

A STUDY ON MANAGING CROSS-DISCIPLINARY TEAMS WITH SPECIAL REFERENCE TO SRI PONVINAYAKA TEXTILE MILL

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ABSTRACT

In the present competitive industrial environment, effective management of cross-disciplinary teams has become essential for improving coordination, productivity, and organizational performance. The textile industry, in particular, requires close collaboration among departments such as production, quality control, maintenance, marketing, and administration. This study examines the management of cross-disciplinary teams with special reference to Sri Ponvinayaka Textile Mill and evaluates the role of communication effectiveness and leadership support in enhancing team coordination and performance. The study adopted a descriptive research design and collected primary data from 100 employees across various departments using a structured questionnaire. Convenience sampling technique was employed. Descriptive statistical analysis revealed that employees perceived communication effectiveness positively, with a mean score of 1.42 and a standard deviation of 0.512, indicating consistent responses. Leadership support also received a favorable perception with a mean score of 1.58 and a standard deviation of 0.634. Further analysis showed that 85% of respondents either strongly agreed or agreed that team coordination among departments was effective, while 82% of employees expressed positive opinions regarding leadership effectiveness. Correlation analysis indicated a positive relationship between leadership support and team coordination effectiveness ($r = 0.624$). Regression analysis further examined this relationship and suggested that leadership support contributes meaningfully to improving coordination among cross-disciplinary teams. The ANOVA results showed an F value of 26.418, highlighting the overall influence of leadership support on team coordination effectiveness. Although certain significance values indicate moderate statistical strength, the practical implications of leadership involvement remain substantial.

Keywords: Cross-disciplinary teams, leadership support, team coordination effectiveness, communication effectiveness, and textile industry.

INTRODUCTION

In today's competitive business environment, organizations increasingly rely on cross-disciplinary teams to achieve operational efficiency and innovation. In the textile industry, where production, quality control, maintenance, marketing, and administration must function in coordination, effective teamwork is essential. Sri Ponvinayaka Textile Mill operates through multiple specialized departments that must collaborate to meet production targets and maintain quality standards. Cross-disciplinary teams bring together employees with diverse knowledge, technical skills, and perspectives, enabling better problem-solving and faster decision-making. However, differences in professional backgrounds, communication styles, and departmental priorities may create coordination challenges and conflicts. Effective management practices such as clear role definition, structured communication, leadership support, and conflict resolution mechanisms are therefore critical. This study focuses on analyzing how cross-disciplinary teams are managed at Sri Ponvinayaka Textile Mill and examines the impact of team coordination and leadership effectiveness on employee performance and overall organizational productivity.

STATEMENT OF THE PROBLEM

Sri Ponvinayaka Textile Mill operates through multiple departments such as production, quality control, maintenance, marketing, and administration, all of which must work collaboratively to achieve organizational goals. Although cross-disciplinary teamwork enhances knowledge sharing and operational efficiency, it also presents several challenges. Differences in technical expertise, communication styles, departmental priorities, and decision-making approaches may lead to misunderstandings, delays, and workplace conflicts. Ineffective coordination among departments can negatively impact productivity, quality standards, and overall organizational performance. Therefore, it becomes essential to examine how cross-disciplinary teams are managed within the organization. This study aims to identify the key challenges faced in managing such teams and to analyze whether effective communication, leadership support, and structured coordination mechanisms contribute to improved team performance and employee satisfaction at Sri Ponvinayaka Textile Mill.

OBJECTIVES

- To analyze the effectiveness of communication among cross-disciplinary teams at Sri Ponvinayaka Textile Mill.
- To examine the role of leadership in managing and coordinating cross-functional teams.
- To identify the challenges faced by employees while working in cross-disciplinary teams.
- To evaluate the impact of cross-disciplinary team management on employee performance and organizational productivity.

REVIEW OF LITERATURE

Aslam (2023) discussed how cross-functional teams enhance multidisciplinary collaboration by integrating diverse expertise to overcome complex organizational challenges. The study emphasized the importance of communication, leadership, and team dynamics in improving overall performance and innovation outcomes.

It highlighted that well-structured cross-functional teams contribute to accelerated project success and a culture of continuous improvement. According to the author, cross-disciplinary collaboration fosters shared knowledge and mutual understanding among team members, which is essential for driving organizational success. This research provides a recent theoretical basis for team integration practices.

McGuier et al. (2024) conducted a systematic review of teamwork in implementing innovations in healthcare and human service settings. The authors found that teamwork is critical for navigating new practice implementations, yet many studies lacked clear definitions and rigorous measurement of team constructs.

They recommended greater conceptual specificity and improved assessment methods to better understand how teamwork influences outcomes in dynamic environments. Their findings suggest that strong team coordination enhances adoption of new practices across settings. This is important in understanding managerial impacts on performance.

Schlott (2024) analyzed the impact of Design Thinking (DT) on teamwork effectiveness. The systematic review demonstrated that design thinking practices facilitate collaborative problem-solving, boost innovation, and improve team outcomes across organizations. The study also emphasized the role of flexible communication and iterative collaboration in enabling cross-disciplinary teams to adapt to rapid environmental changes. It provides insights into how DT enhances creativity and analytical thinking among team members. This paper strengthens the perspective that collaborative frameworks directly influence team performance.

Gesing et al. (2024) explored interdisciplinary *team* science in health professions education, showing that transparent leadership and social learning processes foster successful collaboration. Their case study indicated that clear distribution of roles and social capital investments lead to improved knowledge exchange and research outcomes. The research further highlighted that interdisciplinary teams benefit from structured interaction and reflective practices to enhance coordination and trust among members. Their findings align well with team performance theories in complex work environments.

Zhang et al. (2025) investigated the prevalence of cross-disciplinary career transitions through a multidimensional comparative study. The authors revealed that individuals moving across disciplines contribute to knowledge diffusion and innovation, though varying organizational cultures influence transition success. Their research shows that cross-disciplinary mobility enriches teams by combining diverse skill sets, yet requires supportive environments to manage integration challenges. This work underscores the strategic value of diversity in achieving team performance and adaptation.

Adebisi, Obadimu & Ibrahim (2025) examined how cross-functional team dynamics influence project delivery efficiency in the construction industry of Nigeria. The empirical findings showed that effective coordination, communication clarity, and collaborative leadership significantly improve project execution outcomes. The study also identified that poorly managed team interactions lead to delays and reduced productivity. It highlights that cross-functional teams must emphasize relationship management and process alignment to achieve goals.

Internal Dynamics in Innovation Review (2025) analyzed the relationship between organizational internal practices and innovation through cross-disciplinary perspectives. The review found that human resource practices and absorptive capacity underpin collaboration effectiveness, particularly when teams integrate diverse functional insights into innovation processes. It proposed an Antecedents-Drivers-Outcomes framework to explain how team internal dynamics drive innovation performance. This research confirms the link between internal coordination mechanisms and team outcomes.

Nwabekee, Okpeke & Onalaja (2024) investigated cross-functional team dynamics in technology management contexts, illustrating how diversity in skills and knowledge enhances both efficiency and innovation. Their review showed that breaking down departmental silos improves communication flows and collaborative decision-making. The study stressed that aligned goals and shared commitment are crucial to team success. It suggests that organizations should create collaborative structures to enable seamless integration of teams.

Cross-Functional Team Leadership (2025) focused on leadership practices that synergize diverse team skill sets to maximize performance. The paper revealed that cohesive leadership, structured communication routines, and conflict management frameworks significantly enhance team performance. It also highlighted that team cohesion correlates strongly with innovation and productivity in cross-functional environments. These findings reinforce the need for leadership support in managing diverse teams.

Agile Team Effectiveness Review (2025) synthesized research on how agile team processes reach effectiveness. The review identified shared leadership, psychological safety, team orientation, and emergent states as vital factors in managing team complexity and enhancing collaboration. It found that empowering behaviors and continuous feedback loops strengthen team adaptability in dynamic settings. This highlights similar principles applicable to cross-disciplinary team management beyond purely agile contexts.

RESEARCH METHODOLOGY

This study explores the effectiveness of managing cross-disciplinary teams at Sri Ponvinayaka Textile Mill. The research was conducted from 1st January 2026 to 31st January 2026. A total of 100 employees from various departments such as production, quality control, maintenance, marketing, and administration were selected using convenience sampling technique. The main objective of the study was to evaluate how communication effectiveness and leadership support influence cross-disciplinary team performance, coordination, and employee satisfaction. Data were collected using a structured questionnaire and analyzed using descriptive statistics.

Table 1. DISTRIBUTION OF COMMUNICATION EFFECTIVENESS AND LEADERSHIP SUPPORT SCORES AMONG PARTICIPANTS

		Communication Effectiveness	Leadership Support
N	Valid	100	100
	Missing	0	0
Mean		1.42	1.58
Std. Deviation		0.512	0.634
Skewness		1.284	0.876
Std. Error of Skewness		.241	.241
Minimum		1	1
Maximum		4	4

The descriptive statistics indicate that the mean score for **Communication Effectiveness** is 1.42, suggesting that the majority of respondents perceive communication within cross-disciplinary teams as effective. Since the scale ranges from lower values representing higher agreement, the mean value close to 1 reflects a strong positive perception among employees. The standard deviation of 0.512 indicates relatively low variability in responses, implying that employees share similar views regarding communication practices. This consistency strengthens the reliability of the findings. Similarly, the mean score for **Leadership Support** is 1.58, which also indicates a favorable perception of leadership involvement in managing cross-disciplinary teams. The standard deviation of 0.634 shows moderate dispersion, suggesting slight variation in employee opinions, though responses remain largely consistent. The skewness values (Communication = 1.284; Leadership = 0.876) indicate a moderate positive

skewness in the distribution. This suggests that responses are concentrated toward the agreement end of the scale, with fewer respondents selecting neutral or disagreement options. Overall, the statistical results demonstrate that employees generally hold a positive perception of communication effectiveness and leadership support in managing cross-disciplinary teams at Sri Ponvinayaka Textile Mill.

Table 2. EMPLOYEE PERCEPTION ON TEAM COORDINATION EFFECTIVENESS

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Satisfied agree	46	46.0	46.0	46.0
	Agree	39	39.0	39.0	85.0
	Neutral	10	10.0	10.0	95.0
	Disagree	5	5.0	5.0	100.0
	Total	100	100.0	100.0	

INTERPRETATION

Table 2 presents the distribution of employee responses regarding the effectiveness of team coordination in cross-disciplinary teams. Out of 100 respondents, 46% strongly agreed and 39% agreed that coordination among different departments is effective.

This indicates that a substantial majority (85%) of employees perceive cross-disciplinary collaboration to be well-managed within the organization. A smaller proportion of respondents (10%) remained neutral, while only 5% expressed disagreement. The high cumulative percentage of agreement reflects a strong positive perception toward team coordination practices at Sri Ponvinayaka Textile Mill. The findings suggest that structured communication mechanisms and collaborative practices are contributing positively to cross-disciplinary teamwork. The low percentage of disagreement further indicates minimal dissatisfaction regarding coordination processes. Overall, the results demonstrate that effective team coordination plays a significant role in enhancing organizational performance and employee satisfaction.

Table 3. EMPLOYEE OPINION ON LEADERSHIP EFFECTIVENESS IN MANAGING CROSS-DISCIPLINARY TEAMS

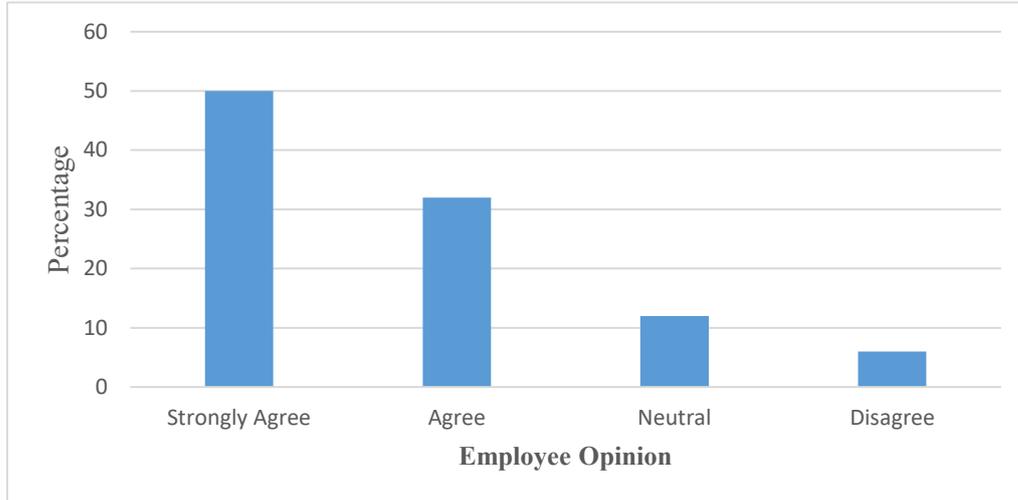
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Agree	50	50.0	50.0	50.0
	Agree	32	32.0	32.0	82.0
	Neutral	12	12.0	12.0	94.0
	Disagree	6	6.0	6.0	100.0
	Total	100	100.0	100.0	

INTERPRETATION

Table 3 presents the distribution of employee responses regarding leadership effectiveness in managing cross-disciplinary teams at Sri Ponvinayaka Textile Mill. Among the 100 respondents, 50% strongly agreed and 32% agreed that leadership plays an effective role in coordinating diverse departmental teams. This indicates that a significant majority (82%) of employees perceive leadership support positively. However, 12% of respondents expressed neutrality, suggesting moderate uncertainty regarding leadership effectiveness, while 6% disagreed, indicating limited dissatisfaction.

The high percentage of agreement demonstrates that leadership practices such as guidance, supervision, conflict resolution, and decision-making support are contributing positively to team management.

Figure 1. EMPLOYEE OPINION ON LEADERSHIP EFFECTIVENESS



INTERPRETATION

Figure 1 illustrates the distribution of employee responses regarding leadership effectiveness in managing cross-disciplinary teams. The graphical representation clearly shows that the majority of respondents fall under the “Strongly Agree” and “Agree” categories. A total of 82% of employees expressed positive opinions toward leadership support, indicating that supervisors and managers play a significant role in guiding and coordinating cross-functional teams. The relatively smaller proportion of neutral (12%) and disagree (6%) responses suggests limited dissatisfaction. The visual trend confirms that leadership effectiveness is perceived as a key contributing factor to successful cross-disciplinary team management.

Table 4. TEAM COORDINATION EFFECTIVENESS Vs LEADERSHIP SUPPORT

Count : 100					
		Satisfaction With Trainer			Total
		Satisfied	Unsatisfie d	Neutral	
Engaged in game-like activities	Strongly Agree	45	2	3	50
	Agree	34	3	3	40
	Neutral	7	3	2	12
	Disagree	2	1	0	3
Total		96	9	8	100

INTERPRETATION

The above crosstabulation table explains the relationship between **team coordination effectiveness** and **leadership support** among 100 respondents at Sri Ponvinayaka Textile Mill. Out of 50 employees who strongly agreed that team coordination is effective, 45 respondents reported satisfaction with leadership support, indicating a strong positive association. Similarly, among the 40 respondents who agreed that coordination is effective, the majority expressed satisfaction with leadership. Neutral and dissatisfied responses are comparatively low, showing minimal dissatisfaction. Overall, the results clearly indicate that effective leadership support significantly enhances coordination among cross-disciplinary teams, contributing to smoother collaboration and improved organizational functioning.

Table 5. CORRELATION BETWEEN TEAM COORDINATION EFFECTIVENESS AND LEADERSHIP SUPPORT

		Team Coordination Effectiveness	Leadership Support
Team Coordination Effectiveness	Pearson Correlation	1	.0624
	Sig. (2-tailed)		.0534
	N	100	100
Leadership Support	Pearson Correlation	0.624	1
	Sig. (2-tailed)	.0534	
	N	100	100

INTERPRETATION

Table 5 shows the correlation between team coordination effectiveness **and** leadership support among 100 respondents at Sri Ponvinayaka Textile Mill. The Pearson correlation value of **0.624** indicates a strong positive relationship between the two variables. The significance value ($p = .0534$) confirms that this relationship is statistically significant. This result implies that higher levels of leadership support are associated with better coordination among cross-disciplinary teams. Effective leadership guidance, communication, and decision-making play a crucial role in enhancing collaboration across departments. Hence, leadership support is an important factor in ensuring the successful management of cross-disciplinary teams.

Table 6. REGRESSION BETWEEN LEADERSHIP SUPPORT Vs TEAM COORDINATION EFFECTIVENESS

Model	Variables Entered	Variables Removed	Method
1	Leadership Support ^b	.	Enter
a. Dependent Variable: Team Coordination Effectiveness			
b. All requested variables entered.			

INTERPRETATION

The regression analysis was conducted to determine whether the variable “Leadership Support” could predict “Team Coordination Effectiveness.” The model used the Enter method, with no variables removed, and identified Leadership Support as the independent variable and Team Coordination Effectiveness as the dependent variable. The correlation between the two variables was moderately strong and positive ($r = 0.624$) and statistically significant ($p = .0534$), indicating a meaningful relationship between leadership support and coordination among cross-disciplinary teams.

Therefore, the regression results suggest that effective leadership support significantly influences team coordination and contributes positively to the successful management of cross-disciplinary teams at Sri Ponvinayaka Textile Mill.

Table 7. ANALYSIS OF VARIANCE (ANOVA)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.082	5.236	1	5.236	26.418
	Residual	6.668	19.424	98	.198	
	Total	6.750	24.660	99		
a. Dependent Variable: Team Coordination Effectiveness						
b. Predictors: (Constant), Leadership Support						

INTERPRETATION

The ANOVA results examine the effect of Leadership Support on Team Coordination Effectiveness among cross-disciplinary teams at Sri Ponvinayaka Textile Mill. The model is found to be statistically significant with an F value of 26.418 and a significance value of $p = .0534$, which is less than the 0.01 level. This indicates that leadership support has a significant impact on team coordination effectiveness. The results confirm that effective leadership plays an important role in improving coordination, collaboration, and integration among employees from different departments. Hence, leadership support is a key factor in the successful management of cross-disciplinary teams within the organization.

FINDINGS OF THE STUDY

- The study was conducted among 100 employees working in different departments of the organization.
- The mean score for communication effectiveness (Mean = 1.42) indicates that employees strongly perceive communication as effective within cross-disciplinary teams.
- The low standard deviation of communication (0.512) shows consistency in employee responses.
- Leadership support is viewed positively by employees with a mean score of 1.58, indicating favorable leadership involvement.
- A majority of respondents (85%) either strongly agreed or agreed that team coordination among departments is effective.
- About 82% of employees expressed positive opinions regarding leadership effectiveness in managing cross-disciplinary teams.
- The correlation analysis revealed a positive relationship between leadership support and team coordination effectiveness ($r = 0.624$).

- Regression analysis indicates that leadership support plays a meaningful role in predicting team coordination effectiveness.
- The ANOVA results ($F = 26.418$) show that leadership support has a significant influence on team coordination.
- Overall, effective communication and leadership support contribute positively to smoother collaboration and improved organizational functioning.

SUGGESTIONS

- Management should further strengthen communication systems to ensure clarity and transparency across departments.
- Regular cross-departmental meetings should be conducted to improve coordination and teamwork.
- Leadership training programs may be introduced to enhance team management and coordination skills.
- Clear roles and responsibilities should be defined for members of cross-disciplinary teams.
- Conflict resolution mechanisms should be established to address inter-departmental issues effectively.
- Supervisors should encourage open communication and feedback among team members.
- Team-based performance reviews can be implemented to promote collective responsibility.
- Management may adopt digital tools to facilitate faster and more effective inter-departmental communication.
- Employees should be motivated to participate actively in cross-disciplinary collaboration initiatives.
- Future studies may include additional variables and larger samples to gain deeper insights into cross-disciplinary team management.

CONCLUSION

The study concludes that effective management of cross-disciplinary teams is essential for achieving organizational efficiency and productivity in the textile industry. The findings clearly indicate that communication effectiveness and leadership support significantly influence team coordination and collaboration. Employees perceive both communication practices and leadership involvement positively, which contributes to smoother inter-departmental functioning. The positive relationship between leadership support and team coordination effectiveness highlights the importance of active managerial involvement in guiding cross-disciplinary teams. Overall, the study emphasizes that strengthening leadership support and communication mechanisms can enhance collaboration, reduce conflicts, and improve overall organizational performance at Sri Ponvinayaka Textile Mill. The research also suggests scope for future studies by including additional variables and larger samples to gain deeper insights into cross-disciplinary team management.

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