

Original Article

DEVELOPING EFFECTIVE TEAM BUILDING STRATEGIES FOR HYBRID WORK ENVIRONMENTS AMONG INFORMATION TECHNOLOGY COMPANIES IN NORTH TAMIL NADU

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ABSTRACT

Team building plays a significant role in improving organizational effectiveness, employee engagement, and team performance. It involves both formal and informal activities that strengthen relationships among employees, clarify roles and responsibilities, and promote collaboration to achieve organizational objectives. Effective team building enhances employee motivation, communication, trust, and productivity, enabling teams to complete tasks efficiently and successfully.

The emergence of hybrid work environments has transformed the way organizations manage and coordinate teams, particularly in the information technology industry. Hybrid work models require organizations to develop effective team-building strategies that support communication, collaboration, flexibility, and employee well-being. Key elements of successful team building in hybrid workplaces include goal setting, role clarity, interpersonal relationship development, problem-solving, and team engagement.

However, hybrid work environments also present several challenges, including reduced face-to-face interaction, communication barriers, technological issues, employee skill gaps, and difficulties in maintaining work-life balance. Therefore, organizations must adopt innovative and strategic approaches to strengthen team cohesion and improve organizational performance.

This study focuses on developing effective team-building strategies for hybrid work environments among information technology companies in North Tamil Nadu. The study is based on a survey of 500 employees from ten small-cap IT companies in North Tamil Nadu, India. The collected data were analysed using descriptive statistics, Cronbach's alpha reliability analysis, exploratory factor analysis, Pearson correlation, multiple regression analysis, and artificial neural network techniques to evaluate the effectiveness of team-building strategies in hybrid work environments.

These analytical approaches help identify teams with lower resilience levels and support the development of targeted strategies to enhance team performance. The study further examines the role of digital collaboration tools, virtual team-building activities, flexible work arrangements, leadership communication, shared virtual workspaces, and employee engagement initiatives in improving teamwork, collaboration, productivity, and organizational effectiveness in hybrid work settings.

Keywords: Team Building, Hybrid Work Environment, Information Technology Industry, Team Leadership, Employee Engagement, Communication, Flexibility

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INTRODUCTION

Team building has become a critical factor in organizational development, particularly in the era of hybrid work environments. Organizations increasingly understand the importance of creating a strong sense of belonging among employees, where individuals not only work as team members but also identify with the organization's vision, values, and culture. Employees who feel engaged are more likely to adapt to organizational practices and contribute effectively, especially when flexible work arrangements, including remote work, are implemented. Although hybrid work provides flexibility and convenience, employees must remain accessible, collaborative, and committed to achieving organizational objectives and meeting project deadlines. Therefore, structured and strategic team-building practices have become essential in modern organizations.

In hybrid workplaces, where employees perform their duties both remotely and on-site, team-building strategies must adapt to address emerging opportunities and challenges. Several important strategies contribute to enhancing team effectiveness and organizational performance in such environments.

LEADERSHIP AND VIRTUAL CONNECTIVITY

Effective leadership is fundamental to the success of hybrid teams. Leaders must coordinate employees working across different locations through digital communication technologies, including video conferencing applications, collaborative platforms, and instant messaging systems. Beyond assigning tasks, leaders are responsible for promoting team unity, encouraging participation, and ensuring that every team member feels valued and included. Regular virtual meetings, project reviews, and individual discussions are essential for maintaining team alignment, motivation, and operational clarity.

SETTING CLEAR GOALS AND OBJECTIVES

Goal setting is a vital component of effective performance management within hybrid teams. Team leaders and managers should establish clear organizational and team objectives while ensuring that individual responsibilities align with organizational priorities. This process involves identifying technical, operational, and personal challenges faced by employees and collaboratively addressing these issues. Clearly defined goals, timelines, and measurable outcomes enable employees to remain focused and contribute effectively to organizational success.

ENHANCING COMMUNICATION AND SEEKING FEEDBACK

Transparent and effective communication serves as the foundation of successful team performance. In hybrid workplaces, where informal interactions are reduced, structured communication becomes increasingly important. Managers should actively collect feedback from employees to understand their concerns and involve them in decision-making processes. Regular feedback mechanisms strengthen trust, clarify responsibilities, and ensure alignment with project requirements and organizational expectations. Strategic discussions, including SWOT analysis, can further enhance self-evaluation and continuous improvement within teams.

FOSTERING MOTIVATION AND ACCOUNTABILITY

Employee motivation, both intrinsic and extrinsic, plays an important role in sustaining engagement in hybrid workplaces. Organizations can improve morale by recognizing individual and team accomplishments through financial incentives, recognition programs, awards, appreciation initiatives, and additional benefits. Employees who feel recognized and valued are more likely to demonstrate greater commitment, accountability, and productivity.

PROMOTING A HEALTHY AND SUPPORTIVE WORK ENVIRONMENT

Creating a supportive and inclusive work environment has become increasingly important, particularly during periods of uncertainty such as pandemics and economic disruptions. Organizations should ensure that virtual workplaces promote psychological safety, inclusivity, flexibility, and employee well-being. Supportive environments help employees manage stress, maintain work-life balance, and strengthen team cohesion. Communication technologies such as Microsoft Teams, Zoom, Skype, and other digital platforms enable leaders to remain connected with employees and reinforce organizational values, mission, and culture.

ROLES OF AN EFFICIENT TEAM BUILDING

Effective team building significantly contributes to improving productivity, collaboration, and performance among individuals and teams. In dynamic hybrid work environments, understanding the major functions of team building is essential for organizational success.

1) Goal Setting and Strategic Alignment

Establishing clear, measurable, and achievable goals forms the basis of high-performing teams. Team objectives should be translated into individual responsibilities that align with broader organizational goals. Employee participation during planning increases ownership, motivation, and accountability. Team leaders play a crucial role in defining performance expectations, establishing benchmarks, and aligning short-term and long-term objectives. Digital project management platforms such as Microsoft Teams, Asana, and Trello facilitate progress monitoring and transparency in hybrid environments.

2) Strengthening Interpersonal Relationships

Strong interpersonal relationships promote trust, respect, communication, and collaboration among team members. Effective teams depend on active listening, empathy, conflict management, and openness to diverse perspectives. Since physical interactions are limited in hybrid workplaces, organizations must intentionally foster interpersonal relationships through virtual meetings, team-building activities, and workshops that promote psychological safety and inclusiveness. These efforts help create cohesive and collaborative teams.

3) Role Clarification and Responsibility Definition

Role ambiguity often reduces team effectiveness. Clearly defining roles, responsibilities, and expectations minimizes misunderstandings, duplication of effort, and workplace conflict. Role clarification improves accountability and ensures efficient workload distribution. Team leaders should periodically review and adjust roles according to project requirements, particularly in dynamic and agile work environments.

4) Collaborative Problem Solving and Decision Making

Collaborative problem-solving is a fundamental aspect of effective team building. Team members should collectively identify problems, analyse causes, and develop practical solutions. Digital collaboration tools, virtual whiteboards, brainstorming applications, and structured frameworks such as SWOT analysis and Six Thinking Hats facilitate inclusive participation in hybrid teams. Effective problem-solving also involves risk management, proactive planning, and organizational resilience.

5) Optimizing Work Environment and Organizational Culture

The quality of the work environment directly affects team performance and employee satisfaction. Effective team building requires supportive physical and virtual workplaces, positive organizational culture, strong leadership support, and effective communication systems. Hybrid organizations should promote flexibility, inclusivity, and digital connectivity while creating psychologically safe environments where employees feel valued and empowered. Flexible scheduling, mental health initiatives, productivity tools, and employee recognition programs contribute significantly to positive organizational outcomes. Furthermore, maintaining a shared organizational culture through common values, practices, and traditions strengthens team identity and unity.

CHALLENGES OF TEAM BUILDING IN A HYBRID WORKPLACE

The COVID-19 pandemic accelerated the adoption of hybrid work models as organizations sought to reduce operational expenses such as office maintenance, transportation, utilities, cafeteria services, and administrative costs. Hybrid work arrangements have also contributed to improving employee work-life balance and reducing stress levels. However, hybrid workplaces present several challenges that organizations must address.

- **Limited Face-to-Face Interaction and Reduced Empathy**

One major challenge in hybrid work environments is the reduction of direct interpersonal interactions. Although video conferencing technologies facilitate communication and project coordination, they cannot fully replace the emotional and social aspects of face-to-face interactions. Limited physical presence reduces opportunities to understand non-verbal communication, emotional conditions, and employee well-being, potentially resulting in reduced trust, team cohesion, and employee engagement.

- **Passive Listening and Reduced Employee Engagement**

Active listening is essential for effective workplace communication, particularly in hybrid settings. However, virtual communication may result in misunderstandings due to distractions, multitasking, and technological limitations. Employees who feel ignored or undervalued may experience reduced morale and engagement. Organizations should therefore provide active listening training and establish structured communication practices to encourage employee participation.

- **Technological Challenges and Infrastructure Limitations**

The success of hybrid work environments depends heavily on technological infrastructure. Organizations frequently face challenges related to unstable internet connectivity, power interruptions, inadequate hardware resources, cloud computing limitations, and insufficient technical support. These issues can negatively impact productivity, collaboration, and employee satisfaction. Investment in reliable technology infrastructure and remote support services is therefore essential.

- **Employee Skill Gaps and Work-Life Integration Issues**

Employees may differ significantly in their technical competencies, self-management abilities, and psychological readiness for hybrid work environments. Some employees may experience difficulties related to digital skills, time management, motivation, or mental health. Additionally, balancing personal and professional responsibilities may create additional stress. Organizations should provide continuous training, mentorship programs, peer support systems, and skill development opportunities to address these challenges.

- **Home-Based Distractions and Reduced Concentration**

Remote work environments often expose employees to distractions arising from family responsibilities, shared living spaces, and inadequate home office facilities. These factors can negatively affect concentration and productivity. Organizations should encourage employees to establish dedicated workspaces, adopt effective time management practices, and focus on performance outcomes rather than fixed working hours.

- **Imbalance in Work-Life Quality**

Although hybrid work aims to improve work-life balance, employees may experience blurred boundaries between professional and personal life, resulting in increased workload, stress, and burnout. Poor work-life balance can reduce employee satisfaction, productivity, and organizational commitment. Organizations should promote flexible work arrangements, establish clear communication boundaries, provide wellness programs, and regularly assess employee well-being to maintain a healthy and productive workforce.

EMERGING TRENDS IN TEAM BUILDING THROUGH THE HYBRID WORK ENVIRONMENT

The rapid advancement of digital technologies and the increasing adoption of flexible work arrangements have made hybrid work environments an integral component of modern organizational practices. By combining remote and on-site working arrangements, hybrid models offer greater flexibility, cost efficiency, and employee satisfaction. However, maintaining productivity, collaboration, and team cohesion in such environments requires organizations to adopt innovative team-building strategies and technological solutions.

CLARITY OF TEAM OBJECTIVES AND PURPOSE

A clear understanding of team objectives and organizational goals is fundamental to achieving success in hybrid work environments. Team leaders must effectively communicate organizational vision, team goals, and individual responsibilities to ensure alignment with broader business strategies. Employees should clearly understand how their contributions support organizational objectives. Such clarity enhances accountability, motivation, commitment, and strategic focus within teams.

ENSURING RELIABLE AND TRANSPARENT COMMUNICATION

Effective communication is a critical requirement for successful hybrid teams. Reliable communication systems facilitate information sharing, collaborative problem-solving, and constructive feedback among employees regardless of their physical location. Organizations should ensure that employees have equal access to communication platforms, project documentation, and organizational resources. Digital collaboration platforms such as Microsoft Teams, Slack, Zoom, and Trello support real-time communication, project coordination, and knowledge sharing while minimizing communication barriers and information gaps.

PRIORITIZATION BY TECHNOLOGY-ORIENTED LEADERSHIP

Leadership in hybrid work environments requires technological competence, strategic decision-making abilities, emotional intelligence, and adaptability. Technology-oriented leaders must evaluate employee workloads, prioritize critical tasks, monitor performance indicators, and allocate resources effectively. The use of digital dashboards and performance management systems allows leaders to assess progress continuously, improve project delivery, and strengthen employee confidence and organizational performance.

USE OF INSTANT MESSAGING AND COMMUNICATION PLATFORMS

Instant messaging platforms have become essential communication tools within hybrid organizations. Team leaders, employees, and clients can exchange information, discuss project requirements, and coordinate activities through platforms such as Microsoft Teams, Slack, and Google Chat. These tools facilitate real-time communication, support rapid decision-making, and improve accountability through documented communication records and continuous collaboration.

PROMOTING INCLUSIVE COLLABORATION PRACTICES

Successful hybrid team building requires active employee participation and inclusive organizational practices. Organizations should encourage employees to contribute ideas, participate in discussions, and engage actively in decision-making processes regardless of their physical location or organizational position. Professional conduct, effective virtual communication practices, and equal opportunities for participation contribute to creating an inclusive and collaborative workplace culture.

ADOPTION OF ADVANCED TECHNOLOGIES

The effectiveness of hybrid teams depends significantly on the quality of technological infrastructure. Organizations should invest in advanced digital technologies, including cloud computing systems, cybersecurity solutions, artificial intelligence-based project management tools, and collaborative software applications. These technologies facilitate document sharing, project coordination, automated reporting, performance monitoring, and real-time feedback, thereby enhancing organizational agility and team effectiveness.

SHARED VIRTUAL WORKSPACES

Shared virtual workspaces have become the digital equivalent of traditional office environments. Platforms such as Microsoft Teams, Miro, and Notion provide collaborative spaces where employees can share information, manage projects, and participate in team discussions. Effective management of virtual workspaces requires structured meetings, clear agendas, active participation, and respectful communication practices to promote collaboration, efficiency, and inclusion.

FLEXIBLE SCHEDULING AND TIME MANAGEMENT

Flexibility represents one of the major advantages of hybrid work environments. Team leaders should develop work schedules that accommodate employee preferences, time-zone differences, and operational requirements. Advanced scheduling, shared calendars, and clear meeting agendas help minimize disruptions and improve coordination. Balancing flexibility with organizational structure enables employees to maintain productivity while preserving work-life balance.

FOCUS ON MEETING DEADLINES AND ACHIEVING GOALS

Maintaining productivity in hybrid teams requires strong commitment to project objectives and deadlines. Team leaders should establish realistic targets, communicate expectations clearly, and monitor progress continuously. Team meetings and individual interactions should reinforce organizational goals, encourage motivation, and establish clear action plans. A results-oriented culture promotes accountability and improves organizational performance.

ORGANIZING REMOTE TEAM-BUILDING ACTIVITIES

Virtual team-building activities have become essential for maintaining employee engagement and reducing feelings of isolation among remote employees. Activities such as virtual coffee sessions, online quizzes, team competitions, appreciation programs, and collaborative workshops strengthen interpersonal relationships and improve team morale. Properly planned virtual activities help employees remain connected and prepared to address organizational challenges effectively.

COST OPTIMIZATION AND EMPLOYEE CONVENIENCE

The hybrid work model offers significant financial advantages for both organizations and employees. Organizations can reduce operational costs associated with office space, transportation, utilities, and administrative services. Employees benefit from reduced commuting time, lower transportation expenses, and greater flexibility in managing their professional and personal responsibilities. These benefits contribute to increased employee satisfaction and organizational efficiency.

HYBRID TEAM-BUILDING FRAMEWORKS

Hybrid team-building approaches gained significant importance during the COVID-19 pandemic and continue to play a vital role in organizational management. These frameworks integrate physical and virtual interactions through blended learning programs, online training sessions, remote project assignments, and collaborative activities. Hybrid team-building practices improve employee engagement, strengthen team cohesion, and facilitate collaboration across geographical locations.

VIRTUAL TEAM ENGAGEMENT THROUGH GAMES AND ACTIVITIES

Gamification and virtual engagement initiatives have introduced innovative approaches to team building within hybrid workplaces. Digital platforms such as Kahoot, Quizizz, and virtual breakout rooms enable employees to participate in interactive games, quizzes, and collaborative activities. These initiatives create a positive work environment, reduce stress, enhance communication skills, encourage critical thinking, and strengthen relationships among team members. Regular recreational and engagement activities also contribute to reducing employee burnout and improving overall team performance.

REVIEW OF LITERATURE

Detjen and Webber (2023) examined the role of leadership in managing hybrid teams during the transition to future knowledge workplaces. The study emphasized that effective leadership, employee engagement, digital collaboration, and communication strategies are essential for improving team performance and organizational effectiveness in hybrid work environments.

Babapour Chafi, Hultberg, and Bozic Yams (2022) investigated the challenges and opportunities associated with post-pandemic office work. Their findings revealed that hybrid work environments provide flexibility and sustainability benefits while creating challenges related to employee collaboration, communication, workplace design, and organizational support systems.

Bolisani et al. (2020) analyzed the experiences of employees working from home during the COVID-19 pandemic. The study identified several challenges, including technological limitations, communication barriers, social isolation, and difficulties in maintaining work-life balance. The findings highlighted the importance of organizational support and digital infrastructure in improving employee productivity.

EURES. (2021) reported that hybrid work models are becoming the future of work by integrating both physical and virtual workspaces. The study emphasized that organizations should adopt flexible work arrangements, digital technologies, and employee-centered policies to improve organizational performance and employee satisfaction.

Grzegorzczuk et al. (2021) examined the integration of physical and virtual work environments in the future workplace. Their findings suggested that hybrid work models improve flexibility and employee autonomy while requiring organizations to strengthen communication practices, technological infrastructure, and collaborative work cultures.

Iqbal et al. (2021) discussed hybrid workplaces as an emerging organizational model. The study concluded that technological advancement, digital collaboration tools, employee flexibility, and effective leadership are critical factors influencing organizational success in hybrid work environments.

Maurer et al. (2022) investigated the impact of work-from-home arrangements on team communication during the COVID-19 pandemic. The study found that virtual work arrangements significantly affect communication patterns, collaboration effectiveness, and employee interaction, highlighting the importance of structured communication strategies in hybrid teams.

Oppong Peprah (2024) identified several advantages and challenges associated with hybrid workplaces. The study reported that organizations face challenges related to employee monitoring, communication barriers, work-life balance issues, increased operational expenses, and employee well-being, while emphasizing the importance of team learning and organizational support.

Mishra and Bharti (2024) explored the relationship between social support, work-life balance, and employee satisfaction in hybrid work environments. The findings revealed that organizational support systems, employee well-being initiatives, and effective management practices significantly contribute to employee satisfaction and improved organizational performance.

Kulkarni et al. (2022) examined the role of digital simulation in employee training and development. The study found that simulation-based training programs improve employee learning, enhance organizational knowledge, and support remote employees in developing the skills required for effective job performance.

Saini and Baba (2024) analysed the impact of multimedia learning approaches in hybrid and blended learning environments. The study concluded that the integration of audio, video, animation, simulation, graphics, and interactive learning technologies enhances employee learning experiences, improves knowledge retention, and supports effective team training.

Suravi (2024) investigated training and development practices in hybrid workplaces. The study recommended that organizations adopt flexible and technology-enabled training programs that allow employees to learn at their own pace. The findings also suggested that virtual and simulation-based training methods are more effective than traditional training approaches in hybrid work environments.

OBJECTIVES OF THE STUDY

- 1) To examine the impact of communication, leadership support, team cohesion, and work flexibility on team performance in hybrid work environments among information technology companies in North Tamil Nadu.

- 2) To analyse the role of team resilience in improving team performance and organizational effectiveness in hybrid work settings.
- 3) To identify and rank the important team-building strategies adopted by information technology companies in hybrid work environments.
- 4) To develop effective team-building strategies for enhancing employee engagement, collaboration, and team performance in hybrid workplaces.

NEED FOR THE STUDY

The rapid adoption of hybrid work environments has significantly transformed the way organizations manage employees and teams, particularly in the information technology industry. While hybrid work models provide flexibility, cost efficiency, and improved work-life balance, they also create challenges related to communication, collaboration, employee engagement, and team performance. Effective team-building strategies have therefore become essential for maintaining organizational effectiveness and ensuring employee productivity in hybrid workplaces.

The information technology sector relies heavily on teamwork, digital communication, and employee collaboration to achieve organizational goals. However, limited face-to-face interaction, technological barriers, work-life balance issues, and reduced team cohesion may affect employee performance and organizational success. Therefore, there is a growing need to identify effective team-building strategies that can strengthen communication, leadership support, team cohesion, work flexibility, and team resilience in hybrid work environments.

This study aims to address these challenges by examining the factors that influence team performance and developing suitable strategies for improving employee engagement, collaboration, and organizational effectiveness among information technology companies in North Tamil Nadu.

LIMITATIONS OF THE STUDY

The present study has certain limitations that should be considered while interpreting the findings. First, the study is limited to ten small-cap information technology companies located in North Tamil Nadu, which may restrict the generalization of the findings to other industries or geographical regions.

Second, the study is based on primary data collected from 500 respondents using a structured questionnaire, and the responses are subject to personal perceptions and opinions of the participants. Third, the study focuses only on selected variables, namely communication, leadership support, team cohesion, work flexibility, team resilience, and team performance, while other factors influencing hybrid work environments were not considered.

Finally, the study was conducted within a specific period and reflects the organizational practices and employee experiences prevailing during the data collection process. Therefore, changes in organizational policies, technological advancements, and work practices may influence future research outcomes.

HYPOTHESES OF THE STUDY

Hypothesis 1

Null Hypothesis (H_{01}):

There is no significant relationship between communication, leadership support, team cohesion, work flexibility, team resilience, and team performance in hybrid work environments among information technology companies in North Tamil Nadu.

Alternative Hypothesis (H_{11}):

There is a significant relationship between communication, leadership support, team cohesion, work flexibility, team resilience, and team performance in hybrid work environments among information technology companies in North Tamil Nadu.

Hypothesis 2

Null Hypothesis (H_{02}):

Communication, leadership support, team cohesion, work flexibility, and team resilience do not significantly influence team performance in hybrid work environments among information technology companies in North Tamil Nadu.

Alternative Hypothesis (H_{12}):

Communication, leadership support, team cohesion, work flexibility, and team resilience significantly influence team performance in hybrid work environments among information technology companies in North Tamil Nadu.

ANALYSIS AND INTERPRETATION

Table 1

Table 1 Reliability Analysis		
Variable	No. of Items	Cronbach's Alpha
Communication	5	0.881
Leadership Support	5	0.892
Team Cohesion	5	0.847
Work Flexibility	5	0.834
Team Resilience	5	0.911
Team Performance	5	0.865

INTERPRETATION OF RELIABILITY ANALYSIS

Reliability analysis was conducted using Cronbach's Alpha to assess the internal consistency and reliability of the questionnaire items used in the study. The results indicate that all the variables achieved Cronbach's Alpha values above the recommended threshold of 0.70, confirming that the measurement scales are reliable and suitable for further statistical analysis.

Communication recorded a Cronbach's Alpha value of 0.881, indicating a high level of reliability and consistency among the five items used to measure communication effectiveness.

Leadership Support achieved a reliability coefficient of 0.892, demonstrating strong internal consistency. Similarly, Team Cohesion showed a Cronbach's Alpha value of 0.847, indicating that the items effectively measured team cohesiveness.

Work Flexibility obtained a reliability coefficient of 0.834, reflecting good internal consistency among the measurement items.

Team Resilience recorded the highest Cronbach's Alpha value of 0.911, indicating excellent reliability and a strong degree of consistency among the responses.

Team Performance achieved a reliability coefficient of 0.865, confirming that the scale is highly reliable.

Table 2

Table 2 Descriptive Statistics		
Variable	Mean	SD
Communication	4.12	0.65
Leadership Support	4.05	0.71
Team Cohesion	3.95	0.76
Work Flexibility	4.21	0.62
Team Resilience	4.16	0.69
Team Performance	4.09	0.73

INTERPRETATION OF DESCRIPTIVE STATISTICS

The descriptive statistics were used to analyse the average responses and variations among the study variables related to team building in hybrid work environments. The results indicate that all variables obtained mean scores above 3.90, showing that respondents generally had positive perceptions of the factors influencing team effectiveness.

Work Flexibility recorded the highest mean score of 4.21 with a standard deviation of 0.62, indicating that employees highly value flexible work arrangements in hybrid work environments.

Team Resilience achieved a mean score of 4.16 and a standard deviation of 0.69, suggesting that employees believe their teams can effectively adapt to challenges and changes.

Communication obtained a mean score of 4.12 with a standard deviation of 0.65, reflecting that effective communication practices are well established within the organizations studied.

Team Performance recorded a mean value of 4.09 and a standard deviation of 0.73, indicating that employees perceive their teams as performing effectively in hybrid work settings.

Leadership Support achieved a mean score of 4.05 with a standard deviation of 0.71, demonstrating that employees generally receive adequate support and guidance from their leaders.

Team Cohesion recorded the lowest mean score of 3.95 with a standard deviation of 0.76, although the value still indicates a positive level of cooperation and collaboration among team members.

Table 3

Table 3 Correlation Matrix	
Variable	Team Performance
Communication	0.801**
Leadership Support	0.756**
Team Cohesion	0.822**
Work Flexibility	0.704**
Team Resilience	0.895**

$p < 0.01$

INTERPRETATION OF CORRELATION ANALYSIS

The Pearson correlation analysis was conducted to examine the relationship between the independent variables and team performance in hybrid work environments. The results indicate that all the study variables have a positive and statistically significant relationship with team performance at the 1 percent significance level ($p < 0.01$). This finding suggests that improvements in communication, leadership support, team cohesion, work flexibility, and team resilience contribute positively to team performance.

Among the variables, team resilience showed the strongest positive correlation with team performance ($r = 0.895$), indicating that resilient teams are more likely to achieve higher levels of performance in hybrid work settings. Team cohesion also demonstrated a strong positive relationship with team performance ($r = 0.822$), suggesting that effective collaboration and strong interpersonal relationships among team members enhance overall team effectiveness. Similarly, communication exhibited a high positive correlation with team performance ($r = 0.801$), highlighting the importance of clear and effective communication in achieving organizational goals.

In addition, leadership support recorded a significant positive correlation with team performance ($r = 0.756$), indicating that supportive leadership practices contribute to better employee performance and team outcomes. Work flexibility also showed a positive and significant relationship with team performance ($r = 0.704$), suggesting that flexible work arrangements improve employee productivity and organizational effectiveness.

Overall, the correlation analysis confirms that all the selected variables are positively associated with team performance. The findings emphasize the importance of communication, leadership support, team cohesion, work flexibility, and team resilience in enhancing team performance within hybrid work environments.

Table 4

Table 4 Multiple Regression			
Variable	Beta	t-value	Sig.
Communication	0.248	5.641	0
Leadership Support	0.217	4.828	0
Team Cohesion	0.352	7.154	0
Work Flexibility	0.161	3.987	0.001
Team Resilience	0.433	8.691	0

$R^2 = 0.786$

INTERPRETATION OF MULTIPLE REGRESSION ANALYSIS

Multiple regression analysis was conducted to examine the influence of communication, leadership support, team cohesion, work flexibility, and team resilience on team performance in hybrid work environments. The results indicate that all the independent variables have a positive and statistically significant effect on team performance, as their significance values are less than 0.05.

Among the variables, team resilience emerged as the strongest predictor of team performance, with a beta coefficient of 0.433, a t-value of 8.691, and a significance level of 0.000. This finding indicates that teams with higher resilience levels are more likely to

achieve better performance outcomes in hybrid work settings. Team cohesion was identified as the second most influential factor, with a beta value of 0.352, a t-value of 7.154, and a significance value of 0.000, suggesting that strong collaboration and interpersonal relationships significantly improve team performance.

The variable communication also demonstrated a significant positive impact on team performance, with a beta coefficient of 0.248, a t-value of 5.641, and a significance level of 0.000. This result highlights the importance of effective communication in supporting team effectiveness and organizational success. Similarly, leadership support positively influenced team performance, with a beta value of 0.217, a t-value of 4.828, and a significance value of 0.000, indicating that supportive leadership contributes to improved employee performance and team outcomes.

In addition, work flexibility showed a positive and significant effect on team performance, with a beta coefficient of 0.161, a t-value of 3.987, and a significance level of 0.001. This finding suggests that flexible work arrangements can enhance employee productivity and overall organizational effectiveness.

The coefficient of determination ($R^2 = 0.786$) indicates that approximately 78.6 percent of the variation in team performance is explained by the selected independent variables included in the model. Overall, the regression analysis confirms that communication, leadership support, team cohesion, work flexibility, and team resilience significantly contribute to improving team performance in hybrid work environments.

Table 5

Table 5 Friedman Ranking Test		
Team Building Strategy	Mean Rank	Rank
Team Communication	6.78	1
Leadership Support	6.42	2
Virtual Team Activities	5.96	3
Flexible Working	5.55	4
Digital Collaboration Tools	4.89	5

INTERPRETATION OF FRIEDMAN RANKING TEST

The Friedman Ranking Test was conducted to identify and rank the most important team-building strategies that influence team performance in hybrid work environments. The results reveal that all the selected strategies play a significant role in enhancing team effectiveness, although their level of importance varies.

Among the team-building strategies, team communication obtained the highest mean rank of 6.78 and was ranked first. This finding indicates that effective communication is considered the most critical factor for improving collaboration, coordination, and overall team performance in hybrid work settings.

Leadership support secured the second rank with a mean rank of 6.42, suggesting that supportive leadership practices, guidance, and employee encouragement significantly contribute to team effectiveness.

Virtual team activities were ranked third with a mean rank of 5.96, demonstrating that online team-building exercises and virtual engagement activities play an important role in strengthening team relationships and employee participation.

Flexible working arrangements received the fourth rank with a mean rank of 5.55, indicating that work flexibility positively influences employee satisfaction, productivity, and work-life balance.

Digital collaboration tools obtained the fifth rank with a mean rank of 4.89. Although ranked lower than the other strategies, digital collaboration technologies remain an essential component for supporting communication, information sharing, and teamwork in hybrid work environments.

Overall, the Friedman Ranking Test results indicate that team communication, leadership support, virtual team activities, flexible working arrangements, and digital collaboration tools are important strategies for improving team performance. Among these factors, effective communication and leadership support emerge as the most influential strategies for achieving successful team building in hybrid work environments.

Table 6

Table 6 Artificial Neural Network Results	
Predictor	Importance (%)
Team Resilience	100
Team Cohesion	91.2

Communication	84.7
Leadership Support	76.3
Work Flexibility	68.4

Prediction Accuracy:

- Training = 95.6%
- Testing = 89.7%

INTERPRETATION OF ARTIFICIAL NEURAL NETWORK ANALYSIS

Artificial Neural Network (ANN) analysis was performed to identify the relative importance of various factors influencing team performance in hybrid work environments. The findings indicate that all the selected predictors contribute significantly to team effectiveness, although their levels of importance vary.

Among the predictors, team resilience emerged as the most influential factor, with an importance value of 100.0 percent. This result suggests that the ability of team members to adapt to challenges, recover from difficulties, and maintain performance under changing conditions is the most critical determinant of team success in hybrid work environments.

Team cohesion was identified as the second most important predictor, with an importance value of 91.2 percent, indicating that strong interpersonal relationships, collaboration, and mutual support among team members significantly enhance team performance.

The variable communication ranked third, with an importance value of 84.7 percent, highlighting the essential role of effective communication in promoting coordination, information sharing, and team productivity.

Leadership support achieved an importance value of 76.3 percent, demonstrating that effective leadership, guidance, and employee support positively influence team effectiveness and organizational outcomes.

Work flexibility recorded an importance value of 68.4 percent, suggesting that flexible work arrangements contribute to employee satisfaction and productivity, although their influence is relatively lower compared to the other factors.

The predictive performance of the Artificial Neural Network model was also found to be highly satisfactory. The model achieved a prediction accuracy of 95.6 percent during the training phase and 89.7 percent during the testing phase, indicating strong predictive capability and good model reliability.

Finally, the ANN analysis confirms that team resilience, team cohesion, communication, leadership support, and work flexibility are critical factors influencing team performance in hybrid work environments, with team resilience emerging as the strongest predictor.

HYPOTHESIS RESULTS

Based on the results of the Pearson correlation analysis, the null hypothesis (H_{01}), which states that there is no significant relationship between communication, leadership support, team cohesion, work flexibility, team resilience, and team performance in hybrid work environments, was rejected. Accordingly, the alternative hypothesis (H_{11}) was accepted, confirming that a significant relationship exists between the selected variables and team performance among information technology companies in North Tamil Nadu.

Similarly, based on the findings of the multiple regression analysis, the null hypothesis (H_{02}), which states that communication, leadership support, team cohesion, work flexibility, and team resilience do not significantly influence team performance in hybrid work environments, was rejected. Therefore, the alternative hypothesis (H_{12}) was accepted, indicating that these variables have a significant influence on team performance in hybrid work environments among information technology companies in North Tamil Nadu.

CONCLUSION

The findings of this study confirm that effective team-building strategies significantly improve team performance in hybrid work environments among information technology companies in North Tamil Nadu. The reliability and descriptive analyses indicated that employees have positive perceptions regarding communication, leadership support, team cohesion, work flexibility, team resilience, and team performance.

The correlation and multiple regression analyses revealed that communication, leadership support, team cohesion, work flexibility, and team resilience have a significant positive influence on team performance. Among these variables, team resilience emerged as the strongest predictor, followed by team cohesion and communication. The Friedman ranking test identified team

communication as the most important team-building strategy, while the Artificial Neural Network analysis further confirmed the importance of team resilience and team cohesion in enhancing organizational performance.

The study concludes that organizations should prioritize effective communication, supportive leadership, team cohesion, work flexibility, and employee resilience to build successful hybrid teams. Additionally, investments in digital collaboration tools, employee engagement initiatives, and virtual team-building activities can strengthen organizational effectiveness. Overall, the findings provide valuable insights for managers and organizational leaders seeking to develop high-performing and sustainable teams in hybrid work environments.

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