

The Impact of Team Dynamics on Organizational Performance: A Study of Public Sector Undertakings in India

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Abstract

This study explores the impact of team dynamics on organisational performance in selected Public Sector Undertakings (PSUs) in India. This study used a structured questionnaire to collect data from 357 executives working in Maharatna, Navratna, Miniratna and other scheduled PSUs. Using the Structural Equation Model (SEM) [mediation], this study sought to study the relationship between team dynamics and organisational performance while incorporating the mediating role of team effectiveness in the process. The results show that while team dynamics are critical in enhancing team effectiveness, team dynamics do not necessarily improve the organisation's performance. However, when moderated through team effectiveness, the influence of team dynamics on organisational performance becomes significant, presenting a complete mediation effect. This study explains the importance of team effectiveness in translating positive team dynamics into enhanced organisational performance. The study also provides insights into developing strategies for PSUs to promote productivity, innovation, and adaptability in a fast-paced business environment.

Keywords: Team dynamics, organizational performance, PSUs, SEM.

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1. Introduction

Team effectiveness has emerged as a critical factor influencing organisational success, particularly in achieving strategic objectives in complex business environments. Team dynamics, defined as the underlying forces shaping interactions, attitudes, and behavioural processes among team members (Kozlowski & Ilgen, 2006), play a pivotal role in determining the effectiveness of teams and, consequently, organisational performance. This study investigates the relationship between team dynamics and organisational performance, particularly emphasising the mediating role of team effectiveness within Indian Public Sector Undertakings (PSUs). Unlike their private sector counterparts, public sector organisations operate within rigid hierarchical structures and formalised environments, significantly influencing how teams function and deliver outcomes (Moynihan & Pandey, 2005). While private organisations often benefit from flexible operational frameworks, PSUs must navigate intricate bureaucratic processes, making team effectiveness a vital determinant of productivity, creativity, and overall organisational performance. This study seeks to contribute to the growing body of literature by providing empirical insights into how team dynamics and effectiveness collectively impact organisational performance in PSUs, offering practical implications for improving outcomes in these uniquely structured institutions.

2. Review of Literature

2.1. Team Dynamics

Team dynamics refers to the relationships and interactions between team members that can affect their productivity and performance. They are the hidden forces that impact the behaviour and interaction of team members. These include communication patterns, levels of trust, leadership styles, and mechanisms for resolving conflicts (Hackman, 2002). Some studies have shown good team dynamics translate to better collaboration, problem-solving, and flexibility (Salas, Sims, & Burke, 2005). Mathieu et al. (2008) noted that teams with strong dynamics could innovate and be more productive. This highlights the critical importance of fostering trust, collaboration, and effective

communication within teams to achieve higher levels of creativity and efficiency.

2.2. Team Effectiveness

The effectiveness of a team is a multifaceted concept. It includes not only team productivity but also quality outcomes, the achievement of goals, and the degree to which the team can sustain performance over time. It is mainly perceived as the ability of a team to achieve its objective and contribute to the organisation's overall goals. (Cohen Bailey, 1997). Team effectiveness is affected by several factors, such as measurable goals, well-defined roles, and effective leadership (West et al., 2009). A growing body of literature shows that team effectiveness mediates the relationship between team dynamics and organisational outcomes, emphasising the importance of creating well-structured teams to achieve business success. (Barrick, Bradley, Kristof-Brown, Colbert, 2007). Team effectiveness serves as a crucial mechanism that translates the positive impact of team dynamics into measurable enhancements in organisational performance.

2.3. Organizational Performance

Organisational performance is a multi-dimensional construct encompassing financial results, market performance, innovation, and employee engagement (Kaplan & Norton, 1996). Literature on the subject consistently points to the critical role of teamwork and collaborative efforts in driving these performance indicators (Katzenbach & Smith, 1993). For public sector organisations, in particular, performance is measured by financial indicators and the ability to adapt to changing regulatory environments and societal needs (Boyne, 2002). This study highlights a novel perspective by demonstrating how team dynamics, channelled through enhanced team effectiveness, can be a powerful driver for improving diverse aspects of organisational performance in the context of PSUs in India.

2.4. Mediation Role of Team Effectiveness

The mediating role of team effectiveness is central to understanding how team dynamics translate into improved organisational performance. Existing research underscores that team effectiveness is a critical mechanism linking the internal processes and

interactions within teams to their broader impact on organisational outcomes (Preacher & Hayes, 2008). Recent studies further reveal that robust team dynamics and high levels of team effectiveness are strongly associated with enhanced financial performance, increased innovation, and a more adaptive response to market changes (Edmondson, 1999). This study seeks to extend the current body of knowledge by examining the mediating effect of team effectiveness in the context of Indian Public Sector Undertakings (PSUs), offering valuable insights into the unique dynamics of these organisations.

3. Research Problem

Despite the importance of team dynamics in augmenting organisational performance, there is still a significant research gap in understanding the specific mechanism through which these dynamics impact the performance of Public Sector Undertakings (PSUs) in India. Existing literature largely focuses on private sector organisations, where the organisational culture and team structures differ substantially from those in the public sector. In the context of the Indian PSUs, which are characterised by rigid hierarchies, complex regulatory environments and accountability, the role of team dynamics is not fully explored.

The main research question is to understand the effects of team dynamics, which include communication, trust, and conflict resolution, on the organisational performance of Indian PSUs. Moreover, although earlier research suggested team effectiveness as a possible mediator, empirical evidence specifically analysing this mediation effect within the context of PSUs is lacking. To this end, this study is meant to explore whether team effectiveness acts as a critical link that translates the positive effect of team dynamics into enhanced organisational performance.

Addressing this research problem is important to develop targeted strategies that can enhance teamwork and productivity in Indian PSUs, leading to more innovative, responsive and efficient organisations. The study aims to provide insights into the unique challenges PSUs face in leveraging team dynamics for improved organisational performance by contributing to existing knowledge of best

practices concerning team-oriented performance improvements in the public sector context.

4. Research Questions

Based on the research problem identified, the study seeks to answer the following research questions:

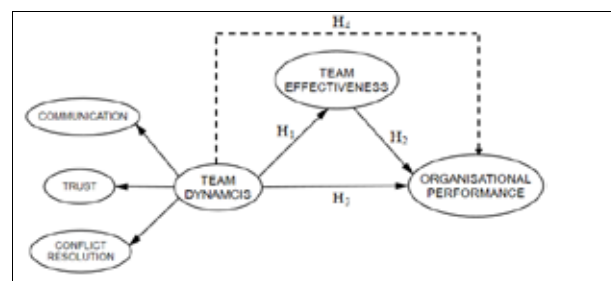
1. What is the direct impact of team dynamics on team effectiveness in Public Sector Undertakings (PSUs) in India?
2. How does team effectiveness influence organisational performance in Indian PSUs?
3. What is the direct impact of team dynamics on organisational performance in Indian PSUs?
4. Does team effectiveness mediate the relationship between team dynamics and organisational performance in Indian PSUs?

5. Research Hypotheses

In line with the research questions, the following hypotheses are formulated for this study:

- **H1:** There is a significant positive influence of team dynamics on team effectiveness.
- **H2:** There is a significant positive influence of team effectiveness on organizational performance.
- **H3:** There is a significant positive influence of team dynamics on organizational performance.
- **H4:** Team effectiveness mediates the relationship between team dynamics and organizational performance.

Figure 1: Conceptual Framework of the Research Study



6. Research Methodology

The survey questionnaire for the present research was designed based on literature reviews. In the present study, 18 Likert-based questions were designed, asking the respondents to rank their agreement on a scale of 1 to 5, with '1 Strongly Disagree' and '5 as Strongly Agree'. A total of 357 respondents (executives) were randomly selected across different categories of PSUs - 67 respondents from Maharatna companies, 200 respondents from Navratna companies, 31 respondents from Miniratna companies, and 59 respondents from other scheduled PSUs without Ratna status. A structured questionnaire was distributed online to all the selected respondents for data collection. This sample size was deemed adequate to represent a cross-section of the PSU landscape in India.

In depicting the sample respondent's characteristics, 85.7 % are male respondents, while the female sample representation is 14.3 %. Similarly, 10.9 % of the respondents belonged to the age group of fewer than 30 years, 24.1 % (between 30 to 40 Yrs of age), 30.0 % between 40 to 50 years, and 35.0 % more than 50 years of age group. On the educational front, 21.6 % of them had completed their graduation, 74.2 % had completed their post-graduation, and 40.7 % had completed their diploma. On the work experience front, 22.1 % of respondents have less than 10 years of work experience. In comparison, 28.9 % have 10 to 20 years of experience, 31.1 % have between 20 to 30 years, and 17.9 % have more than 30 years of work experience working in public undertaking's energy, manufacturing, Defence, transportation, and telecommunications sectors.

7. Analysis and Results

Table 1 presents the relevant items and their standardised loading (correlation coefficients). The composite reliability and Cronbach Alpha results through the **Confirmatory Factor Analysis** (CFA) technique were adopted to validate the hypothesised measurement model consisting of dimensions: Communication, Trust, Conflict resolution, Team Effectiveness and Organizational Performance, as shown in Figure 1. Furthermore, the standardised items loading under each dimension are given in Table 1.

Table 1: Reliability and Item Loadings of Constructs of Team Dynamics, Team Effectiveness and Organisational Performance through Confirmatory Factor Analysis [CFA] Technique

Factor	Item/Indicators	Loading	CR	CA	AVE
Communication (COMMUN)	Our team decision-making processes are effective and foster productivity of the organization (COMMUN_1)	0.839	0.907	0.907	0.709
	Team members in my organization openly share their ideas and opinions during meetings or discussions. (COMMUN_2)	0.860			
	Information within my team is communicated clearly and promptly to all members. (COMMUN_3)	0.845			
	My team uses digital tools effectively to facilitate communication and collaboration among its members. (COMMUN_4)	0.824			
Trust (TRUST)	Members of my team trust and respect each other (TRUST_1)	0.796	0.801	0.802	0.574
	I have confidence in my team member's ability to perform their tasks effectively. (TRUST_2)	0.667			
	Team members in my organization support each other when challenges arise. (TRUST_3)	0.803			

Conflict Resolution (CONF_RES)	My team effectively addresses conflicts or disagreements that arise during work. (CONF_RES_1)	0.841			
	Team members in my organization listen to each other's viewpoints when resolving conflicts. (CONF_RES_2)	0.887	0.888	0.888	0.726
	Conflicts within my team often result in positive outcomes, such as improved processes or solutions. (CONF_RES_3)	0.827			
Team Effectiveness (TM_EFFEC)	My team members collaborate to address issues collectively (TM_EFFEC_1)	0.869			
	I sense that my contributions to teamwork are encouraged and valued within the organization (TM_EFFEC_2)	0.818			
	My team consistently achieves its goals and performance expectations (TM_EFFEC_3)	0.847	0.906	0.906	0.706
	I feel that my team generates innovative solutions and delivers high quality work as per the business requirements (TM_EFFEC_4)	0.826			
Organisational Performance	My organization encourages and embraces innovation in the processes/ practices; and rapidly implements innovations (ORG_PERF_1)	0.833			
	I believe my organization possesses effective business processes and is responsive to new market demands (ORG_PERF_2)	0.836			
	My organization consistently achieves its financial goals (ORG_PERF_3)	0.857	0.876	0.877	0.641
	I feel my organization adapts well to unforeseen changes in the business environment (ORG_PERF_4)	0.661			

Note: CR - Composite Reliability, CA - Cronbach Alpha, AVE – Average Variance Explained

Table 2: Discriminant Validity of the Measurement Model:

	COMMUN	TRUST	CONF_RES	TM_EFFEC	ORG_PERF
COMMUN	0.842*				
TRUST	0.716	0.758*			
CONF_RES	0.702	0.713	0.852*		
TM_EFFEC	0.750	0.733	0.734	0.840*	
ORG_PERF	0.641	0.637	0.588	0.746	0.801*

* Square Root of AVE values shown in Table 2

First, the Cronbach's alpha reliability coefficient was calculated to assess the questionnaire's psychometric properties. Cronbach's alpha value ranges from 0 to 1, with a value closer to 1 indicating greater stability and consistency; however, for basic research, the cut-off value is 0.60 (Nunnally, 1978) [Kalthom Abdullah & Others, 2012]. The results of Cronbach's alpha are depicted in Table 1, indicating the instrument's acceptable consistency and stability. Secondly, concerning composite reliability observed from Table 1, it is observed that the majority of the items demonstrated a loading greater than 0.50, validating the convergence. Also, the Cronbach alpha values of each dimension are above 0.60, more than the accepted value. Similarly, the Discriminate Validity result depicted in Table 2 establishes the discriminant validity among the latent variables in that they do not statistically overlap each other [since the inter-item correlation values are less than the square root of the AVE value] and are free from the problem of multicollinearity.

Mediation analysis result

After running the CFA to check the reliability and validation of the items (questions), the defined research hypotheses shown in the conceptual framework (Figure 1) are tested for mediation analysis, and the results are shown in Figure 2 and Table 3, and all the indicators of model fit are within the acceptance values (Bentler & Bonett, 1980; Hooper, Coughlan, & Mullen, 2008; Steiger, 2007).

Figure 2: Mediation result of Team Effectiveness between Team Dynamics and Organisational Performance for Environment

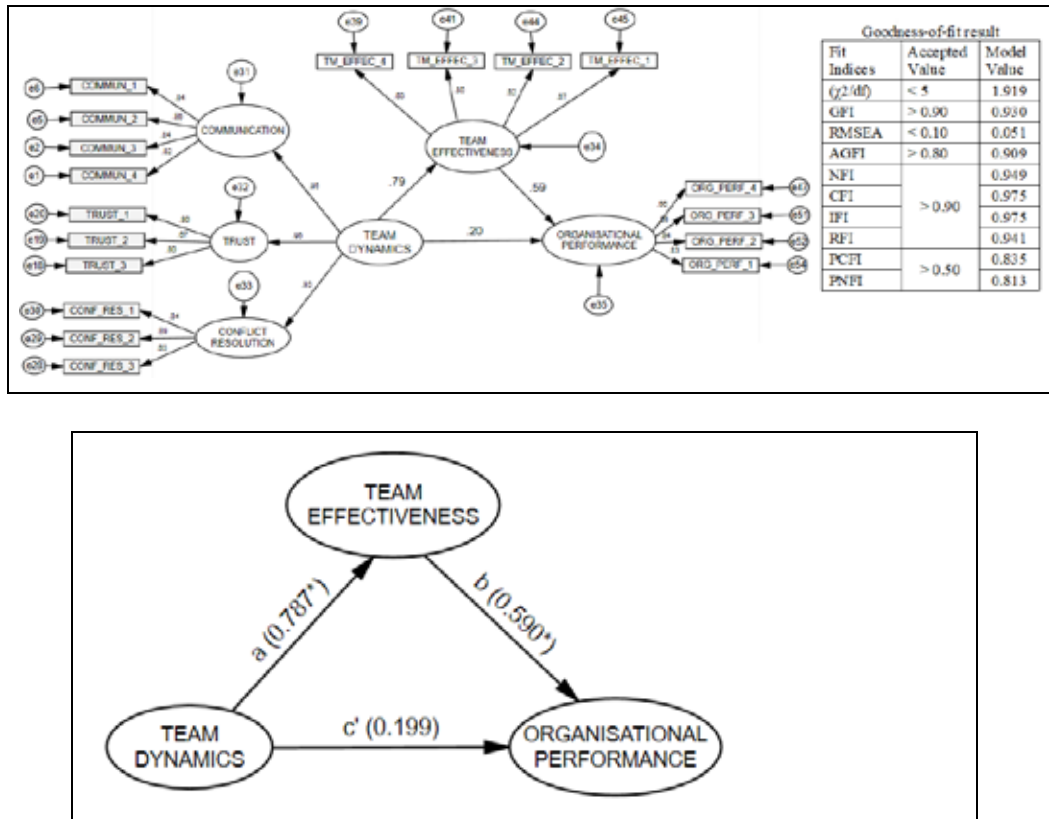


Figure 2a: Mediation of Team Effectiveness between Team Dynamics and Organisational Performance

Table 3 Test for mediation effect of Team Effectiveness between Team Dynamics and Organisational Performance

(Bootstrap samples =2000 and confidence level = 95 %)

	β	Boot S.E	Boot LLCL	Boot ULCL	p-value
A	0.787	0.040	0.698	0.855	0.006*
B	0.590	0.101	0.400	0.811	0.005*
a*b (Indirect)	0.464	0.081	0.332	0.661	0.003*
Direct (ca)	0.199	0.095	0.008	0.393	0.064
Total	0.662	0.042	0.565	0.741	0.010*

* Significant at 5 % level.

First, the regression coefficient of the direct effect of Team Dynamics on Organisational Performance is 0.199. However, this is **not statistically** significant (p-value is 0.064, $p > 0.05$) (see Table 3). The direct effect from the Mediator, namely 'TEAM EFFECTIVENESS', to Organisational Performance is 0.590, and this path coefficient is significant (p-value is 0.005, $p < 0.05$). Also, the path coefficient from Team Dynamics to TEAM EFFECTIVENESS is 0.787 and found to be significant ($p = 0.006$, $p < 0.05$). The indirect effect of Team Dynamics on Organisational Performance via TEAM EFFECTIVENESS is 0.464 (0.787×0.590). This is found statistically significant (p-value is 0.003, $p < 0.05$) through bootstrapping. Nonetheless, as the direct path (effect) from Team Dynamics to Organisational Performance is statistically insignificant and the indirect path (effect) is statistically significant, we conclude that **Full Mediation** occurs between Team Dynamics and Organisational Performance when TEAM EFFECTIVENESS acts as a mediator. In essence, there is statistical evidence to conclude that team effectiveness would ultimately help to strengthen the relationship between team dynamics and organisational performance.

8. Discussion and Conclusion

Thus, the results of this study confirm the pivotal role that team dynamics and effectiveness play in improving organisational performance, specifically concerning PSUs in the context of the Indian environment. The research findings support the hypotheses proposed in the conceptual framework, implying the importance of the interconnectedness between team dynamics, team effectiveness and organisational performance.

8.1. Impact of Team Dynamics on Team Effectiveness and Organizational Performance:

The analysis showed that team dynamics have a large impact on the overall effectiveness of the team, which is consistent with past literature stating that communication, trust, and conflict management are all key factors in keeping a team cohesive, and therefore productive. Furthermore, the direct impact of team dynamics on organisational performance was not statistically significant. This suggests that while team dynamics are essential, their

direct influence on organisational performance might be limited without mediating team effectiveness.

8.2. Mediating Role of Team Effectiveness: The study examined the impact of intervening variables of team effectiveness in the relationship between team dynamics and organisational performance. The mediation analysis revealed that the indirect effect of team dynamics on organisational performance via team effectiveness was strong and statistically significant. This finding indicates that team effectiveness fully mediates this relationship, suggesting that team dynamics primarily enhance organisational performance by developing effective team practices and behaviours. This full mediation effect underscores the importance of nurturing team effectiveness to translate positive team dynamics into tangible organisational outcomes.

8.3 Implications for Public Sector Undertakings: In the case of the current study, the managers and decision-makers in PSUs are set to be affected in a big way. The results also showed that with the complete mediation effect of team effectiveness, organisations need to support the development of their teams. Fostering an environment that encourages collaboration, trust, and open communication can lead to higher levels of team effectiveness, which, in turn, significantly boosts organisational performance. Moreover, the use of digital collaboration tools, as indicated in the study, should be strategically implemented to support these dynamics and improve overall team efficiency.

9. Conclusion

This study provides empirical evidence that supports the hypothesis that team effectiveness fully mediates the relationship between team dynamics and organisational performance in Public Sector Undertakings in India. While team dynamics alone have a limited direct effect on organisational performance, their influence becomes considerable when channelled through effective team processes. These findings suggest that organisations should

build strong team dynamics and enhance team effectiveness to achieve improved organisational outcomes. Investing in team development initiatives that promote trust, effective communication, and Conflict resolution will likely lead to more innovative solutions, higher adaptability, and better alignment with organisational goals. Ultimately, this research highlights the strategic importance of team effectiveness as a critical factor that transforms team dynamics into significant drivers of organisational performance. Future research can be carried out in different firms, organisations, or industries to support these claims.

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