
- c. Predictors: (Constant), Process implementation, Rate the frequency
- d. Predictors: (Constant), Process implementation, Rate the frequency, Fairness of promo
- e. Predictors: (Constant), Process implementation, Rate the frequency, Fairness of promo, etc.

The fourth row is the one we need to look at as it contains all the variables that are significant in explaining the dependant variable. From the table, it can be confirmed that the variables are together significant in explaining the satisfaction variable. This is seen in the Sig. column of the table. The significance is further supplemented with the fact that the F value for the predictors – 44.701 is really high.

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	1.022	.244		4.188	.000		
	Process implementation	.701	.070	.749	9.988	.000	1.000	1.000
2	(Constant)	.392	.265		1.480	.143		
	Process implementation	.586	.069	.626	8.499	.000	.848	1.179
	Rate the frequency	.296	.069	.316	4.286	.000	.848	1.179
3	(Constant)	.286	.255		1.124	.265		
	Process implementation	.468	.076	.500	6.141	.000	.627	1.595
	Rate the frequency	.221	.070	.235	3.137	.002	.741	1.350
	Fairness of promo	.238	.079	.261	3.020	.003	.557	1.795
4	(Constant)	.162	.254		.637	.526		
	Process implementation	.409	.079	.437	5.211	.000	.560	1.787
	Rate the frequency	.193	.069	.206	2.781	.007	.719	1.391
	Fairness of promo	.184	.080	.203	2.305	.024	.511	1.959
	Ratings meet expec	.182	.079	.192	2.299	.024	.568	1.760

a. Dependent Variable: Satisfaction

Based on the coefficients table, all the variables which entered the stepwise regression are significant. NowFactor Analysis was performed to club the correlated factors.

6.2 Factor Analysis:

H0: The variables cannot be clubbed into factors

H1: At least a pair of variables can be clubbed into factor

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	.875
Bartlett's Test of Sphericity	Approx. Chi-Square
	621.780
	df
	105
	Sig.
	.000

The value of KMO measure of sampling adequacy is greater than 0.8 which suggests ideal case for factor analysis. This is also supported by the Chi-Square and significance values.

		Anti-image Matrices														
		Team Bonding	Team communication	Autonomy in decision making	Clearly demarcated roles	Importance given to opinion	Quality of task in team	Rate the frequency	Process implementation	Ratings meet expec	Fairness of promo	Appr compet	Appr Bias	Asgn per obj	Feedb imp	reco impl
Anti-image Correlation	Team Bonding	.862 ^a	-.465	.002	-.078	.090	-.135	.018	-.034	-.097	.032	.017	-.056	-.002	.049	-.040
	Team communication	-.465	.821 ^a	-.256	-.092	-.166	-.003	-.294	.081	-.059	-.075	-.035	.023	.268	.050	-.114
	Autonomy in decision making	.002	-.256	.858 ^a	.157	-.362	-.193	.079	-.161	.067	-.043	-.114	-.019	-.120	.121	.111
	Clearly demarcated roles	-.078	-.092	.157	.768 ^a	-.375	-.376	.043	-.166	.339	.039	-.175	.207	-.119	-.052	-.015
	Importance given to opinion	.090	-.166	-.362	-.375	.864 ^a	-.057	.138	.138	-.193	.007	-.087	-.110	.091	-.031	-.230
	Quality of task in team	-.135	-.003	-.193	-.376	-.057	.884 ^a	.017	.112	-.121	-.136	.215	-.160	.055	-.190	-.002
	Rate the frequency	.018	-.294	.079	.043	.138	.017	.912 ^a	-.038	-.092	-.032	-.154	-.060	-.220	-.062	-.052
	Process implementation	-.034	.081	-.161	-.166	.138	.112	-.038	.865 ^a	-.364	-.256	.059	.058	.029	-.028	-.252
	Ratings meet expec	-.097	-.059	.067	.339	-.193	-.121	-.092	-.364	.850 ^a	-.165	-.041	-.009	-.010	-.187	.164
	Fairness of promo	.032	-.075	-.043	.039	.007	-.136	-.032	-.256	-.165	.922 ^a	-.032	-.197	-.361	.033	-.057
	Appr compet	.017	-.035	-.114	-.175	-.087	.215	-.154	.059	-.041	-.032	.891 ^a	-.335	-.037	-.234	.087
	Appr Bias	-.056	.023	-.019	.207	-.110	-.160	-.060	.058	-.009	-.197	-.335	.906 ^a	-.150	-.081	.064
	Asgn per obj	-.002	.268	-.120	-.119	.091	.055	-.220	.029	-.010	-.361	-.037	-.150	.880 ^a	-.132	-.217
	Feedb imp	.049	.050	.121	-.052	-.031	-.190	-.062	-.028	-.187	.033	-.234	-.081	-.132	.908 ^a	-.414
	reco impl	-.040	-.114	.111	-.015	-.230	-.002	-.052	-.252	-.164	-.057	.087	.064	-.217	-.414	.887 ^a

From the anti-image Matrix, all variables have individual MSA greater than 0.8, suggesting the goodness of fit for factor analysis. Further, the communitiy matrix will be studied to check if the extraction values are greater than 0.5.

Communalities

	Initial	Extraction
Team Bonding	1.000	.651
Team communication	1.000	.785
Autonomy in decision making	1.000	.539
Clearly demarcated roles	1.000	.786
Importance given to opinion	1.000	.719
Quality of task in team	1.000	.625
Rate the frequency	1.000	.526
Process implementation	1.000	.507
Ratings meet expec	1.000	.651
Fairness of promo	1.000	.715
Appr compet	1.000	.572
Appr Bias	1.000	.544
Asgn per obj	1.000	.722
Feedb imp	1.000	.726
reco impl	1.000	.663

Extraction Method: Principal Component Analysis.

The extraction values obtained from communalities are greater than 0.5, which indicates that the variables can be clubbed into factors.

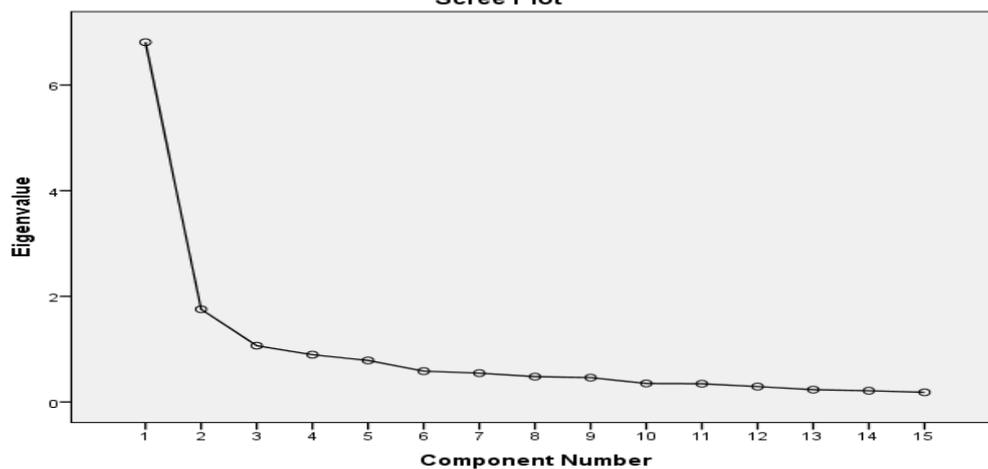
Total Variance Explained

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	6.810	45.399	45.399	6.810	45.399	45.399	4.601	30.676	30.676
2	1.756	11.704	57.102	1.756	11.704	57.102	2.548	16.988	47.664
3	1.065	7.102	64.204	1.065	7.102	64.204	2.481	16.540	64.204
4	.895	5.964	70.168						
5	.786	5.241	75.410						
6	.584	3.894	79.303						
7	.546	3.637	82.940						
8	.479	3.196	86.136						
9	.461	3.076	89.212						
10	.351	2.341	91.553						
11	.345	2.301	93.854						
12	.292	1.944	95.798						
13	.234	1.558	97.356						
14	.213	1.422	98.778						
15	.183	1.222	100.000						

Extraction Method: Principal Component Analysis.

From the Principal Component Analysis, three factors have been generated from the set of 15 variables.

Scree Plot



Rotated Component Matrix^a

	Component		
	1	2	3
Team Bonding	.152	.145	.779
Team communication	.169	.254	.832
Autonomy in decision making	.243	.324	.613
Clearly demarcated roles	.055	.858	.215
Importance given to opinion	.248	.667	.462
Quality of task in team	.291	.615	.403
Rate the frequency	.675	-.003	.265
Process implementation	.678	.121	.180
Ratings meet expect	.710	-.100	.370
Fairness of promo	.794	.210	.200
Appr compet	.585	.300	.198
Appr Bias	.686	.171	.212
Asgn per obj	.791	.294	-.098
Feedb imp	.704	.478	.051
reco impl	.598	.544	.097

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 7 iterations.

From the rotated component matrix, the variables were classified under the three factors and based on the factor score coefficient matrix, the weighted scores were calculated for the 3 factors.

Factor 1	Factor 2	Factor 3	Satisfaction	Factor 1	Factor 2	Factor 3	Satisfaction
6.17	4.23	5.06	4.00	4.63	2.11	2.31	3.00
4.91	4.49	4.51	3.00	5.22	3.71	4.62	3.00
4.70	4.75	4.79	3.00	5.86	5.29	4.90	2.00
6.08	3.71	4.35	5.00	4.07	4.77	4.35	3.00
5.54	4.77	5.06	4.00	4.43	3.69	2.31	3.00
4.04	4.49	4.35	3.00	6.56	4.77	5.06	4.00
6.48	4.49	4.79	4.00	4.96	3.46	4.46	3.00
3.16	3.43	3.03	2.00	5.02	5.03	3.91	3.00
6.73	4.77	4.90	4.00	3.45	3.17	3.47	2.00
3.61	4.52	3.91	2.00	5.76	4.75	4.35	4.00
5.74	4.51	5.06	4.00	5.18	3.71	4.18	3.00
4.22	3.43	4.62	3.00	7.71	5.29	5.78	5.00
6.41	4.51	5.78	4.00	6.88	4.49	5.07	4.00
6.17	5.00	4.62	4.00	3.77	2.11	3.91	2.00

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5.86	5.29	5.07	4.00	5.79	2.11	3.19	4.00
5.25	4.23	5.50	3.00	6.57	4.00	4.90	4.00
5.58	2.94	4.51	4.00	5.76	5.29	5.50	4.00
5.73	4.25	4.79	5.00	3.49	3.97	3.30	3.00
3.22	4.75	4.62	2.00	4.44	4.77	5.78	2.00
4.42	4.49	4.35	3.00	3.58	3.43	5.50	3.00
5.63	3.20	4.18	4.00	3.48	3.97	4.35	4.00
2.45	1.57	3.19	1.00	3.65	3.97	4.35	2.00
2.70	2.60	2.75	2.00	4.72	5.00	5.07	3.00
6.53	4.75	4.90	5.00	4.59	3.74	4.18	3.00
5.88	4.77	5.50	4.00	6.68	4.77	5.34	4.00
4.63	3.17	3.47	3.00	6.06	5.00	4.35	3.00
4.67	3.97	3.19	4.00	6.35	4.23	4.96	5.00
6.17	4.23	4.62	4.00	4.98	4.23	3.91	3.00
2.96	3.17	2.75	1.00	5.55	4.20	3.91	4.00
5.04	4.00	4.62	4.00	5.36	2.65	2.59	2.00
5.05	4.23	4.35	4.00	5.58	2.40	3.19	4.00
5.61	3.71	4.18	3.00	5.51	4.77	5.78	4.00
3.50	3.48	4.18	3.00	6.08	5.29	5.34	4.00
4.73	2.11	3.19	3.00	5.46	3.69	3.91	4.00
5.00	3.74	3.47	3.00	4.46	3.71	4.90	3.00
5.67	3.97	5.50	4.00	2.97	1.86	5.23	2.00
5.64	3.20	5.34	4.00	5.08	3.69	4.79	5.00
4.94	3.97	5.23	3.00	6.17	4.23	5.06	4.00
3.30	3.17	3.63	2.00	6.29	5.29	5.34	3.00
5.95	5.29	3.91	4.00	5.55	3.17	3.47	4.00

Post factor analysis, regression analysis was run using the calculated factor scores.

<i>Summary measures</i>						
Multiple R		0.7705				
R-Square		0.5936				
Adj R-Square		0.5776				
StErr of Est		0.5962				
<i>ANOVA Table</i>						
Source		df	SS	MS	F	p-value
Explained		3	39.4692	13.1564	37.0078	0.0000
Unexplained		102	27.0183	0.3555		

<i>Regression coefficients</i>							
	Coefficient	Std Err	t-value	p-value	Lower limit	Upper limit	
Constant	0.0709	0.3907	0.1815	0.8565	-0.7072	0.8490	
Factor 1	0.6171	0.0711	8.6787	0.0000	0.4755	0.7588	
Factor 2	-0.0708	0.0970	-0.7304	0.4674	-0.2639	0.1223	
Factor 3	0.0973	0.1005	0.9673	0.3365	-0.1030	0.2975	

From the above results, the Factor 1 (Team related factors) is significant. The R Square value has reduced to 0.5936 due to Factor analysis. Among all category of factors, **Team related factors** is significant.

ANOVA:

H0: All the three systems of appraisal don't differ in satisfaction scores

H1: There is difference in satisfaction scores among the three systems of appraisal

<i>Summary stats for samples</i>						
	Satisfaction_360 degree feedback	Satisfaction_Bell Curve	Satisfaction_MBO			
Sample sizes	29	49	24			
Sample means	4.103	3.367	3.458			
Sample standard deviations	0.724	1.035	0.932			
Sample variances	0.525	1.071	0.868			
Weights for pooled variance	0.283	0.485	0.232			
Number of samples	3					
Total sample size	102					
Grand mean	3.598					
Pooled variance	0.869					
Pooled standard deviation	0.932					
<i>OneWay ANOVA table</i>						
Source	SS	df	MS	F	p-value	
Between variation	10.484	2	5.242	6.032	0.0034	
Within variation	86.036	99	0.869			
Total variation	96.520	101				
<i>Confidence intervals for mean differences</i>						
Confidence level	95.0%					
<i>Tukey method</i>						
Difference	Mean diff	Lower	Upper	Signif?		
Satisfaction_360 degree feedback - Satisfaction_Bell Curve	0.736	0.215	1.257	Yes		
Satisfaction_360 degree feedback - Satisfaction_MBO	0.645	0.031	1.259	Yes		
Satisfaction_Bell Curve - Satisfaction_MBO	-0.091	-0.645	0.463	No		

The p value of 0.0034, suggests that there is difference in levels of satisfaction across the three systems of appraisal – 360-degree feedback, Bell Curve and Management by objectives. The difference obtained using Tukey method suggests that the difference is significant for 360-degree feedback and Bell curve, 360-degree feedback and MBO. This also suggests the reason for major IT companies moving away the forced Bell curve method.

H0: Satisfaction levels don't differ across different salary brackets

H1: Satisfaction levels are different across salary brackets

For this purpose, satisfaction levels were studied across the following income brackets:

- a. 3 to 5 Lakhs
- b. >5 to 10 Lakhs
- c. >10 to 16 Lakhs

Summary stats for samples					
	Satisfaction_>10 to 16 Lakhs	Satisfaction_>3 to 5 Lakhs	Satisfaction_>5 to 10 Lakhs	Satisfaction_Above 16 Lakhs	
Sample sizes	14	38	48	2	
Sample means	3.714	3.368	3.729	4.000	
Sample standard deviations	0.726	1.076	0.962	0.000	
Sample variances	0.527	1.158	0.925	0.000	
Weights for pooled variance	0.133	0.378	0.480	0.010	
Number of samples	4				
Total sample size	102				
Grand mean	3.598				
Pooled variance	0.951				
Pooled standard deviation	0.975				
OneWay ANOVA table					
Source	SS	df	MS	F	p-value
Between variation	3.341	3	1.114	1.171	0.3247
Within variation	93.178	98	0.951		
Total variation	96.520	101			
Confidence intervals for mean differences					
Confidence level	95.0%				
Tukey method					
Difference	Mean diff	Lower	Upper	Signif?	
Satisfaction_>10 to 16 Lakhs - Satisfaction_>3 to 5 Lakhs	0.346	-0.452	1.144	No	
Satisfaction_>10 to 16 Lakhs - Satisfaction_>5 to 10 Lakhs	-0.015	-0.790	0.760	No	
Satisfaction_>10 to 16 Lakhs - Satisfaction_Above 16 Lakhs	-0.286	-2.215	1.644	No	
Satisfaction_>3 to 5 Lakhs - Satisfaction_>5 to 10 Lakhs	-0.361	-0.915	0.194	No	
Satisfaction_>3 to 5 Lakhs - Satisfaction_Above 16 Lakhs	-0.632	-2.483	1.220	No	
Satisfaction_>5 to 10 Lakhs - Satisfaction_Above 16 Lakhs	-0.271	-2.113	1.571	No	

Based on p value of 0.3247 obtained, there is no significant difference across the three income brackets.

VII. RESEARCH FINDING AND DISCUSSION

Research findings provided interesting insights on factors related to appraisal system, impacting employee satisfaction on appraisal. The gap identified through literature review – Team based factors were found to be significant when compared to other factors. The list of hypotheses and the conclusions obtained are briefed below.

H01: Satisfaction does not depend on the independent variables like team bonding, appraiser competency, frequency of appraisal etc.

Multiple Regression, Stepwise Regression and Factor analysis were used to examine the relationship. Out of the factors categorized using factor analysis, Team based factors had greater impact on the satisfaction on appraisal systems. It was validated using secondary research that approximately 40% of weightage is given to team performance metrics as majority of the work done in the organizations are project based. As the allocation of teams is random, the employees have a very little say over the allocation of teams. Improper allocation can thus lead to lower satisfaction on appraisal systems as team performance is factored in the ratings, thus impacting overall employee satisfaction. Hence proper feedback regarding team dynamics need to be taken by the organizations capturing the team based factors such as Team bonding, Team communication, Autonomy of decision making in team, tasks offered in team, etc.

H02: All the appraisals methods provide the same satisfaction score

Three appraisal methods- 360-degree feedback, Bell Curve and Management were compared and the differences were found to be significant. The significant difference between 360-degree feedback, Bell Curve and MBO was significant. This is consistent with the trends today. Major IT giants such as IBM, TCS, Accenture have dumped forced fit bell curve and moved towards 360-degree feedback which is more holistic and evaluates all vital aspects in terms of performance. To counter alarming attrition rates (19.3% in 2016) these organizations shall seriously consider replacing Bell Curve based appraisal.

H03: The satisfaction score is not dependent on the salary level of the employees

It was initially perceived that satisfaction varies with salary levels, however IT being competitive sector, people could easily switch organizations if they were not satisfied with the systems in the organization. This was supported by the findings that satisfaction levels across income brackets were not different. This provided insight that the system of appraisal was perceived the same by employees in all income brackets.

VIII. CONCLUSION

The results of this study should be able to help HR managers in understanding the factors affecting appraisal process. Performance Management has a resounding impact on employee productivity. In the current context, reduction in high attrition rates through evolving practices is performance management is crucial. In IT industry, team performance is an integral part of the appraisal process. To enhance organizational effectiveness, the teams need to be properly aligned with the organizational objectives. Proper care is thus required in team selection and allocation to maximize team effectiveness. Scientific techniques of grouping people into teams based on requirements can be pursued as a remedy. As indicated in several secondary references, today's employee wants the organization to feel his importance rather than treating him just as a number. To promote employee satisfaction, organizations should focus on holistic growth of employees driven through robust 360-degree feedback system. Rather than spending numerous hours in the administration of appraisal systems, the paradigm shift is towards "in the moment performance" conversations with meaningful feedback.

IX. SCOPE OF FURTHER RESEARCH

The level of satisfaction that an employee has with regard to the performance is an important component of his overall satisfaction with the organization. Employees with higher satisfaction are more likely to have longer tenure with the company and more likely to recommend the company to others. This relation between the employees' satisfaction with the appraisal process and their likelihood to recommend the company can be researched into further because secondary research has found that the hiring at senior levels in the IT industry is done mainly through the recommendations of employees. The direction of the research can be to explore the correlation between the employee satisfaction with the appraisal process and their likelihood to recommend someone to join the company.

The second area ripe with potential for future research is the impact of the intrinsic factors of the team of which the employee is a part of, in the organization. The results have shown that team related factors play an important role in the employee satisfaction with the appraisal process. However, there is much scope in investigating in-depth into this as there are many aspects of the team that might be impacting the performance appraisal satisfaction. Organizations that have higher weightage to team performance in the individual appraisal process might yield stronger instances of relation between the team related factors and the employee satisfaction.

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