

IMPACT OF GROUP-LEVEL FACTORS ON ORGANISATIONAL PERFORMANCE IN PUBLIC SECTOR CORPORATIONS

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Abstract: This study empirically investigates the impact of group-level factors namely team-member exchange, group interdependence, group cohesiveness, group potency, group affective tone and group maturity on organisational performance in the public sector corporations in Jammu and Kashmir, India. Data were collected from 104 groups consisted of 1189 employees from the head offices of the J&K public corporations in Jammu district. Census method was used for collecting data and the effective responses came from 902 employees. Although various constructs of the study were measured at the individual level, the statistical analysis was conducted at the group level by aggregating individual employees' responses within each group. Statistical techniques like CFA and SEM have been used to analyze the data. Further, reliability and validity were also performed. The findings indicate that organisational performance is significantly and positively affected by group-level factors. These results emphasise the importance of group dynamics to the effective functioning of the organisations. The study is limited to the groups working in head offices of J&K public sector only and thus, the study needs to be replicated in all the offices of the corporations. The study can be of great use to the researchers, academicians for new insights and to the society at large

Keyword: Team-Member Exchange, Group Interdependence, Group Cohesiveness, Group Potency, Group Affective Tone, Group Maturity, Organisational Performance

Jel Classification : M10 M12

INTRODUCTION

Trends toward deregulation, privatisation and a negative growth environment have forced administrators of public sector undertakings to rethink traditional bureaucratic structures, traditional policies & procedures and to become more entrepreneurial (Galbraith & Lawler, 1993; Mohrman, Cohen & Mohrman, 1995). In addition, the increasing frequency of restructuring, downsizings and reengineering, as well as re organisations due to mergers and acquisition, have forced managers to critically re evaluate their organisational routines (Haspeslagh & Jemison, 1991). These changes have led to the development of new organisational forms such as 'network organisation' and the 'boundaryless' organisation

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(Ashkenas, Ulrich, Jick & Kerr, 1995; Quinn, 1992). Groups and teams play a critical role in responding to these changing global, economic and workplace demands (Kozlowski & Ilgen, 2006). Teamwork is regarded as foundation of not only the successful managements, but the means of improving overall results in organisational productivity.

Wage (1997) described teamwork as an idea of working together in a group to achieve the same goals and objectives for the good of the service users and organisations in order to deliver a good quality of service (productivity) as compared to Alan (2003) who defined it as a grouping of professionals whose members work together on a specific, common goal using their positive synergy, individual and mutual accountability, and complementary skills. So, the study of group level variables is important as people from diverse backgrounds and different cultural values have to work together in the organisations.

LITERATURE REVIEW

Majority of the researchers after empirical investigation found positive impact of group level variables on the organisational performance and considered organisational groups as the basic building blocks of successful organisational performance (Greer, Caruso & Jehn, 2011; Baninajarian & Abdullah, 2009; O'Leary-Kelly Martocchio & Frink, 1994). Researchers focused on various dimensions of group work namely, information sharing, coordination (Jobidon, Tremblay, Lafond, & Breton, 2006), maturity, affective tone (Balkundi & Harrison, 2006; Cummings & Cross, 2003), cohesiveness, group potency, interdependence and team member exchange (Wekselberg, Goggin & Collings, 1997; Guzzo & Shea, 1992). Maturity in groups and teams plays a crucial role in the performance of individuals and groups (Balkundi & Harrison, 2006; Cummings & Cross, 2003). A group can be treated as matured when leadership is shared, accountability is both individual and collective, the members have developed their own purpose, problem solving is a way of life and effectiveness is measured by collective outcomes (Krietner, 2010). Mature groups are likely to be more effective in group progress and effectiveness than immature ones (Hersey, Blanchard & Johnson, 1988). Group potency can be defined as a belief that a group/team has about its general performance and effectiveness across multiple tasks and is found to be positively correlated with work group effectiveness (Stajkovic, Lee, & Nyberg, 2009), team performance (Guzzo, Yost, Campbell & Shea, 1993; Mathieu, Maynard, Rapp, & Gilson, 2008), perceived organisational support (Shelton, Waite & Makela, 2010) and group leadership (Sivasubramaniam, Murry, Avolio & Jung, 2002). Sivasubramaniam et al. (2002) also proved the mediating role of group potency in the team leadership and performance relationship. Group cohesion is 'the strength of member's desire to remain in a group and their commitment to it (Hellreigel, Jackson & Slocum, 1999, p. 592). The more group members are attracted to the

group, the more they will be willing to invest in pursuing the group's goals. The interpersonal ties, work group diversity and member's identification (Kaymak, 2011; Knippenberg & Schippers, 1997; Hogg, 2000) are found to be the antecedents of group cohesion. Significant positive relationships are found between group autonomy and group cohesiveness (Langfred, 2005). Man and Lam (2003) indicated that an increase in job complexity and task autonomy/control increases group cohesiveness, which subsequently enhances performance. Team Member Exchange (TMX) is a construct that focuses on the premise that instead of jobholder positions, relationships are the building blocks of organisation structure (Seers & Cashman, 1995) and have substantial influence on individual attitudes, group behaviour (Ilgen, 1999) employee satisfaction (Seers, 1989). Task interdependence indicates the degree to which coordination is necessary within the organisation and unit for accomplishing critical tasks. Driskell, Salas & Hughes (2010) examined the role of collective orientation in predicting performance of groups whereas Langfred (2005) found a positive relationship between team autonomy and team performance under conditions of high task interdependence. Sy, Cote & Saavedra (2005) in a study of students highlighted the importance of group affective tone in enhancing group coordination where as Hatfield, Cacioppo & Rapson (1994) suggested that group affective tone positively predicts the quality of group performance. Further, in a study of sales teams of insurance firms, Chi, Chung & Tsai (2011) found the mediating role of group affective tone in leader positive moods and team performance relationship. Performance of government and public sector organisations is highly affected by the employees attitude and performance along with group work processes (Brewer and Selden, 2000; Sharma & Bajpai, 2014). Sharma and Bajpai (2014) indicated that public sector employees exhibit a higher level of teamwork as compared to employees of private sector organisation. They further revealed that teamwork is an important determinant of the job satisfaction among public sector employees in India.

RESEARCH GAP

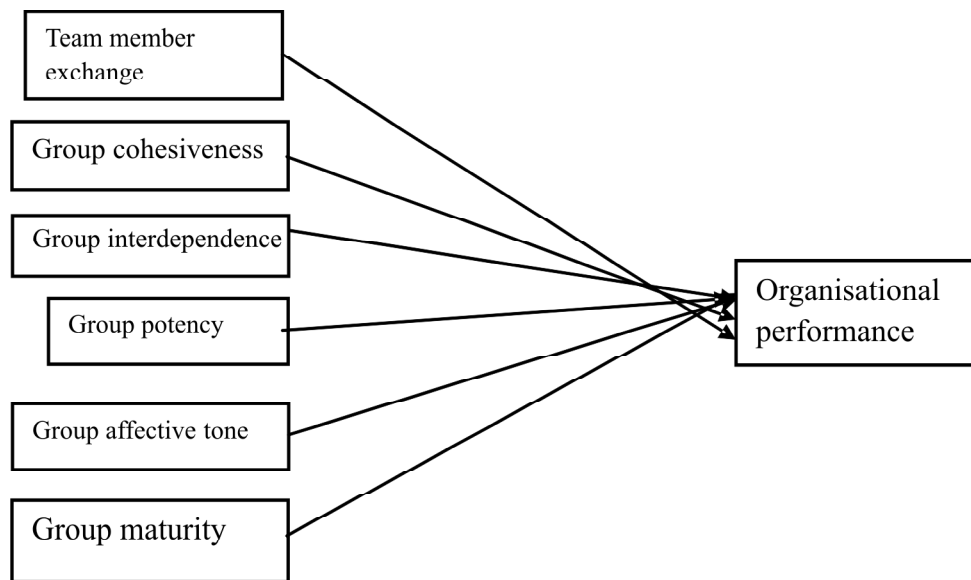
The available literature has focused on cohesion and performance (Rosh, Offerman & Diest, 2012), performance and group potency (Mathieu, Maynard, Rapp, & Gilson, 2008; Stajkovic, Lee, & Nyberg, 2009; Guzzo & Shea, 1992), maturity (Balkundi & Harrison, 2006; Cummings & Cross, 2003), interdependence (Driskell et al., 2010; Langfred, 2005), team member exchange (Seers & Cashman, 1995), group affective tone (Hatfield et al, 1994; Sy et al, 2005) in government and private sector employee/stakeholders in universities, colleges, telecommunication, insurance-, software development companies, airport management services, banks, healthcare, financial institutions, MNCs, military regiment, manufacturing companies etc. The present study integrates the six group level variables and examined its impact on the performance of eighteen functional public corporations in J&K state. Therefore, the present study would provide an in depth knowledge

of impact of group level variables in shaping the design, functioning and performance of the public corporations.

CONCEPTUAL MODEL AND HYPOTHESES

Figure 1 depicts the theoretical framework for this study. In this figure, six group-level factors have been identified namely, team-member exchange, group interdependence, group cohesiveness, group potency, group affective tone and group maturity that may positively affect organisational performance.

Figure 1: Theoretical Model of Group-Level Factors and Organizational Performance



On the basis of the theoretical model, the following hypotheses are framed:

1. Team member exchange is positively related with organisational performance.
2. Group cohesiveness is positively related with organisational performance.
3. Group interdependence is positively related with organisational performance.
4. Group potency is positively related with organisational performance.
5. Group affective tone is positively related with organisational performance.
6. Group maturity is positively related with organisational performance.

RESEARCH METHODOLOGY

Collection of Data

Both primary and secondary sources relevant for gathering requisite information pertaining to the research problem have been used in the study. Primary data based on the first hand information have been collected through self-modified and well-structured questionnaire. 72 employees i.e, four employees from each of 18 corporations were contacted for pretesting. Final survey was conducted on the groups working in the head offices of eighteen J&K public corporations located in Jammu city. Secondary sources investigated were books, newspapers and relevant journals, viz., Journal of Human Resources, International Journal of Business and Management, Group and Organisation Management, Small Group Research, Journal of Management Development, Academy of Management Journal, Human Relations, Journal of Business Research and Journal of Leadership & Organizational Studies etc.

Technique of Data Collection

Census method was followed in contacting 1189 employees working in the head offices of all the eighteen J&K public corporations, out of which 902 employees responded. The organisational units/ section/ department were treated as groups in this study and the number of groups came to be 104. The groups were selected on the basis of the number of individuals working interdependently. The groups fulfilled two criteria that is, they had a minimum of three members each and they work interdependently (Costa, Roe & Taillieu, 2001). The size of the groups ranged from 3 to 30, with an average of 8 (8.38) individuals per group. The groups included management groups, supervision groups, supporting groups, mechanical section groups, legal section groups, finance section groups etc.

Measures

All measures consisted of self-report items scaled in a 5-point Likert scale (1 =strongly disagree to 5 = strongly agree).

Team Member Exchange (TMX): Seers *et al.* (1995) twelve-item scale was used to measure the reciprocal exchange relationship between an individual member and his or her team members. Sample items include: 'Others help me know what they expect from me' and 'I often ask my co-workers for help'. The alpha value came to be 0.84.

Group Interdependence: Four items were used from Van der Vegt *et al.* (2002) to measure the task interdependence (the extent to which a team member is affected by the work of other team members). Sample items are the following: 'I need information and advice from my colleagues to perform my job well' and 'I regularly

have to communicate with colleagues about work-related issues'. The alpha value came to be 0.74.

Group Cohesion: Group cohesion was measured using five items from Eva (2001). Sample items include 'This group works well together' and 'Our group is united in trying to reach its goal for performance'. Reliability for the scale was found to be 0.72.

Group Maturity: Six items were used from Wheelan & Hochberger (1996) to measure group maturity. Sample items include 'The group pays attention to the details of its work' and 'The group gets, gives and uses feedback about its effectiveness & productivity'. The alpha value came to be 0.79.

Group Affective Tone: Four items were used from Hemphil (1956) to measure group affective tone and the Cronbach alpha reliability came to be 0.72. Sample items include 'Members never grumble about the work they do for the group'.

Group Potency: It was measured using seven items from the Guzzo et al. (1993) scale. This scale contains items such as 'My group has confidence in itself' and 'My group expects to be known as a high-performing team'. For this study, the coefficient alpha was 0.81.

Organisational Performance: Organisational performance in the public sector is measured through financial and non-financial measures. The financial performance has been judged subjectively covering profitability of the firm, growth in sales and market share. Non-financial measures include effectiveness, employee satisfaction and fairness. Effectiveness and fairness were measured using four items each from Sangmook (2005) where as employee satisfaction was measured using eleven items from Paine (2003). The reliabilities of financial and non-financial constructs came to be 0.893 & 0.792 respectively.

LEVEL OF ANALYSIS

Although the domain of group research is extremely varied, but the most common approach is to collect individual survey responses and aggregate those to the group level (Klein, Conn, Smith, & Sorra, 2001; Mossholder & Bedeian, 1983; Rousseau, 1985). In this study, the group scores were obtained by aggregating the individual scores on each item within the groups. This aggregation was obtained by computation of means to allow comparisons across groups without variances in the sample size.

ANALYTICAL STRATEGY

Although various constructs of the study were measured at the individual level, the statistical analysis was conducted at the group level by aggregating individual employees' responses within each group (Klein *et al.*, 1994). Prior to using the

group averages, however, the validity of aggregating individual scores was investigated by the reliabilities of responses among employees in the same group (Patterson *et al.*, 1996; Hofmann and Stetzer, 1998). James (1982) viewed intra class correlations (ICCs) as representative of the reliability between raters and recommended it as a criterion for aggregating individual responses. Inter rater reliability, referred to as ICC(1), compares between-group to within-group variances using the individual ratings of each respondent. The reliability of means, referred to as ICC(2), assesses the relative status of between-group and within-group variances using the average ratings of respondents within each group (Schneider *et al.*, 1998). James (1982) reported a median ICC(1) value of approximately 0.12 in his review of the literature, and Schneider *et al.* (1998) recommended an ICC(2) cut-off of 0.60. After obtaining ICC(1) and ICC(2) for various constructs, rwg statistics were computed which assesses the consistency of responses within groups, and higher consistency (i.e., ≥ 0.70) suggests that responses represent the properties of the group or organisational unit and justify the aggregation within that group (Klein *et al.*, 2000). The median rwg value for various constructs of the study were above the conventionally acceptable value of 0.70 (James *et al.*, 1984; LeBreton and Senter, 2008). On the basis of these results, we concluded that the aggregation of various constructs were justified and used it as group level variables.

RESULTS

To investigate the group-level properties of the measures, we examined ICC (1), ICC (2) and rWG(j) values (James, Demaree, & Wolf, 1984, 1993). As evident from Table 1, the ICC (1), ICC (2) and rwg (j) values for various measures are above their threshold criteria which indicates that the group members displayed high agreement in their ratings. After obtaining statistical justification for data aggregation, all the individual responses were averaged to get group response. Exploratory factor analysis (EFA) using rotated component matrix and principal component method was used summarising the original information with minimum factors and optimal coverage. The Kaise-Meyer-Olkins (KMO) value $e'' 0.70$ was used as criteria for the selection of the items in various runs. Further, items do not having significant factor loadings (i.e., < 0.50), those having significant loadings but in two or more factor or with low communalities (i.e., < 0.50) were also considered for deletion. After EFA, CFA was applied on the retained items in the six group level variables and performance contracts. Both measurement estimates and structural estimates were examined for the accepted values of other measures such as root mean square error of approximation (RMSEA) and Fit Indices Normed Fit Index (NFI)/Goodness Fit Index and Comparative Fit Index (CFI) are given in the Table III. The measurement estimates include Standardised Regression Weights (SRW). Based on measurement model criteria, the CFA was applied, and items

which do not have significant values were considered for deletion. CFA was performed initially factor-wise on each of the six group level constructs and on overall model to establish the robustness of the construct.

The impact of various group level variables is examined using Structural Equation modelling i.e. SEM. The first path in the model exhibited the relationship between team- member exchange and organisational performance. Results revealed that TMX has positive and significant impact on organisational performance (SRW=0.59, $p=0.000$, Fig. 2) which is consistent with the studies conducted by Tse & Dasborough (2008) and Seers (1989). The reason is that in high-quality TMX relationships, individuals are more willing to assist each other, share information, ideas, and feedback within work teams which helps in enhancing workplace friendship and reducing conflicts which will ultimately enhance the employee satisfaction and organisational performance. The second path in the model showed the significant positive impact of group cohesion on organisational performance (SRW=0.77, $p=0.003$) which shows that a strong sense of cohesion improves the communication among group members which further results in increased participation and enhanced group & organizational performance (Campbell & Martens, 2008). The next paths traced the impact of group interdependence and group maturity on organisational performance. The SEM analysis revealed that group interdependence (SRW=0.59, $p<0.001$) and group maturity significantly and positively affects organisational performance (SRW=0.52, $p<0.01$). The reason behind this positive impact is that high task interdependence requires greater communication, cooperation, and coordinated action among group members for goal accomplishment which enhances group member's clarity along with performance level. Further, when decisions are taken after careful planning and due considerations, performance of individuals, groups and organisations will

Table 1
Inter-rater reliability and inter-rater agreement within Groups

<i>Dimension/Construct</i>	<i>ICC (1)</i>	<i>ICC(2)</i>	<i>rwg (j)</i>
Team member exchange	0.13	0.61	0.73
Group cohesion	0.12	0.60	0.85
Group interdependence	0.14	0.63	0.76
Group maturity	0.16	0.69	0.91
Group affective tone	0.18	0.70	0.95
Group potency	0.13	0.62	0.69
Financial performance	0.15	0.68	0.88
Group satisfaction	0.14	0.64	0.75
Effectiveness	0.17	0.69	0.92
Fairness	0.19	0.72	0.79

ultimately improve. These results are in line with Campion et al., 1993 and Lawler, 1999.

The last two paths in the model depicted the positive and significant impact of group affective tone (SRW=0.67, $p < 0.05$) and group potency (SRW=0.76, $p = 0.000$) on organisational performance. Similar to study findings, Walter & Bruch (2008) and Herrbach (2006) also concluded that organisational performance and commitment is highly affected by the positive affective tone among group members whereas Campion *et al.* (1993, 1996) argued that organisations with high potency groups are better performers as compared to those with low potency level.

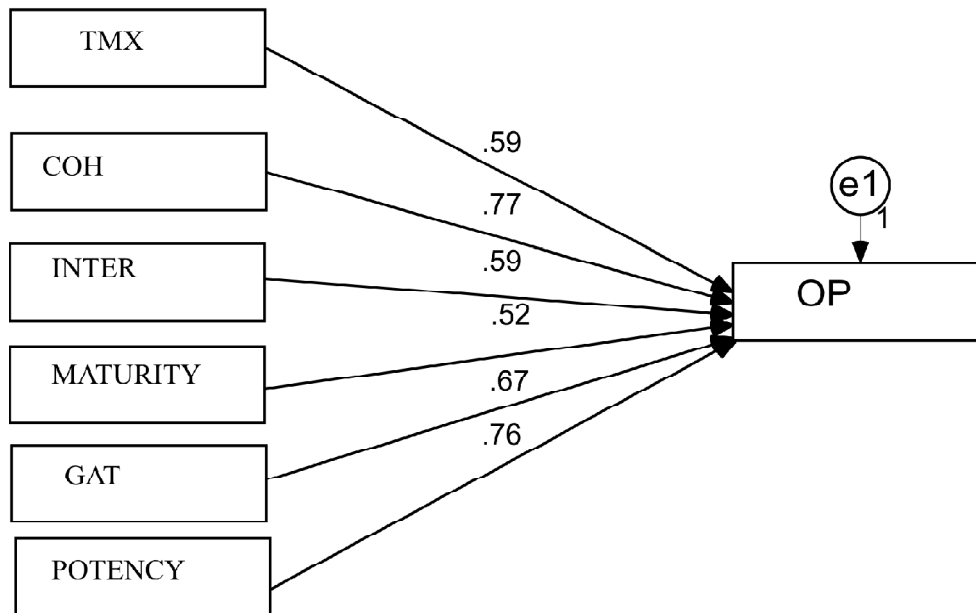
Table 2
Fit Indices of Measurement Models

<i>Scales</i>	χ^2/df	RMR	GFI	AGFI	NFI	CFI	RMSEA
Team member exchange	2.281	0.044	0.917	0.872	0.877	0.926	0.078
Group cohesion	1.483	0.036	0.926	0.894	0.901	0.970	0.043
Group interdependence	1.439	0.008	0.968	0.677	0.976	0.977	0.254
Group maturity	0.155	0.004	0.999	0.997	0.999	0.999	0.002
Group affective tone	1.498	0.013	.995	.971	.979	.999	.070
Group potency	1.129	0.009	0.994	0.972	0.989	0.999	0.025
Financial performance	0.542	0.005	0.997	0.987	0.995	0.998	0.003
Group satisfaction	1.984	0.020	0.963	0.917	0.962	0.980	0.069
Effectiveness	2.296	0.020	0.947	0.921	0.916	0.947	0.066
Fairness	4.283	0.013	0.925	0.906	0.913	0.927	0.061

Table 3
Reliability and Validity of the Scales

<i>Scales</i>	AVE	CR	α
Team member exchange	0.59	0.84	0.87
Group cohesion	0.51	0.92	0.83
Group interdependence	0.70	0.94	0.84
Group maturity	0.51	0.72	0.70
Group affective tone	0.52	0.81	0.71
Group potency	0.50	0.88	0.70
Financial performance	0.52	0.90	0.72
Group satisfaction	0.68	0.94	0.890
Effectiveness	0.70	0.92	0.844
Fairness	0.69	0.94	0.892

Figure 2: Impact of group level variables on organisational performance



Key: TMX= Team member exchange, COH= Cohesion, INTER=Interdependence, GAT= Group Affective tone, MAT= Maturity; POT= Potency, OP= Organisational performance and e1 is the error term of latent construct.

DISCUSSION

This study investigates the linkages between group level variables and organisational performance in public sector organisations. It reconfirms the findings of previous studies which indicated the positive influence of group level variables on organisational performance. Team-member exchange, group interdependence, group cohesiveness, group potency, group affective tone and group maturity are found to be the important predictors of organisational performance. The study findings are also supported by the studies conducted by Campion *et al.*, 1993, 1996; Lawler, 1999; Salas, 2008; Sharma & Bajpai, 2014. The in-depth analysis revealed that the behavioural dimensions of groups working in the corporations helps in increasing sales which ultimately provides the investors the return on their investment. Further, corporation's profitability and goal accomplishment are affected by the functioning of work groups. The group members agreed that they are moderately satisfied with the benefits package of their corporation (M=4.23) and their corporation fulfils the needs of the employees (M=4.22). They also get a chance to fulfil their ability and get appreciation while working in their corporations (M=4.23). The respondents indicated that customer satisfaction towards the

corporation is very high as they are given fair and equitable services without considering their individual background (M=4.33). Public sector employees are also treated with respect (M= 4.06) and equality by their respective corporation (M= 4.32). The work groups functioning in the public sector corporations agreed that their productivity (4.16) as well as the quality of their work has improved (3.91). They further asserted that the occurrence of goal attainment is very high in their corporation (M= 3.92) which assists the corporation in providing the public a worthwhile return on their investment (M= 3.47, SRW= 0.86). All the possible efforts have been made to maintain objectivity, validity and reliability of the study, yet certain limitations have emerged, which restrict its applicability. *Firstly*, the study is confined to the head offices of J&K public corporations located in Jammu city only and thus, the study needs to be replicated even for other branch offices. *Secondly*, it is restricted to the public sector groups only. Future studies can be conducted on the professional groups and private sector groups. *Thirdly*, the study is based on team level analysis and the same study can be replicated with individual level of assessment. *Lastly*, the data are self-reported and thus, biasness in respondent's response cannot be ruled out. Although study suffers from certain limitations, but still this research work will provide useful information regarding the behaviour of public sector employees in groups and teams. It can also help the management in framing employees' policies commensurating with the organisational policies, which will ultimately affect organisational performance positively. It is assumed that public sector groups with levels in these factors will be more eager to work toward organisational goals and objectives. This will enable them to give their services wholeheartedly to the organisation and to the general public thereby promoting organisational performance.

CONCLUSION AND MANAGERIAL IMPLICATIONS

The study confirmed that the performance of public sector corporations is significantly affected by the various group level variables. The study is a maiden attempt to revive these strategic corporations by suggesting behavioural changes at group levels so that they could be rejuvenated by suitable policy measures to achieve predetermined goals. Group cohesiveness can be enhanced in public sector by promoting shared attitude/goals and values. Allocation of rewards to groups rather than individuals can also encourage interaction among group members enabling the group members to work closely with one another, coordinate, and integrate actions. Public sector groups are moderately satisfied with the salary/benefits package and self-development from their job. To overcome these problems, the government and management should clearly evaluate public sector jobs and salary decisions must be taken as per the worth of job. The management should give employees the target to achieve, corresponding authority and responsibility should also be given to achieve their target. The employees should be asked to

plan their own course of action for achieving the target within the time limit given by the management. It is well known fact that the performance of employees at individual level significantly affects the performance of the overall group and the corporation. So, the government and managers must take necessary steps to encourage employees to perform better. Apart from group-level variables, there are certain additional factors that also affect employee's performance. For example, personal visit to corporations depicted that majority of the corporations provide congenial working environment to the employees but certain corporations namely JKSRTC, JKAGRO, JKI and JKHPL lacked basic amenities. So, proper working environment should be provided to the employees who need trust, respect, support and cooperation from their respective corporations. So, corporations should focus on boosting and developing supervisory support strategies for improving employees' perceptions of fairness.

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