PERFORMANCE APPRAISAL: An Empirical Study to understand Job Satisfaction and Motivation of personnel through the system

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Abstract— Drawing upon existing literature, this study investigated the relationship between Job satisfaction and Motivation of personnel through the system of Performance Appraisal (PA). A study of 115 personnel from various industries found a positive correlation between job satisfaction and motivation with the performance appraisal system of the organization. The results of the study indicate positive constructs related to PA as objectivity and transparency, PA culture and system, feedback, performance impact, attrition, and compensation. Furthermore, it strengthens the argument that organizations must design and administer their performance appraisals with care, frequency and use it more as a development tool to enhance its effectiveness for generating productivity.

Index Terms—Empirical Study, PA, Performance Appraisal

I. INTRODUCTION

The technique of Performance Appraisal has been widely adopted in organizations to measure and evaluate performance of employees across all levels. Both public and private sector have been known to employ formal employee appraisal systems increasingly. Performance Appraisal has been the focus of a flurry of research activity in the past several decades (Bretz, Milkoviln and Read, 1992). There has also been a continued use of performance appraisal systems by business and industry, with recent surveys indicating that between 74 per cent to 89 per cent of firms having a formal system. (Murphy and Cleveland, 1991). Formal PA systems arose for a number of different purposes, including human resource decisions, feedback and program evaluation (Cleveland, Murphy and Williams, 1989).

PA is among the most important HR practices and it is one of the most heavily researched topics (Fletcher, 2002). According to Fletcher, the PA must be viewed as a mechanism for developing and motivating people.

The study was designed to learn the impact of PA on Job Satisfaction and Motivation of Personnel in various occupations and firms respectively.

II. REVIEW OF LITERATURE

Performance Appraisal (PA) usually involves "evaluating performance based on the judgements and opinions of subordinates, peers, supervisors, other managers and even workers themselves (Jackson & Schuler, 2003). Generally an appraisal, performance review or a career development

discussion is a method by which the job performance of an employee is evaluated in terms of quality/quantity/ cost/time. The system of performance appraisals as regular reviews of employee performance within organizations is being widely adopted. As a process, performance appraisal is seen as a key contributor to successful human resource management, as it is strongly related to organizational performance. (Erdogan, 2002). According to Lardy and Robbins (1994), PA as a process of enhancing human performance has attracted the attention of both academics and practitioners.

Historically information from PA has been used as a basis for administrative decisions (Boleman et al, 2009). Several service institutions are using a PA system that was developed at a time when organizations were typically large and hierarchically arranged, as organizational environments were relatively stable, when employees were homogeneous and relatively well qualified and when long term employment was the norm. (Cleveland, Murphy, 1995)

PA can be perceived, described and implemented in different ways in organizations. With PAs in groups, the group is known to push each member to perform at his or her highest level and thus members may be heavily motivated to participate in PAs. Research has shown that the PA must have a positive purpose and employees must be participants in the PA if they are to improve their job performance. (Vasset et al, 2012)

Job satisfaction is known to emerge from a variety of factors, including characteristics of the organizational environment, specific features of the job, human resource practices, PA and the personal characteristics of the employee. Job satisfaction has been widely researched by the terms of its determinants, and its predictive power. Important and recurring questions in organizational science are why employees perform well in their jobs and why they are satisfied with their jobs. Research suggests that employees' job satisfaction depend on their goal orientations. (Farr, Hoftmann and Renginbach, 1993). Performance oriented individuals tend to believe that working hard does not lead to performance improvement. In their view, working hard indicates low competence, and those who perform poorly do not have the attributes necessary to do well in their jobs. (Dweck, 1999). Job performance is a broad and complex construct comprising two fundamentally different aspects, namely, in role job performance mandated by an organization and more spontaneous innovative work behaviours. (Katz, 1964).In role job performance can be defined as actions specified and required by an employees' job description and thus, mandated, appraised and rewarded by an employing organization. A performance goal reflects the desire to demonstrate superior competence to others. As such, employees with performance orientation tend to

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perceive in role job requirements as competitive standards that motivate them to exert effort in order to outperform others and to obtain favourable competency judgements from their organization's appraisal and reward systems. Researchers have noted that job satisfaction is directly related to employee turnover, retention rates, absenteeism and indirectly to job performance and productivity. (Shore, Newton et al, 1990). Higher job satisfaction has been linked with employees who are able to exercise autonomy (Sekharan, 1989) and with those who have a higher level of job involvement. The relationship between job satisfaction and job performance has been the concern of many studies. Job satisfaction refers to the employee's pleasurable or positive emotional state as a result of appraisal of one's job and job experience. (Bartlett& Keng, 2004, Schmidt, 2007). For the long term effectiveness of the organizational system employees' satisfactory perceptions towards PAs are important. (Largenecker & Nykodym ,1996). If employees are not satisfied with PAs, they will not see the added value. (Beaty, 1984). Some other studies suggested that appraisal satisfaction is a key factor leading to job satisfaction. (Murphy and Cleveland, 1995).

Performance Appraisal satisfaction deals with such issues as employees evaluating timeliness, accuracy, goal setting procedures and feedback mechanisms. (Dobbins, Candy and Plat-Vieno, 1990). Addressing the concern of the use a Performance Appraisal, Longenekar, Sims and Gioia summarise as "the main concern is how best to use the appraisal process to motivate and reward subordinates (1987, p 191). It is assumed that the PA process involves a series of behaviours during which the appraiser observes, stores and when necessary, recalls and integrates appraisee behaviour. (Wexley, Klimoxi, 1984).

Current PA practices tend to work better in terms of affective and behaviour outcome i.e people are more satisfied with PA events and PA behaviours are more positive and functional when the job of the person being appraised has well specified duties and priorities (Reznick and Mehrman, 1981)

The relationship between performance appraisal and satisfaction and work performance was both mediated and moderated by employees' intrinsic work motivation.

III. OBJECTIVE OF THE STUDY

The main objective of the study was to analyze the impact of a Performance Appraisal on personnel in terms of their job satisfaction and motivation for undertaking work. For this purpose, demographic details and a questionnaire of 25 items examining these factors from personnel of various age groups working in different organizations was collected and studied.

IV. RESEARCH HYPOTHESIS

The hypothesis proposed is as follows: The variables associated with Job satisfaction and Motivation is significantly related to Performance Appraisal.

V. RESEARCH METHODOLOGY

The study significantly used primary data. Some sources for secondary data were also browsed in order to deeply understand the phenomenon of Performance Appraisal as a basis for Job Satisfaction and Motivation to work. The primary data was collected as responses from a judgement sample of 115 respondents working in various industries. The rationale for choosing the respondents was a minimum of a two year work experience in the same organization and being subjected to an annual Performance Appraisal. The number of responses totalled 115 and these were clustered as follows: demographic data, satisfaction factors, motivation drivers through the instrument of PA. These were personally collected and the responses as a range of ratings from strongly agree to strongly disagree were marked. The numbers of statements were 25 and for analysis, these were clustered as job satisfaction related and motivation related. The content of the questionnaire included the phenomenon of PA and the experience related to the same.

VI. RESULTS AND ANALYSIS

The Personal Characteristics of the respondents for this study included age, gender and education status. These were necessary to be included for analysis as institutional studies have shown the impact of such characteristics on employee performance. (Anderson, 1976; Gibbons, 1997; World, 2001).

Table 1 shows the Age Distribution of respondents. 41 were between the age of 21 and 25 years and 67 were between the age of 26 and 50 years.

Table 2 shows the Gender Distribution of the respondents. 75 were male and 40 were female respondents.

Table 3 shows the Educational Status of the respondents. 79 were undergraduate students and 36 were post graduate students.

Table 4 shows the Correlation score of Performance Appraisal Satisfaction and Motivation and Rewards. It was analyzed according to age, gender and education qualification. It showed the overall correlation coefficient as 0.709, which is quite high.

Table 5 shows the Varimax Rotated factor analyses of the scale related to Satisfaction with Performance Appraisal. Using a cut off > 0.35, six factors were drawn from 18 variables related to satisfaction and appraisal. The total variance explained was 65.58 per cent. I have named them as follows including the factor loadings.

A. Transparency of Appraisal

- 1. Proper Evaluation (0.645)
- 3. Continuous Monitoring (0.418)
- 4. Appraisal Satisfaction (0.752)
- 7. Expected Results (0.640)
- 15. Fair Promotion (0.688)

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- 17. Compensation related to Performance (0.537)
 - B. Systemic
- 5. Appraisal Satisfaction (0.763)
- 6. Frequency of Appraisal (0.724)
- 10. Impartial Appraiser (0.672)
 - C. Feedback
- 9. Evaluater Rating (0.718)
- 13. Result Impact (0.734)
 - D. Performance Impact
- 12. Impact on Performance (0.843)
- 16. Affect on Performance (0.696)
 - E. Performance and Attrition
- 2. Total Employee Evaluation (0.636)
- 8. Impact on Attitude and Morale (0.574)
- 11. Attrition and Evaluation (0.714)
 - F. Basis for Compensation
- 14. Standard tool for Performance Standards (0.862)

Table 6 shows the Varimax Rotated Component Matrix of variables related to Performance Motivation and Rewards. Two factors were extracted and these are as follows:

- G. Performance Communication
 - 22. Frequent Communication (0.761)
 - 23. Right Rating (0.807)
 - 24. Feedback for Evaluation (0.858)
 - 25. Motivation to Improve (0.630)
- H. Performance Rewards
 - 18. Promotion Morale (0.568)
 - 20. Reward for Performance (0.799)
 - 21Wages and Performance (0. 767)

Table 7 shows the Correlation between factors related to Performance Appraisal Satisfaction and Performance Appraisal Motivation and Rewards. It shows a significant positive correlation between both the dimensions.

VII. DISCUSSION

The purpose of undertaking this research study was to examine the impact of PA on the feelings and manifestation of Job satisfaction and Motivation of the employees. Trust in the Performance Appraisal system is likely to affect motivation. As defined by Bernardin and Beatty (1984), trust in the PA system refers to the extent to which appraisers and

subordinates believe that performance data will be used fairly and objectively. There is one negative consequence of engaging in performance appraisal activities: interference with other tasks. Recent writing on Motivation (Kanfer, 1990) has postulated that individuals consider the importance of competing goals and outcomes in determining which activities to engage in. In the present context, most managers have myriad of job responsibilities beyond PA; time spent on PA activities may be viewed by the organization and appraiser as detracting from other and more important tasks.

PA can be considered to be a technique that has a positive effect on work environment and quality of service. Researchers acknowledge that there are a number of problems connected to PA.(Kuvaas, 2006). The reasons include poor design, lack of attention to the organization culture and unwillingness to confront issues of poor performance (Schofield, 1996) as well as time pressure.

In the last decade, researchers have moved away from a narrow focus on feedback and evaluation from manager towards the more developmental and motivational aspects of PA (Kuvaas, 2006; Fletcher, 2001). One major focus in practitioner literature is transforming PA from a process to a management tool that motivates employees.

PA helps employees to improve their performance by giving feedback about the need for development and help employees to continue to excel by giving positive reinforcement that can motivate them. Feedback is often seen as recognition for good performance and can increase inner motivation because it may reinforce the employees on competence and self esteem. The significance of a Performance Appraisal as a basis for driving employee motivation and job satisfaction has been established. The findings of the above research study through the Correlation Analysis are in conformity with the previous research studies and align with the hypothesis, which show a positive correlation between PA and Job satisfaction and Motivation. Organizations are increasingly convinced and therefore wish to invest ample time and innovation in undertaking the design and exercise with care and transparency, in order to minimize the element of conflict and prejudice likely to influence the conduct of this activity with objectivity.

VIII. CONCLUSION AND RECOMMENDATIONS

Findings from this study would seem to have many practical implications for enhancing the motivation and Job satisfaction of employees at the workplace. PA as an instrument needs to be designed and administered effectively and judiciously. The above research study depicts the positive constructs related to PA as objectivity and transparency, PA culture and system, feedback, performance impact, attrition, and compensation. All these constructs are positively related to job satisfaction and motivation of employees at the workplace. For future, research may uncover such other constructs like coaching and mentoring, learning and training, peer relationships, which meet the inclusion criteria for measuring the impact of PA.

REFERENCES:

- [1] Bartlett, K. R., & Kang, D. (2004). Training and organisational commitment among nurses following industry and organisational change in New Zealand and the United States. *Human Resource Development International*, 7(4), 423–440.
- [2] Bernardin H.J & Beatty, R W.(1984). Performance Appraisal: Assessing human behaviour at Work.Boston.MA: PWS-Kent
- [3] Bernardin H.J. & Wiatrowski M.(2013).Performance Appraisal. Psychology and Policing, 257
- [4] Bolman L.G. and Deal T.E. (2009), Reframing Organizations, Artistry, Choice and Leadership. Jossey-Bass, Inc USA(10)
- [5] Bretz R.D., Milovich G.T. Kc Read W.(1992). The current state of performance research and practice: Concerns, directions, and implications. *Journal of Management*, 18: 321-352
- [6] Cleveland J.N. & Murphy ,K.R. (1992). Analysing performance appraisal as goal directed behaviour.Pp 121- 185 in G. Ferris & K.R. Rowland (eds). Research in Personnel and Human Resources Management, Vol 10. Greenwich, CT: JAI Press
- [7] Cleveland J.N. Murphy K.R. & Williams R. E. (1989). Multiple uses of Performance Appraisal: Prevalence and Correlates. *Journal of Applied Psychology*, 74: 130-135
- [8] Dobbins, G. H., Cardy, R. L., & Platz-Vieno, S. J. (1990). A contingency approach to appraisal satisfaction: an initial investigation of the joint effects of organisational variables and appraisal characteristics. *Journal of Management*, 16 (3), 619-632.
- [9] Dweck C.S. (1999). Self theories: Their Role in Motivation, Personality and Development. Ann Arbor, MI: Psychology Press, Taylor & Francis Group
- [10] Erdogan, B. (2002). Antecedents and consequences of justice perceptions in performance appraisals. *Human Resource Management Review*, 12 (4), 555-578
- [11] Farr J.L. Hofmann D.A. & Ringenbach. K.L. (1993), Goal Orientation and Action Control Theory: Implications for industrial and Organizational Psychology. In C.L. Cooper & I.T. Robertson (Eds), International Review of Industrial and Organizational Psychology: 193-232. Wiley
- [12] Fletcher C. (2001). Performance Appraisal and Management: The Developing Research Agenda. *Journal of Occupational and Organizational Psychology*, 73, 473-487, Sage Publications, Thousand Oaks
- [13] Jackson. S.E. & Schuler R.S. (2003). Managing Human Resources through strategic partnerships (8th ed.)Mason, Ohio: Thomson – Southwestern
- [14] Kanfer R. (1990). Motivation theory and Industrial and OrganizationalPsychology,Pp 75 – 170 in M. Dunnette & L. Hough (eds). *Handbook of I/O Psychology*, Vol I Palo Alto, CA: Consulting Psychologists Press
- [15] Katz, D. (1964). The Motivational basis of Organizational Behaviour. Behavioural Science, 9: 131-133
- [16] Kuvaas B(2006): Different Relationships between Perceptions of Developmental Performance Appraisal and Work Performance. Personnel Review , 36 (3): 378-398
- [17] Landy F J & Farr J L (1980). Performance Rating, Psychological Bulletin, 87: 72-107
- [18] Landy FJ, Barnes J, Murphy KR(1978): Correlates of Perveived Fairness and Accuracy in Performance Appraisals. Journal of Applied Pschology, 63:751-754.
- [19] Longenecker, C. O., & Nykodym, N. (1996). Public sector performance appraisal effectiveness: a case study. *Public Personnel Management*, 25 (2), 151–165
- [20] Murphy, K.R. and Cleveland, J.N. (1995). Understanding Performance Appraisal. Social, Organizational and Goal Setting. Sage Publications, Thousand Oaks
- [21] Murphy K.R. & Cleveland J.N. (1991). Performance Appraisal: An Organizational Perspective. Boston, MA: Allyn & Bacon
- [22] Resnick, Susan and Alla M. Mohrman Jr.(1981)"An Appraisal of Performance Appraisal: Summary Results of a Large Scale Study, " Technical Report, Center for Effective organizations, "University of Southern California, 1981
- [23] Schofield A: Developments in Performance Appraisal in Commonwealth Universities. In CHEMS Paper No 5, Number 117, February 1995. Edited by C. Universities. 1996. White paper no 25, (2005-2006): Competence, Opportunities and Meaning. Edited by T.r.h.c. Ministry. Government Stoltenberg; Britain
- [24] Sekaran U. (1989)." Paths to the Job Satisfaction of Bank Employees." *Journal of Organization Behaviour*. 10(4): 347 – 359

- [25] Shore, L.M., L.A. Newton, et al (1990). "Job and Organizational Attitudes in Relation to Employee Behavioral Intentions." *Journal of Organization Behaviour* 11(1): 57-67
- [26] Shore, L. M., L. A. Newton, et al. (1990). "Job and Organizational Attitudes in Relation to Employee Behavioral Intentions." *Journal of Organizational Behavior*. 11(1):5
- [27] Vasset F., Mamburg. E. and Furunes, T. (2012) Dyadic Relationships and Exchange in Performance Appraisal, Vard I Norden, 32,4-9(9)
- [28] Weick, Karl E.(1979) The Social Psychology of Organising, Reading, Massachusetts: Addison – Wesley Publishing Company
- [29] Wexley K.N. & Klimoski R. (1984). Performance Appraisal: An update.Pp 35 -79 in G R Ferris & K.R. Rowland (eds). Research in Personnel and Human Resource Management, Vol 2. Greenwich, C T: Jai Press
- [30] Wexley K.N. & Klimoski R (1984). Performance Appraisal: An Update.Pp 35-79 in G.R. Ferris & K R Rowland (eds). Research in Personnel and Human Resource Management, Vol 2, Greenwich, CT: JAI Press

Table 1) The age distribution of respondents.

Age Group (years)	No. of respondents	% of respondents
21 – 25	48	41.7
26 – 50	67	58.3
Total	115	100.0

Figure 1) The age distribution of respondents.

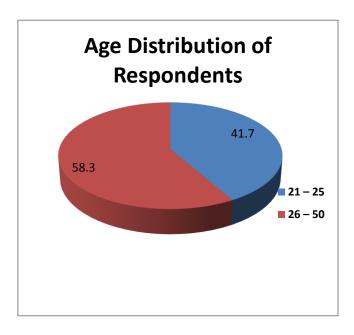


Table 2) The gender distribution of respondents.

Gender	No. of respondents	% of respondents
Male	75	65.2
Female	40	34.8
Total	115	100.0

Figure 2) The gender distribution of respondents.

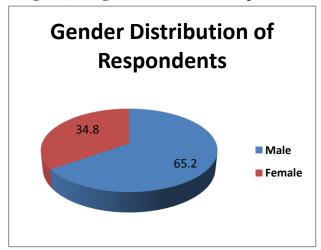


Table 3) The distribution of educational status of the respondents.

Education	No. of	% of						
Status	respondents	respondents						
UG	79	68.7						
PG	36	31.3						
Total	115	100.0						

Figure 3) The distribution of educational status of the respondents.

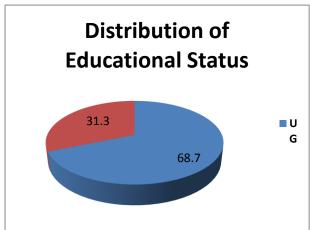


Table 4) The correlation analysis between performance appraisal and motivation/rewards according to age group, gender and educational status of the respondents.

	Correlation Between Performance Appraisal and Motivation/Reward				
Group	Correlation Coefficient (r)	P-value (Significance)			
Age Group					
21 - 25	0.616	0.001 (S)			
26 - 50	0.778	0.001 (S)			
Gender					
Male	0.729	0.001 (S)			
Female	0.680	0.001 (S)			
Education					
UG	0.659	0.001 (S)			
PG	0.810	0.001 (S)			
Overall	0.709	0.001 (S)			

Correlation analysis by Pearson's method. S: Statistically Significant.

Figure 5) The correlation analysis between performance appraisal and motivation/rewards according to age group, gender and educational status of the respondents.

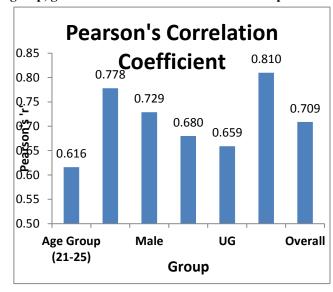


Table 6a) Factor Analysis for performance appraisal.

Question No.	Scor			nunalities
1100	Mean	SD	Initial	After Extraction
Q1	1.81	.826	1.000	.608
Q2	2.20	.929	1.000	.620
Q3	2.11	1.190	1.000	.678
Q4	2.14	1.050	1.000	.622
Q5	2.62	1.182	1.000	.639
Q6	2.15	1.037	1.000	.546
Q7	2.19	1.042	1.000	.636
Q8	3.05	1.426	1.000	.647
Q9	2.86	.990	1.000	.746
Q10	2.72	1.218	1.000	.665
Q11	2.40	.998	1.000	.734
Q12	1.94	.985	1.000	.748
Q13	2.18	1.014	1.000	.658
Q14	2.10	.968	1.000	.779
Q15	2.14	1.191	1.000	.683
Q16	1.95	.759	1.000	.500
Q17	2.08	1.125	1.000	.759
Q19	2.19	1.099	1.000	.539

Comments:

All questions had communalities more than 0.5 on extraction, hence the data on all questions is used for factor analysis. None needs to be discarded from the subsequent analysis.

Table 6b) Total Variance Explained after factor analysis (For Performance Appraisal):

Component	Initial Eigenvalues		Exti	action Sums Loading	•	Rot	tation Sums o Loading	•	
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.413	18.963	18.963	3.413	18.963	18.963	2.963	16.463	16.463
2	2.843	15.793	34.756	2.843	15.793	34.756	2.220	12.332	28.795
3	1.737	9.649	44.405	1.737	9.649	44.405	1.833	10.184	38.980
4	1.519	8.437	52.841	1.519	8.437	52.841	1.800	10.001	48.981
5	1.223	6.793	59.634	1.223	6.793	59.634	1.589	8.826	57.808
6	1.071	5.951	65.585	1.071	5.951	65.585	1.400	7.777	65.585
7	.915	5.083	70.668					:	
8	.892	4.955	75.623					:	
9	.733	4.074	79.697					:	
10	.622	3.456	83.152					:	
11	.540	3.003	86.155					:	
12	.506	2.813	88.968					:	
13	.443	2.458	91.427						
14	.411	2.286	93.713						
15	.337	1.873	95.585						
16	.294	1.634	97.219						
17	.264	1.465	98.684						
18	.237	1.316	100.000						

Extraction Method: Principal Component Analysis.

Comments:

- 1) It is clear that there are 6 components having eigen value more than 1.0, hence six components are to be extracted from factor analysis.
- 2) In addition, the cumulative proportion of variance criteria can be met with 6 components which satisfy the criterion of explaining 65.585% of the total variance which is more than the required standard 55.0% of total variance limit. It is interesting to note that a total of 18 variables are transformed to a smaller set of 6 components yielding a much significant total variance of 65.858%. Thus only 6 components can provide us the required information that we would obtain from 18 variables.

1) Table 6c) Rotated Component Matrix for Performance appraisal.

Question No.		Components (Performance Appraisal)							
	1	2	3	4	5	6			
Q1	0.645	0.108	0.090	0.216	0.313	0.167			
Q2	0.256	-0.132	0.310	0.163	0.636	-0.098			
Q3	0.418	-0.180	0.369	0.256	-0.222	0.469			
Q4	0.752	-0.105	-0.103	0.167	0.009	0.087			
Q5	0.029	0.763	0.211	-0.012	0.076	0.073			
Q6	-0.028	0.724	-0.049	0.017	0.031	-0.128			
Q7	0.640	-0.023	0.261	-0.379	0.022	-0.119			
Q8	-0.496	-0.110	-0.008	-0.240	0.574	0.037			
Q9	-0.308	0.218	0.718	0.198	0.160	0.151			
Q10	0.025	0.672	0.011	0.022	-0.033	0.459			
Q11	0.018	0.434	-0.098	-0.014	0.714	0.157			
Q12	0.082	0.019	0.105	0.843	0.130	0.045			
Q13	0.305	-0.058	0.734	-0.091	0.113	0.041			
Q14	0.019	0.110	0.063	-0.092	0.107	0.862			
Q15	0.688	0.107	0.370	-0.184	-0.164	0.025			
Q16	-0.015	0.017	-0.005	0.696	-0.090	-0.081			
Q17	-0.537	0.375	0.111	0.364	-0.124	0.293			
Q19	0.356	0.295	0.488	0.122	-0.267	0.007			

Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization. Rotation converged in 13 iterations.

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Comments:

- 1) The variables that are included with relatively higher loadings in the components are shown using grey colour code.
- 2) Component 1 represents the higher scores of Q1, Q3, Q4, Q7 and Q15 and lower scores of Q17. Component 2 represents the higher scores of Q5, Q6 and Q10. Component 3 represents the higher scores of Q9, Q13 and Q19. Component 4 represents the higher scores of Q12 and Q16. Component 5 represents the higher scores of Q2, Q8 and Q11. Component 6 represents the higher score of Q14.

Table 7) Factor Analysis for Motivation / Reward.

Question No.	Sco	ore	Comm	unalities
	Mean	SD	Initial	After Extraction
Q18	2.18	1.225	1.000	0.500
Q20	2.19	0.999	1.000	0.639
Q21	2.11	1.205	1.000	0.596
Q22	1.98	1.017	1.000	0.579
Q23	2.31	1.095	1.000	0.676
Q24	1.97	0.959	1.000	0.736
Q25	1.70	0.900	1.000	0.500
Q25	1.70	0.900	1.000	0.500

Comments:

All questions had communalities more than 0.5 on extraction, hence the data on all 7 questions is used for factor analysis. None needs to be discarded from the subsequent analysis.

Table 7b) Total Variance Explained after factor analysis (For Motivation/Reward):

Compone nt	Initial Eigenvalues		-		Extra	Extraction Sums of Squared Loadings		Rotation Sums of Squared Loadings	
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulativ e %	Total	% of Variance	Cumulativ e %
1	2.431	34.730	34.730	2.431	34.730	34.730	2.403	34.328	34.328
2	1.548	22.111	56.840	1.548	22.111	56.840	1.576	22.512	56.840
3	.895	12.789	69.630						
4	.731	10.436	80.066						
5	.640	9.142	89.208						
6	.468	6.688	95.896						
7	.287	4.104	100.000						

Extraction Method: Principal Component Analysis.

Comments:

- 1) It is clear that there are 2 components having eigen value more than 1.0, hence two components are to be extracted from factor analysis.
- 2) In addition, the cumulative proportion of variance criteria can be met with 2 components which satisfy the criterion of explaining 56.840% of the total variance which is more than the required standard 55.0% of total variance limit.
- 3) It is interesting to note that a total of 7 variables are transformed to a much smaller set of 2 components yielding a much significant total variance of 56.840%. Thus only 2 components can provide us the required information that we would obtain from 7 variables.

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Table 7c) Rotated Component Matrix for Motivation/Reward.

Question No.	Components (Motivation / Reward)					
	1	2				
Q18	-0.182	0.568				
Q20	0.016	0.799				
Q21	0.082	0.767				
Q22	0.761	-0.007				
Q23	0.807	-0.158				
Q24	0.858	-0.001				
Q25	0.630	0.011				

Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization. Rotation converged in 13 iterations.

Comments:

- 1) The variables that are included with relatively higher loadings in the components are shown using grey colour code.
- 2) Component 1 represents the higher scores of Q22, Q23, Q24 and Q25. Component 2 represents the higher scores of Q18, Q20 and Q21.

Table 8) The correlation analysis between factors extracted of performance appraisal and motivation/rewards through factor analysis.

		Components Extracted of Performance Appraisal								
Components of Motivation /Reward	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6				
Factor 1	0.510 (0.001) (S)	0.332 (0.001) (S)	0.489 (0.001) (S)	-0.138 (0.142) (NS)	-0.011 (0.904) (NS)	0.144 (0.126) (NS)				
Factor 2	-0.103 (0.273) (NS)	0.106 (0.262) (NS)	0.204 (0.028) (S)	0.324 (0.001) (S)	0.225 (0.016) (S)	0.102 (0.280) (NS)				

Correlation analysis by Pearson's method. S: Statistically Significant, NS: Statistically Non-Significant.

Comments:

- 1) Performance appraisal factors (factor 1, factor 2 and factor 3) are positively and significantly correlated with first Motivation/reward factor.
- 2) Performance appraisal factors (factor 3, factor 4 and factor 5) are positively and significantly correlated with second Motivation/reward factor.