An Empirical Study on Assessing the Performance Management Process in a Research Institution

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Abstract

Measuring the performance of scientists, engineers, and technologists is a challenging task due to the nature of the job they perform and the absence of common work standards The research was done at one of the leading research Institutions in Tamil Nadu. This research investigated the performance appraisal system from the perspective of research and development (R&D) organizations and programs. R&D organizations face unique performance management challenges, including difficulty in measuring performance, lack of timely data, and the many unknowns associated with R&D efforts including lack of clarity of the initial scope of many projects. The research provides insight into performance appraisal process as it relates to R&D, science and technology (S&T), and intelligence communities. The population consisted of executive level employees of various departments. The research aimed to analyse the factors that influence the employee's performance using both primary and secondary data. The secondary data was collected from performance appraisal records of the employees of the Institution for the past 5 years. The primary data was collected using a questionnaire that was distributed to the executives of selected departments. The data was analysed using various statistical tools. The findings revealed the various factors that have an influence on the employee's performance. Based on the findings, suggestions like R&D organizations should be allowed flexibility to design and implement a performance management process aligned with their mission, goals, and objectives that can be systematically implemented with management support and active employee involvement was conveyed to the organization.

Keywords: Performance Management, Management Support, R & D, S & T, Intelligence Communities.

1. Introduction and background

The performance appraisal is a well-recognized and established feature in modern corporate. Although many companies have a belief in systems thinking, the individual performance appraisal is a cornerstone of American management. ABU - DOLEH & WEIR(2007) explored the attitudes of human-resources managers working in the Jordanian private and public organizations towards the function and implementation of their performance appraisal systems. The research identified that performance appraisal systems had a moderate impact on the four functions of performance appraisal systems. Those functions were grouped as: A. Between-individuals comparisons B. Within-individuals comparisons C. Systems maintenance D. Documentation. AGUINIS(2009) GARDNER(2008) motivated by an organizational desire to affect employee behaviours and attitudes and, ultimately, organizational performance. This occurs as a consequence of the establishment of goals at the beginning of the evaluation cycle which provide employees with clear performance targets, the monitoring of performance during the evaluation cycle(which can be used to assist poor performers) and the reinforcement provided for of higher pay. ARMSTRONG AND BARON (1998) stated that performance management is both a strategic and an integrated approach to delivering successful results in organizations by improving the performance and developing the capabilities of

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teams and individuals. The term performance management gained its popularity in early 1980's when total quality management programs received utmost importance for achievement of superior standards and quality performance. Tools such as job design, leadership development, training and reward system received and equal impetus along with the traditional performance appraisal process in the new comprehensive and a much wider framework. ARTHUR ANDERSON SURVEY (1997) reveals that 20% of the organizations use the 360 – degree method. In the 360 – degree method, besides assessing performance, other attributes of the access – talents, behavioral quirks, values, ethical standards, tempers and loyalty are evaluated by people who are best placed to do it. BACALL (1999) states that "performance appraisal is not about the forms. The ultimate purpose of performance appraisal is to allow employee and managers to improve continuously and to remove barriers to job success, in other words, to are Reserved 174 make everyone better. Forms don't make people better, and are simply a way of recording basic information for later reference. If the focus is getting the forms "Done", without thought and effort, the whole process becomes at best a waste of time, and at worst, insulting". BERNADIN, J.H defines that "360 – degree feedback is valuable in that it provides additional sources of observations of behaviour from varying perspectives. "subordinates for example, are more directly affected by managerial behaviours and decisions in ways that are not always evident to supervisors. In fact, supervisory feedback may primarily reflect the performance of the manager's work unit, rather than leadership behaviours, which they may not observe (what vs. how) research by Bernadin and Betty has shown that 360degree feedback can enhance both communications and performance". CARDY and DOBBINS 1994 defined that "performance appraisal represents, in part, a formalized process of worker monitoring and is intended to be a management tool to improve the performance and productivity of worker. The present study shows that while performance appraisal is popular, its use shows definite patterns and, as a consequence, it is unlikely to be used for all non-managerial workers". CURTIS et al., (2005) to encourage supervisors to conduct high quality performance appraisal, a supervisor is likely to find the assessment their performance is partly a function of the way they manage the evaluations of those who report to them. DE NISI & Pritchard (2006) emphasized that performance improvement is dependent upon sound HR practices, fair appraisal practices, effective performance management, and an awareness of an organization's overall strategic goals. More frequent appraisals and feedback helped employees identify their improvement. The study further suggested that performance feedback should include information on how to improve performance, along with information about what areas of performance need improvement. DEVARAJ et al.,(2007) A manufacturing goal is based on relevant factors to provide managers with a coherent picture of the levers that could be manipulated to achieve the desired outcome. Others examine the effects of the match between generic manufacturing strategies and manufacturing goals upon strategically relevant plant level performance outcomes. Facilitate discussion concerning employee growth and development, FILIPPINI et al., (2005) The performance of a company can be regarded in three main aspects: efficiency, productivity, and quality. FLETCHER and WILLIAMS (1996) high quality performance appraisal is intended to increase job satisfaction. GREENBERG (1986) performance appraisal quality is the level of trust the employee has for their supervisor. Employees who believe their supervisor is competent and has a good knowledge of their employees job duties will be more likely to trust their supervisor and rate their performance appraisal experience positively. GRIFFETH et al., (2000) performance appraisal is typically to retain the highest performing employees, though as observe the focus of much of the turnover research has been on the role of merit rewards as a retention tool. It is rare to see studies that include the quality of the performance appraisal experience as a predictor of turnover or quit intention, but as argue, performance appraisal quality has "as much-if not more-to do with encouraging employees to say as fair pay amounts". HEATHFIELD (2007) and MERRITT (2007) understanding the implications of low quality performance appraisal experiences is important: a review of the practitioner and academic journals suggests that low quality performance appraisal is a continuing challenge for organizations. So the

consequences of low quality performance appraisal experiences are potentially of interest to many organizations. "when surveyed about most disliked tasks, managers say they hate conducting appraisals, second only to firing employees". An organizations need to make a commitment to the whole performance appraisal process, and not just its components, in order to achieve its objectives. HENDRIX et al., (1998) the psychological contracts literature, especially relational contracts, suggests that when an employer provides a high quality performance appraisal experience it will increase the employees perceived obligations to the employer which in turn affect their attitudes and potentially their behaviours. The relational school of thought postulates that individuals care about performance appraisal quality because it signals their status and worth within the organization. The relational school of thought emphasizes the needs for belonging and self –esteem and acknowledges the informal actions of someone in a position of authority over the employee. In the second group, the international experience reports a significant number of methodologies with different approaches to characterize the performance utility of individual units that comprise a larger set. In this group of studies, performance expressions are defined in terms of numerous criteria to be synthesized for overall improvement purposes. The level of performance, ranking of the decision making units (DMUs) based on performance, determining the factors influencing overall performance utility, sensitivity analysis and critical criteria for which improvement is required, can all be the results of applying these approaches. These studies often establish mathematically the overall performance better than the studies in the first group and often are based on this first group of studies. JACKSON and SCHULER (2003) defined that "performance appraisal usually involves evaluating performance based on the judgments and opinions of subordinates, peers, supervisors, other managers and even workers themselves". KESSLER and PURCELL (1992) Employees are motivated to work at a higher level by the offer of financial incentives that are contingent on their performance, and these financial incentives are important in encouraging the retention of high performing employees. KHANDEKAR & SHARMA (2005) established the linkages between human Resource Capability(HRC) and firm performance in Indian global companies. They had defined HR capabilities as the routines entrenched in the tacit and implicit knowledge of members of an organization to obtain, develop, fostor, organize, and re-organize human resources through HRM practices in a competitive environment. It was identified that HRD practices like HR planning, performance measurements, training and development, rewards and career planning enhanced HR capabilities. This study provided statistical evidences that investment in HR capabilities of the firm for development of knowledge base, desired skills, and attitudes resulted in higher firm performance. KUVASS (2006) explored the relationship between performance appraisal satisfaction and employee outcomes. The study found that there was a direct relationship between performance appraisal satisfaction and work commitment and turnover intention, while the relationship between satisfaction with performance appraisal and work performance was mediated by intrinsic motivation. This study also supported the opinion that performance appraisal satisfaction enhanced motivation, commitment and intention to say. LAZEAR (1998) states that "It is most sensible to monitor performance when workers are able to increase their work effort. This leads to several hypotheses. In those circumstances in which team production, say on an assembly line, is monitored by a machine, a formal appraisal system will yield few benefits". LIU (2009) Liu in his paper employed slack-based efficiency measures, to measure the performance of 24 commercial banks in Taiwan. Based on their financial forecasts, the efficiency scores calculated from the data contained in the financial statements published afterwards are not significantly different from the efficiency scores that were calculated from the financial forecasts. LONDON M., suggested that 360 degree can call attention to performance dimension previously neglected by organization, can enhance two-way communication, increase formal and informal communication, build more effective work relationship, increase opportunities for employee opinion on the part of management. M. LONDON & R.W.BEATTY defines that "360 – degree feedback can call attention to performance dimensions previously neglected by the organization, can

enhance two – way communication, increases formal communications, build more effective work relationship, increase opportunities for employee involvement, uncover and resolve conflict and demonstrate respect for employee opinions on the part of top management". POINTON and RAYON (2004) Performance management (or more accurately forms of performance related pay) has formed a key activity for managers and management in the quest to increase the benefits gained by the application of labour power. Provide a solid basis for wage and salary administration, Provide data for human resource decision and Provide managers with a useful communication tool for employee goal setting and performance planning. Quality benchmarking is an important issue but is frequently not addressed in this type of study. Efficiency and productivity are the most commonly used measure of performance utility with efficiency mainly estimated using frontier methods. Mathematically, these methods are identified as a high-reliability analysis tool and have been largely used for performance studies of production systems. ROBERTS and SERGESKETTER (1993) The capacity to achieve these positive outcomes will be a function of the quality of the performance appraisal experience. Taking a lead from the operations management field, quality is typically defined as establishing and operating processes that promote organizational efficiency. The aim of a quality approach is to reduce variation in every in order to obtain greater consistency. RODGERS and HUNTER (1991), SCHAY (1988) there is a body of empirical research that suggests that performance appraisals do result in increases in employee performance and productivity. These improvements are seen to derive from the greater employee identification with and commitment to, the objectives of the organization. Work efforts are directed to activities that will be of benefit to the organization. Poor performing employees are identified during the evaluation cycle and given feedback on how to improve. They might also undertake some developmental activities in order to rectify performance deficiencies. SAXENA et al.,(2003) Corporate performance can no longer be evaluated merely on the basis of financial parameters, as there is need for environmental performance to be integrated. STATHAKOPOULOS (1997) examined the effect of performance appraisal on the behavioural and psychological responses of marketing professionals. The result of the study indicated that employees never ignore the comments on and helpful in improving their performance. The author finally commented that performance appraisal of individuals enhanced the performance of the organization. SUDARSAN (2009) investigated the use of Management By Objective(MBO) and Key Result Areas(KRAs) as a basis for performance evaluation. It was found that almost all organizations used work achievements, and a significant number used MBO approach as well. The study recommended organizations to measure the performance of their employees in terms of outcome and not in terms of organization objectives. SWEENEY and MCFARLIN (1993) According to justice researchers, a high quality performance appraisal experience will cause employees to have faith in the system, which can result in higher organizational commitment. TAHVANAINEN (1998) points out strong goal setting and appraisal are key elements of a performance management systems that also may include training and development and performance related pay. TAN and PLATS (2004) describe a study to develop a software tool, which helps managers in generating their action plans. It assists managers to represent and visualize their insights of the relationships between factors and objectives through a sequential and analytical process. The study revealed that private organizations performance appraisal had a significantly greater impact on promotion, retention/ termination, lay-offs, identifying individual training needs, transfers and assignments. Therefore, the aim of the papers is to explicitly define pieces of information intended to aid understanding the causes of poor overall performance and monitoring the improvement initiatives. THIBAUT and WALKER (1975) According to the instrumental school of thought, employees value performance appraisal process controls as it promotes predictability. YOUNGCOURT et al., (2007) identified relationships between the perceived purposes of performance appraisal with several attitudinal outcomes, including satisfaction with the organization.At the research institution, performance appraisal by annual confidential report was prevalent for scientists during initial years. The supervisor evaluated his subordinate's strength

/weakness with regard to traits of a nature which gave an assessment of subordinate's personality and his work performance. Five point Grading scale ranging from poor to excellent was used in annual confidential report for benchmarking individual's potential for promotion and higher assignment. Later, confidential performance appraisal report (C-PAR) was introduced for annual performance assessment of scientists. The C-PAR format was common but there were three types of rating sheet for scientist B/C, scientist D and scientist E/F. Self appraisal and rating sheet were the main components of the appraisal format. The appraisee used to indicate actual work done/achievement/shortfall against project and assignment / target and comment on job satisfaction, work environment, training/ specialization needed, time usefully spent on project/ R & D work and capacity to take up additional workload. Assessing Officer evaluates the performance of assessee on a 100 point scale with only two dimensions of work output/contributions and attributes with weight age of 50 and 50 each for scientist B/C and with weight age of 70 and 30 each for scientist D/E/F.Quantum and quality of work carried equal share of weight age within dimension of work output. Intellect, theoretical/experimental/managerial, originality/innovativeness, knowledgein own field, attitudes towards work, perseverance, resourcefulness, communication skills, interpersonal relations and shared values were the ten attributes with each 5-points scale were assessed under the dimension of 'attributes' for scientist B and scientist C. For scientist D, attributes viz. intellect, theoretical/ experimental /managerial, professional knowledge, originality/innovativeness, communication skills, interpersonal relationship, resourcefulness and shared values were common with the junior level scientists but skills of technical judgment, sense of responsibility, tenacity, ability to guide, and planning and organizing were added. Each attribute was rated on 10-point scale. Dimension of attributes for scientists of the grade E/F included intellect, professional abilities, leadership qualities and managerial skills. The reviewing officer, superior to assessing officer, reviewed the rating given by the assessing officer and also awarded the rating grade on each dimension of performance and also made general assessment of the assessee. The head of the establishment/unit would modulate the grading in case of variation between ratings of assessing officer and reviewing officer and indicate final total score of rating on appraisal report. In the context, where the educational profile of an employee changed and where job / roles were drastically redesigned to provide for greater empowerment, participation and involvement, supervision had to move towards lesser control orientation and more towards a joint / team process. In such an environment in addition to the control, a development orientation was added on to the entire appraisal process. The focus then was on the effectiveness of the employee in the job/role assigned. With the initiations of several interventions relating to the scientists, it became imperative to revise existing performance management system of scientists. Existing performance appraisal system of scientists was again revised and updated in December 2009.The existing nomenclature of confidential annual assessment report is now modified to annual performance assessment report (APAR).Communication of full APAR including the overall grade and assessment of integrity will be disclosed to the assessee. Right to appeal of the assessee against the contents of the appraisal report and performance rating score was introduced in the performance appraisal system. Performance criteria are now modified. Scientists are rated on 100-point scale based on 40% weight age on assessment of work output and 30% each of assessed scientists into three grading –outstanding, very good and below very good- based on overall score in performance assessment and grade wise maximum percentage of scientists to be awarded the three grading is also new norm of the performance appraisal process. In the current context, the PA system components in the organisation are the following: 1.Task and Targets 2.SelfAssessment/Appraisal,3. Performance review discussion 4. Assessment 5.Training and development 6. Potential review for promotion. It is highlighted that every member of the organisation needs to perform to his/her potential. Annual performance appraisal system is an instrument realising this goal. The organisation values employee performance appraisal to have tremendous motivational impact on employees through goal

setting, feedback and recognition. A number of studies that are available in this area are mostly related to industrial, manufacturing and

service sector organizations. Therefore, the study of performance appraisal of R & D personnel in the science and technology organizations has assumed importance, more so after the introduction of change in the process and performance criteria of performance appraisal.
A diagnostic study was undertaken among the scientific personnel of the organization with respect to their perception of the existing appraisal system. A general view on the lack of fairness of and satisfaction over the appraisal practices among the scientific personnel in the said organisation was observed. In this context, the present study on perception of fairness of and satisfaction with performance appraisal system in the selected organization will fill the gap to a certain extent and reveal perception of fairness and satisfaction of scientific personnel over the performance appraisal system and practices in the organization.

2. Research Methodology

The economic development of the country depends significantly on the progress of science and technology. After independence, the government played a pivotal role in establishing large scientific research and development organizations in India. This has resulted in broad based and extensive network of research organizations in government sector. Performance of these organizations heavily depends on performance of scientific personnel. Majority of the study of employee performance appraisal system in the recent past are focused on manufacturing, business, industrial or service organizations. Nature of work of scientific personnel of research and development organisations involves not only creativity and innovative research but also development of latest technology and products. Scientists in research organizations in India do not carry out work anymore with a limited mandate in this era of globalization. They also face challenge of technological obsolescence in the face of fierce competition. Traditional approach of performance appraisal of scientific personnel may not suffice. Though every research organization in India follows a performance appraisal practice, there is limited knowledge about the efficacy and effectiveness of the appraisal system. Therefore, it is very important to study the perception of scientific personnel of performance appraisal system and their satisfaction with the said system as perceived by them, and the factors influencing the appraisal system prevalent in government research and development organizations in India. This will help to improve effectiveness of the appraisal practices and system and thereby enhance performance of scientific personnel in research and development organizations.
The following are the objectives of the present study:
1. To analyze the perception of fairness of scientists towards the existing system of performance appraisal.
2. To determine satisfaction with performance appraisal system currently being used as perceived by the scientists of the selected research and development organisation.
3. To understand the factors significantly influencing effective performance and level of satisfaction of scientists over the present appraisal system.
4. To suggest better ways and means for effectively appraising the scientists.
The target population of the present study is restricted to five grades of scientists. Scientists from the grade B to up to grade F constitute primary scientific workforce .The study aimed at scientific personnel who had experienced at least two annual appraisal processes. Those, who had completed two years or more, would have two annual performance appraisal reports generated and as such would be in a better position to provide meaningful responseto the questionnaires and interview related to the study. The sample size was determined using Cochran's (1977) sample size determination formula for continuous data. Information used in this formula included (i) a five point Likert – type scale (ii) a two percent margin of error (iii) an estimate of population standard deviation of .833.
Sample of 500 scientific personnel about double the number of the required sample size, were selected based on the convenience of the researcher by adopting stratified random sampling method. For the purpose of sampling, the entire organization was divided into eight clusters. Stratified random sampling method was applied while selecting the respondents across the technological clusters so that adequate number representations would be available in the sample from scientists, both from science and

engineering background. Primary data was collected through questionnaires and un-structured interview. For the sake of data collection, Questionnaires were distributed through various means: (i) directly handing over to the individual respondents (ii) contact points in different locations (iii) individuals through the mails. A cover letter explaining entailed study and specifying the voluntary and anonymous nature of the participation in the present study was sent along with the questionnaires. All contact persons were explained the purpose of study. Based on sample size requirement, questionnaires were sent to 500 people. 330 questionnaires returned duly completed. Return rate is around 66%. Un-structured and informal interviews and several rounds of discussions were conducted with a cross section of scientists of the organisation to understand the appraisal system and practices practically followed in the organization and gain insight into the various influencing factors related to the appraisal and their preferences to an effective performance appraisal mechanism. A questionnaire was used to collect data from eligible scientific personnel required to participate in the annual performance assessment system of the organization. The research used 'closed' and 'open-ended' questions in the questionnaire to collect the primary data. The questionnaire meant for scientific personnel were pre-tested with thirty respondents. After pre-testing, necessary modifications were made in the questionnaire to fit in the track of the present study. The present study focused on perception of fairness of scientific personnel and their satisfaction with the existing performance appraisal system, factors influencing performance appraisal, developmental appraisal and openness of the appraisal process. Therefore, the study centered on dependent variables viz. perception of fairness of performance appraisal, satisfaction with the performance appraisal, level of satisfaction of factors influencing performance appraisal, performance review discussion as the process of developmental appraisal and openness of the appraisal process, and its relationship with selected independent variables. Statistical analytical tools viz. two way tables, percentage analysis, content analysis, averages, standard deviation, chi square test, factor analysis, bivariate correlation, analysis of variance, two independent samples test, Kruskal- wallis test, signed rank test and multivariate tests were applied for the study. Data collection was undertaken during the period January 2019- April, 2019 and thereafter data were subjected to analysis for the study.

3. Data Analysis

The primary focuses of this study was to measure scientists' perception and satisfaction with performance appraisal system and examine significant factors influencing their performance of the selected R & D organization.

Table 1 Percentage Analysis

Gender	**Count**	**Percentage**
Female	137	54%
Male	196	46%
Grand Total	333	100%
Age Group	**Count**	**Percentage**
20-30	75	26%
31-40	56	14%
41-50	132	44%

51 and above	70	16 %
Grand Total	333	100
Experience	**Count**	**Percentage**
1-5 years	110	28%
5 -10 years	140	47%
above 10 years	83	25%
Grand Total	333	100%

Table 2. Satisfaction based on various factors

Factors	**Neither satisfied nor dissatisfied**	**Satisfied % (1 + 2)**	**Dissatisfied (4+5)**
Satisfaction on target setting	23%	61%	16%
Satisfaction on allocation of KRAs	41%	48%	10%
Satisfaction with responsibilities matching grade	46%	25%	28%
Satisfaction on feedback given	44%	43%	13%
Satisfaction with guidance after PA	47%	38%	15%
Satisfaction on appraiser's behaviour	53%	33%	15%
Satisfaction on level of access provided to discuss problems	57%	30%	13%
Satisfaction with peers' participation	26%	73%	1%
Satisfaction with peers amicability	22%	77%	1%
Satisfaction with the timeframe	47%	35%	18%

Satisfaction on identification of training needs	51%	15%	31%
Satisfaction with training inputs	59%	14%	27%

From the table, it is inferred that, Respondents are highly satisfied with peer participation and peer amicability. And they are dissatisfied with the following factors

- Responsibilities matching grade
- Identification of training needs
- Training inputs

Assumption based on limitation,

It is assumed that neutral response is skewed more towards dissatisfaction rather than satisfaction. Hence the following factors are also considered as areas of improvements. They are feedback, guidance, appraiser's behaviour, and level of access given to discuss problems, timeframe given to complete the tasks.

CHI SQAURE TESTS

3.1 ASSOCIATION BETWEEN AGE AND SATISFACTION WITH PERFORMANCE APPRAISAL

H_o - There is no association between age and satisfaction with performance appraisal

H_α - There is an association between age and satisfaction with performance appraisal

Table 3.1 Association between age and satisfaction with performance appraisal

Test parameters	**Value**	**Df**	**Asymp. Sig. (2 sided)**
Pearson Chi-Square	39.824*	12	.000
Likelihood Ratio	22.028	12	.037
Linear-by-Linear Association	9.914	1	.002
N of Valid cases	95		

INFERENCE

From the table 3.1, it is observed that P value (0.000) is less than 0.05, so Alternative Hypothesis is accepted. Therefore, it is inferred that there is an association between employee age & satisfaction with performance appraisal

3.2 ASSOCIATION BETWEEN GENDER AND SATISFACTION WITH PERFORMANCE APPRAISAL

H_o - There is no association between gender and satisfaction with performance appraisal

H_α - There is an association between gender and satisfaction with performance appraisal

Table 3.2 Association between gender and satisfaction with performance appraisal

Test parameters	**Value**	**df**	**Asymp.Sig.(2 Sided)**
Pearson Chi-Square	4.534*	4	.339
Likelihood Ratio	4.566	4	.335
Linear-by-Linear Association	1.135	1	.287
No of Valid Cases	95		

INFERENCE

From the table3.2, it is observed that P value (0.339) is greater than 0.05, so Null Hypothesis is accepted. Therefore, it is inferred that there is no association between gender & satisfaction with performance appraisal.

3.3 ASSOCIATION BETWEEN EXPERIENCE AND SATISFACTION WITH PERFORMANCE APPRAISAL

H_o - There is no association between experience and satisfaction with performance appraisal

H_α - There is an association between experience and satisfaction with performance appraisal

Table 3.3 Association between experience and satisfaction with performance appraisal

Test parameters	**Value**	**df**	**Asymp.Sig.(2Sided)**
Pearson Chi-Square	25.483*	12	.013
Likelihood Ratio	18.364	12	.105
Linear-by-Linear Association	3.136	1	.077
No of Valid Cases	95		

INFERENCE

From the table 3.3, it is observed that P value (0.013) is less than 0.05, so Alternative Hypothesis is accepted. Therefore, it is inferred that there exists an association between experience & satisfaction with performance appraisal.

MANN WHITNEY TEST

H_o- There is no significant difference between mean ranks of male and female with attributes related to the appraiser

H_α- There is a significant difference between mean ranks of male and female with attributes related to the appraiser

Table 3.4 Mann Whitney U test for significant difference between Mean ranks of men and women with various performance appraisal attributes

Attributes at work	**Gender**		**Z value**	**P value**
	Male	**Female**		
Feedback	48.83	46.70	-0.399	0.690*
Guidance	47.40	48.95	-0.290	0.772*
Appraiser_behaviour	53.31	39.68	-2.592	0.010*

Access	46.79	49.89	-0.599	0.549*

INFERENCE

From the table 3.4, it is observed that the significance value, p=0.010 is less than 0.05. Hence the null hypothesis is rejected in the case of appraiser behavior. Therefore, it is inferred that there is a significant difference between mean ranks of male and female in appraiser behavior.

The significance value p is greater than 0.05 in all other factors. Hence null hypothesis is accepted.

KRUKSAL WALLIS TEST

H_0- There is no significant difference between means of experience with target, KRA and responsibility_match.

H_α- There is a significant difference between means of experience with target, KRA and responsibility_match.

Table 3.5 Kruskal-Wallis test for significant difference among Mean Rank of Experience with respect to Role and responsibility factors

Factors	Experience			Chi-square value	P value
	1-3 years	3-5 years	Above 5 years		
Target	49.54	52.29	35.42	5.227	0.156*
KRA	50.17	53.73	28.17	9.778	0.021*
Responsibility match	44.99	53.45	43.46	2.750	0.432*

INFERENCE

From the table 3.5, it is observed that the significance value, p=0.021 is less than 0.05. Hence the null hypothesis is rejected in the case of satisfaction on KRA setting. Therefore it is inferred that there is significant difference between means of experience and KRA.

The significance value p is greater than 0.05 in all other factors. Hence null hypothesis is accepted.

CORRELATION

3.6 ASSOCIATION BETWEEN SATISFACTION WITH PEER PARTICIPATION AND SATISFACTION WITH PEER AMICABILITY

H_o- There is no significant association between satisfaction with peers' participation in finishing the work and satisfaction with peers' amicability at workplace.

H_α- There is a significant association between satisfaction with peers' participation in finishing the work and satisfaction with peers' amicability at workplace.

Table 3.6 Correlation test for significant association between satisfaction with peer participation and satisfaction with peer amicability

Factors		Peer participation	Peer amicability
Peer participation	Pearson correlation	1	.791**
	Sig(2-tailed)		.000
	N	95	95
Peer amicability	Pearson correlation	.791**	1
	Sig(2-tailed)	.000	
	N	95	95

INFERENCE

From the table 3.6, it is observed that the significance value, p=0.000 is less than 0.05. Hence the null hypothesis is rejected.

The Pearson Correlation Coefficient is 0.791. Hence it is inferred that there is a strong positive correlation between satisfaction with peer participation and satisfaction with peer amicability.

ASSOCIATION BETWEEN SATISFACTION ON CURRENT APPRAISAL AND NEED FOR NEW APPRAISAL

H_o- There is no significant association between satisfaction with current appraisal system and the need for a new appraisal system

H_α- There is a significant association between satisfaction with current appraisal system and the need for a new appraisal system

Table 3.7 Correlation between satisfaction on current appraisal and need for new appraisal

Factors		Satisfaction	Need for new appraisal system
Satisfaction	Pearson correlation Sig(2-tailed) N	1 95	-.363** .000 95
Need for new appraisal system	Pearson correlation Sig(2-tailed) N	-.363** .000 95	1 95

INFERENCE

From the table3.7, it is observed that the significance value, p=0.000 is less than 0.05. Hence the null hypothesis is rejected.

The Pearson Correlation Coefficient is -0.363. Hence it is inferred thatthere is a negative correlation between satisfaction on current appraisal and need for new appraisal.

3.8 AREAS OF IMPROVEMENT

3.8 IMPROVEMENTS REQUIRED IN THE EXISTING APPRAISAL METHOD

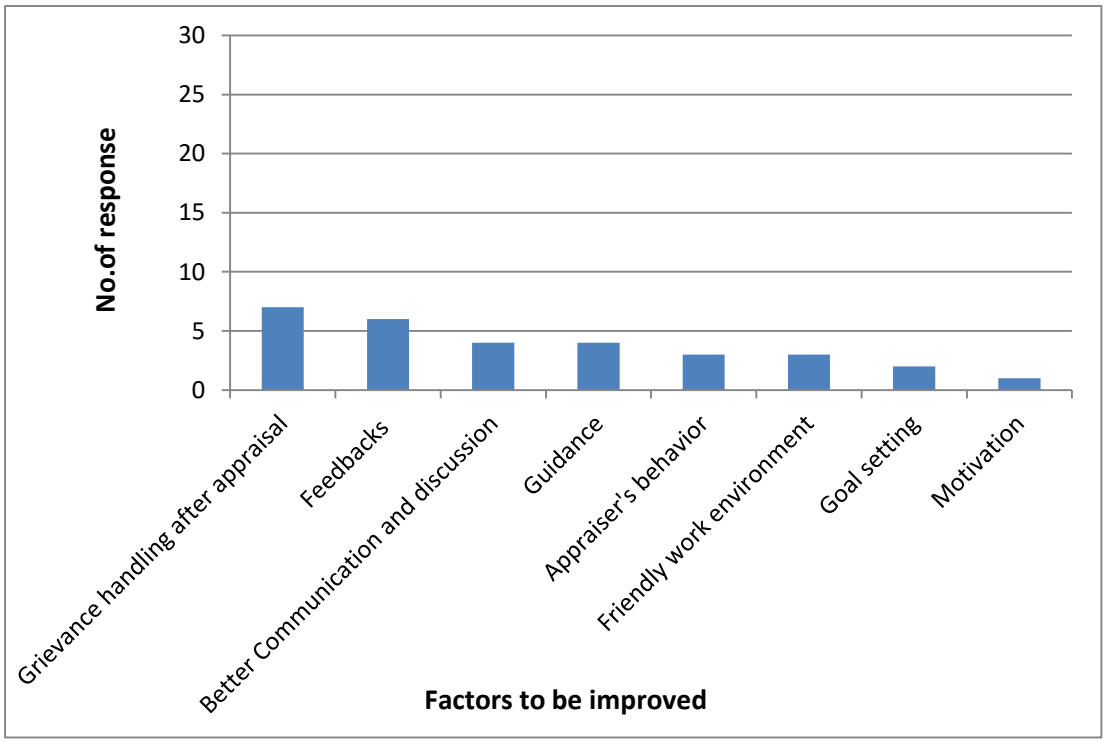
Totally 30 responses were received for this open ended question.

Table 3.8 Factors to be improved in the existing Appraisal Method

Improvements needed in the current appraisal system	**Count**
Grievance handling after appraisal	7
Feedbacks	6
Better Communication and discussion	4

Guidance	4
Appraiser's behavior	3
Friendly work environment	3
Goal setting	2
Motivation	1
Total	30

Figure 3.8 Factors to be improved in the existing appraisal system



INFERENCE

From the figure 3.8 it is inferred that following factors are the vital few which need to be given more importance for improvement

1. Grievance handling after appraisal
2. Feedbacks by superiors post appraisal
3. Better communication and discussion about the appraisal
4. Guidance from the superior

5. Conclusion

The purpose of the study was to evaluate perceptions of fairness of scientific personnel with respect to performance appraisal system and their satisfaction with the system. Further, an attempt was made to understand the factors including developmental appraisal and transparency of appraisal process influencing performance appraisal system. The findings of the study indicate that many procedural factors suggested in this study have been addressed by the system designers and the organisation under study. Such system procedures include setting performance standard, self-appraisal, assignment of knowledgeable appraisers, rating that is accurate and reflective of employee's accomplishment, performance review discussion and provision of an appeal accessible to the employee. The inclusion of these factors in the evaluation process in the present study strengthens the conclusion that measurement of reaction scales used in the study can also be considered to represent components of efficacious performance appraisal system. Performance of scientific personnel in R&D organisation under study is driven by salary and perks, monetary incentives, proficiency challenging assignment, work environment and communication and interpersonal relations. But at the same time, scientific personnel have expressed dissatisfaction over awards / recognition and training / development. Further, the analysis indicates that junior and middle level scientists (scientist D & below) are less satisfied with pay / allowance than the senior level scientists. Engineering graduate respondents are highly satisfied over promotion and career progression than their colleagues / superiors with post-graduation in science and engineering. Majority of respondents agree that open appraisal process, recently introduced by the organisation, will help building a transparent performance appraisal system, achieve to rectify and continuously improve and create conducive and healthy working environment. At the same time, disclosure of rating/ grade to the employees will tend to inflate grading by the first level / second level assessors. But the respondents differ on the issue that the open process will help to improve the appraisal system and spur motivation among them for performance. The present performance appraisal system for scientific personnel of the selected organisation is required to be re -evaluated with focus on improving their perception of performance rating and its plausible explanation by the appraisers. Interaction between appraisers and appraisees on regular basis for feedback and eventual improvement on performance with emphasis on developmental aspects of appraisal will add impetus to the performance appraisal system. Implementation of the performance appraisal system objectively and efficiently with streamlining and strengthening of transparency and appeal process will make the system efficacious and efficient.

6. References

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