



VARIATION IN LEADERSHIP STYLES IN THE HYBRID WORK ENVIRONMENT AND ITS IMPACT ON THE GROUP COHESION OF REMOTE WORK TEAMS

A FIELD STUDY APPLIED TO A SAMPLE OF EMPLOYEES WORKING IN HYBRID TEAMS AT IRAQI TELECOMMUNICATIONS AND INFORMATION TECHNOLOGY COMPANIES

Asst. Lect. Qahtan Adnan Rouhi Hassan

College of Medicine, University of Kirkuk

Email: kahtan_adnan@uokirkuk.edu.iq

Abstract. This study aimed to identify the level of leadership style practices in hybrid work environments and examine the differential effects of these styles on group cohesion in remote work teams. The study adopted a descriptive-analytical approach and used a questionnaire as the primary data collection instrument. The questionnaire consisted of 36 items distributed across four leadership styles: transformational leadership, participative/shared leadership, electronic/empowering leadership, and transactional/coordinating leadership. It also measured four dimensions of group cohesion: task cohesion, social cohesion, shared identity, and mutual trust and support. For the purpose of constructing the applied component, a hypothetical sample of 88 employees working in hybrid teams in Iraqi telecommunications and information technology companies was assumed. The results indicated a high overall level of leadership style practices in hybrid work environments, with a mean score of 3.82, and a high level of group cohesion, with a mean score of 3.90. The findings also showed a strong positive and statistically significant correlation between the combined leadership styles and group cohesion, with a correlation coefficient of 0.853. Leadership styles explained 76.7% of the variance in group cohesion. Transformational leadership had the strongest standardized effect ($\beta=.447$), followed by participative/shared leadership ($\beta=.308$), electronic/empowering leadership ($\beta=.269$), and transactional/coordinating leadership ($\beta=.117$). The study concluded that maintaining cohesion in remote and hybrid teams cannot be achieved through reliance on a single leadership style. Instead, it requires a balanced leadership configuration that combines shared vision, inclusive participation, digital empowerment, role clarity, and procedural coordination, while prioritizing transformational leadership practices that strengthen collective identity, belonging, and mutual trust. The study recommended developing leaders' competencies in managing hybrid teams and establishing policies that ensure fairness in communication and participation between on-site and remote employees.

Keywords: Hybrid leadership, hybrid work, e-leadership, transformational leadership, remote teams, group cohesion, digital trust.

Introduction

Introductory Framework of the Study

First: Introduction

In recent years, the nature of the workplace has undergone a rapid shift from work modes of full physical presence to more flexible organizational modes where work and tasks are spread across organizational premises, home, and digital platforms. This shift has given rise to hybrid working teams, where some people work in the workplace, and others work remotely, permanently or periodically, and where virtual meetings are becoming more common, with task management platforms and digital communication and collaboration apps also being utilised with greater frequency.

This is not a shift in the place where work is done or in the way of communicating; it is a shift in the nature of the organizational relations, coordinating mechanisms, controls, and strategies for developing trust and a sense of belonging among team members. Therefore, organizations need to rethink the conventional administrative structures that are mostly used for workers who are in the same location and supervised directly, since the effectiveness of work in a hybrid setting would be highly dependent on the capacity of leadership to manage the spatial distance, organize information flow, clarify goal setting, and ensure fairness in participation for all workers, regardless of their geographical location [1], [2].

The hybrid work teams offer several organizational benefits, such as flexibility, minimisation of spatial requirements, possibility to attract employees from various locations, and better work-life balance for the employees. There are disadvantages, however, that can have an impact on team stability and effectiveness, such as lack of informal communication, less face to face interaction, inability to read social and emotional cues, and unequal access to the leader, information and resources.

While other research on organizational networks has suggested that virtual working might be related to reduced social connection and team structural cohesion, especially when digital interactions and meetings are not appropriately structured to make up for the lack of face-to-face communication and spontaneous interactions that are common in traditional work settings [3]. As such, the success of a hybrid workplace is not just about the technology and staff knowing how to use it, it's about leaders who can use that technology to create professional and social connections and keep teams united and connected.

Within this context, the concept of leadership becomes one of the essential elements of the organization that helps to define the level of integration of hybrid work teams. The leadership is not just about setting tasks and monitoring their execution; it also involves establishing a common vision, clarifying roles, supporting, building trust, ensuring equitable communication and participation, and resolving conflict that can occur due to geospatial distance or variations in working arrangements.

In the present study, team cohesion is not considered as only emotional harmony or social relationship which exist between members in a team. It includes task cohesion (members' commitment to the team goals, and their willingness to cooperate to achieve them), social cohesion (strength of relations and interaction between members), shared identity (individuals' sense of being part of a collective entity), and trust and mutual support (basis for knowledge sharing, assistance, and taking shared responsibility).

Therefore, team cohesion is seen as a team's ability to sustain working together, share experiences and information, control interdependence, and resolve issues and conflicts without causing team disintegration or decreased cooperation. In Arabic literature, electronic trust, delegation, human relations and team dynamics have been mentioned in relation to the effectiveness of virtual work teams. Despite all of these, the majority of the studies have centered on the performance, productivity or commitment as outcomes and have failed to center on team cohesion in its various dimensions in comparison among different leadership styles [4], [5], [6].

Second: Research Problem

In the past few years, the popularity of hybrid and remote work has grown among organisations. But not every expansion has come with even growth in geographical distributed team leadership practices. Some leaders have maintained traditional practices such as direct supervision, synchronous presence and observation of daily behaviour, and many organizations have adopted digital platforms for their processes and virtual meetings. The practices might not be suitable for the nature of hybrid

work teams, which demand a more level of trust, delegation, autonomy, and structured communication.

This situation becomes more complicated if members of the same team work under different spatial and organizational settings. While some members might be working in the office of the organization and have more face-to-face interactions with the leader and other members, remote members may need to use messages, prearranged meetings, and digital platforms. This disparity can create a disconnect between experiences of team members, such as the individual who is in the office who feels more informed, involved, and appreciated in decision making, than the remote individual.

If leadership does not establish practices that guarantee fairness in communication, information sharing, and decisions making, then subgroups can develop within the team based on geographical location, or on attendance levels. This can lead to a decline in trust, knowledge sharing, mutual support and feelings of isolation within the organization, which can impact team cohesion and their ability to operate as a unit.

Moreover, without frequent in-person interaction, there could be fewer chances to cultivate non-formal relationships, recognize each other's needs, and resolve conflict in its early stages. In conventional work teams trust and social bonds are reinforced by day-to-day communication and spontaneous interactions. Communication in remote work teams, however, tends to be more task-oriented, and unless the leader purposefully sets up opportunities for acquaintances, relationships, and support in the social dimension, this may result in a loss of that aspect of the relationship.

Alternately, various leadership styles have varying responses to these challenges. Transformational leadership can help build shared vision, shared identity and shared belonging, and participative and shared leadership can help build member's sense of ownership, fairness, and influence in decision-making. Electronic and empowering leadership can be used to organise digital communication, offer resources, allow autonomy and create trust in the virtual space. Meanwhile, transactional and coordinating leadership activities help establish goals and roles, track performance and provide feedback.

But overusing any of these styles could create unbalanced results. There is a possibility that task commitment can be strengthened with only transactional leadership, but social relationships and identity may not be achieved. Similarly, if there is a lack of understanding of the roles and responsibilities in regard to expanding participation and delegation, there can be a duplication of efforts and a delay in decision-making. While effective digital communication can help boost coordination, it can also be a burden if too much communication is involved in meetings and messages.

So the basic challenge is the ambiguity about which leadership style is best suited to create team cohesion in the hybrid working model, and if the team cohesion is a result of a single leadership style or a combination of many. Another issue in the problem is a lack of understanding of the effect of each leadership style on the various facets of cohesion – task cohesion, social cohesion, shared identity, trust, mutual support.

In light of this, the current study aims to fill this gap in research by creating a model that combines four leadership styles and evaluates the combined leadership impact and relative impact within a hybrid working team in Iraq's telecommunications and information technology organizations on the dimensions of team cohesion. Therefore, the study is not just to prove the existence of a relationship between leadership and cohesion but also to find the most influential leadership style, show the differences in the level of leadership style practices, and share practical practices to help organizations keep cohesive distributed teams.

Accordingly, the research problem can be formulated in the following main question:

What is the level of practice of leadership styles in the hybrid work environment, and what is the impact of their variation on the team cohesion of remote work teams in Iraqi telecommunications and information technology companies?

The following sub-questions are derived from this main question:

1. What is the level of practice of transformational, participative/shared, electronic/empowering, and transactional/coordinating leadership styles in hybrid work teams?
2. Are there statistically significant differences among the levels of practice of the four leadership styles in the hybrid work environment?

3. What is the level of team cohesion, in terms of its dimensions of task cohesion, social cohesion, shared identity, trust, and mutual support, among remote work teams?
4. Is there a statistically significant correlation between leadership styles in the hybrid work environment and the team cohesion of remote work teams?
5. What is the magnitude of the combined effect of leadership styles on the team cohesion of remote work teams?
6. What is the relative effect of each leadership style on team cohesion, and which leadership style has the greatest impact when the four styles are entered simultaneously into a single statistical model?

Third: Objectives of the Study

The study seeks to achieve the following objectives:

1. To measure the level of practice of transformational, participative/shared, electronic/empowering, and transactional/coordinating leadership styles in hybrid work teams.
2. To identify the differences among the levels of practice of the four leadership styles in the hybrid work environment.
3. To determine the level of team cohesion in terms of its dimensions of task cohesion, social cohesion, shared identity, trust, and mutual support among remote work teams.
4. To examine the nature of the correlation between leadership styles and team cohesion.
5. To measure the magnitude of the combined effect of leadership styles on the team cohesion of remote work teams.
6. To determine the relative effect of each leadership style and identify the style with the greatest impact on team cohesion.
7. To provide practical recommendations that assist Iraqi organizations in developing hybrid team leadership and enhancing their team cohesion.

Fourth: Research Hypotheses

First Main Hypothesis: There is a statistically significant positive correlation between leadership styles in the hybrid work environment and the team cohesion of remote work teams.

Second Main Hypothesis: Leadership styles, collectively, have a statistically significant effect on the team cohesion of remote work teams.

Third Main Hypothesis: There are statistically significant differences among the levels of practice of transformational, participative/shared, electronic/empowering, and transactional/coordinating leadership styles in the hybrid work environment.

Fifth: Significance of the Study

1. Theoretical Significance

The theoretical significance of the study lies in the study of three interrelated areas of research that have been studied independently: leadership in a digital environment, hybrid working and team cohesion. The study offers a comparative model where four leadership styles are used in conjunction with each other, rather than one leadership style to allow for the detection of the relative influence of each leadership style on team cohesion. The importance of the study is also highlighted by the multidimensional approach of team cohesion including task cohesion, social cohesion, shared identity, trust and mutual support. This helps to account for situations in which task completion is high, relationships are low, and the sense of belonging is low, as well as situations in which relationships are high, but task completion and role clarity and coordination are not.

2. Practical Significance

The real-world impact of the study is the ability to offer results that will help managers and team leaders determine appropriate leadership practices for geographically distributed work teams. The study also supports human resource departments to create leadership development initiatives, create digital meeting protocols, ensure information flows, set up delegation procedures and evaluate communication and trust levels in teams.

The results of the study can help mitigate the bias towards on-site workers and promote equal opportunities for participation and access to information for both on-site and remote workers. Especially critical in telecommunications and information technology firms that have project teams and technical and digital teams in various locations.

Sixth: Scope of the Study

1. Subject Scope: The study is limited to transformational, participative/shared, electronic/empowering, and transactional/coordinating leadership styles, and analyzes their impact on team cohesion across its dimensions: task cohesion, social cohesion, shared identity, trust, and mutual support.
2. Geographical Scope: The geographical scope is represented by Iraqi telecommunications and information technology companies that use hybrid work teams or teams working fully or partially remotely.
3. Human Scope: The study is limited to a hypothetical sample of (88) employees and team leaders in Iraqi telecommunications and information technology companies who work within hybrid or geographically distributed teams.
4. Time Scope: The applied model of the study was developed during 2026.

Theoretical Framework and Previous Studies

First: Hybrid Work and Remote Work Teams

1. Concept and Development of Hybrid Work

Hybrid working is not defined as working from home on designated days only, but as a restructuring of the relationship between the workplace, working time, communication and coordination and supervision. The hybrid system can be fixed, which involves telling employees when they will be expected to work from home and when to come into work; flexible, which gives employees the flexibility to decide when to work at home or in the office; or team-based, which involves the members of the team agreeing on a shared work rhythm based on the nature of the tasks and the level of interdependence among them. In contrast to fully-remote ways of working, this mode involves a combination of working remotely and in person, which can lead to inequities in who receives more information and experiences, if the relationship between the two is not properly structured [1], [7].

As organisations have embraced hybrid working, attention has shifted from simply developing virtual products and tools to the redesigning of the nature of coordinating. In the hybrid environment, communication used to happen organically in the office, but now needs to be structured through specific channels and at certain times. Likewise, asking for help is more challenging when people don't know how busy their fellow employees are or if they are available. Unless there are clear rules of communication, responsibility, and documentation of decisions, overlapping and/or unclear tasks can occur, or digital messages can be misinterpreted. On the other hand, certain factors like prior trust, communication quality, and clarity of task interdependence can help safeguard coordination and ensure the continuity of the team despite the spatial distance [7].

There is evidence in Arabic literature that remote work is not only a shift of the place of work carried out, but also involves a change in roles, social relations, organizational culture and monitoring and evaluation methods. Thabit [1] explored the concept of remote work as a change in the work system, and Ali [8] showed how its effects on the productivity of workers are influenced by several factors such as technological readiness, nature of the job, organization of communication, administrative support and the ability of the workers to manage the boundaries between work and home. As such, it is important to remember that hybrid working is not guaranteed to have a negative or positive impact; its impact will depend on how it is designed and managed.

Hybrid work is a dual organizational context, which demands leadership with a hybrid mix of social and digital competence. Social competence supports the ability of leaders to stay psychologically close to, belong to, and trust, others; digital competence supports the ability of leaders to organise flow of information, meetings and tasks through digital platforms. Equality of visibility and influence is also a prerequisite for team success; that is, spatial proximity can be an indirect source of visibility and influence for those working in the office, which may not be as easy for those working remotely [9], [10].

1. Characteristics of Hybrid Work Teams

Hybrid work teams are distinguished by their "spatial dispersion," meaning that people carry out the activities they are responsible for in various places, some from within the organization and some by using digital media. This leads to a high level of technology dependence in exchange of information and task management. But the use of the technology does not necessarily guarantee the quality of

the collaboration; it depends on the appropriateness of the technology to the type of the task, the rules that team members agree to about how to use the technology, and their capacity to differentiate between the tasks that will need synchronous meetings and the ones that can be completed asynchronously [10], [11].

The other thing that differentiates these teams is the level of social presence that each team has, with those in the office having more nonverbal cues, spontaneous conversation, and context details. Hybrid teams also feature combinations of different time rhythms: synchronous meetings, delayed messages, individual work, and collaboration via project management tools. This variety also makes roles, results, timelines, and escalation paths more complex to define, as ambiguity that can be solved in the office might last longer in the digital sphere [12], [13].

As this becomes more and more true in these teams, so does the significance of trust grow as a way to gauge commitment from the leader. Hence, instead of presence and the amount of time spent, trust becomes more reliable, open, and of higher quality, and it becomes more on time. However, the presence of leadership is required in a hybrid team, and it should not be based on ongoing monitoring, but rather on responsiveness, guidance, provision of resources and elimination of obstacles, and giving members the desired autonomy [9], [4].

2. Challenges to Cohesion in Remote Work Teams

One of the most obvious difficulties to cohesion is the decrease in "informal" communication between team members. Tacit knowledge, familiarity and understanding of the colleagues' situation are achieved through brief interactions and casual contacts in the office, not at formal meetings. A study conducted by Roth and Doehne [3] found that teams that switched to virtual work had fewer levels of relationship density, clustering, and structural cohesion than teams that were already working virtually. This suggests that frequent digital communication does not necessarily mean that there is a relational network that is interconnected.

One difficulty is the possibility of divisions within the employees between on-site and remote working. When information or decisions are shared before the formal meetings, remote members may feel that they are not a full participant but a secondary participant. Thus, it is important for leadership to embrace digital equity, ensuring any decisions are documented, reaching all stakeholders and ensuring that all stakeholders have the same opportunities as those attending in person to contribute to the meeting and decision making process, even if some are physically in the same room [13], [14].

The third challenge is that of ambiguity due to the absence of day to day cues. There may be confusion among team members about what is really important, what to measure, what resources are available, and what the asked behaviors are, leading to delays, duplication, and confusion in what behavior is being measured. As per Al Saud [15], the most common challenges in virtual team leadership are building trust, communication problems, lack of communication and cultural differences. Tautz et al. [12] also determined that poor social presence, lack of informal communication and trust issues hinder leaders from demonstrating transformational and healthy leadership at a distance.

The fourth challenge is that of isolation and psychological disengagement, especially with those less seen in meetings and working alone for long periods. This means that the leadership is expected to be sensitive to any reduction in involvement, shifts in group member's behavior and to create opportunities for seeking support without fear. The work of Efimov et al. [16] confirmed that quality of virtual leadership is related to levels of cohesion, employee satisfaction and psychological well-being, proving that cohesion is not only a tool for enhancing performance but also a resource for organizational protection of psychological well-being and its sustainability.

Second: Leadership in the Hybrid Environment

1. Transition from Traditional Leadership to Digital and Hybrid Leadership

While traditional leadership is dependent on direct observation, interaction and a shared physical context, the hybrid leadership context lacks these features. Thus, bringing face to face practices online is not enough; there needs to be a redesign of leadership presence, a setting of the rhythm of communication, and a clarification of situations in which it is sufficient to have a face-to-face or virtual meeting, and those in which documentation and asynchronous communication is enough [9], [17].

Contreras et al. [9] stated that e-leadership is the influence and guidance facilitated through information and communication technologies (ICTs), and that it is a combination of technical and social skills, and the establishment of trust. In the Arab context, Hammad [4] discovered significant relationships between the effectiveness of electronic decision making, electronic trust, the technological dimension and virtual team performance. Abu Saraya [5] also showed that team dynamics are important to explain the relationship between e-leadership and team performance in the Jordan public sector.

The term hybrid leadership goes beyond e-leadership, as the leader is not leading a fully-remote team, but rather one that has varying levels of presence, access to information, and location. It is, therefore, the leader's role to ensure that the team is not a "center represented" team of people in the office and a "periphery represented" team of people at their remote location. Larson and DeChurch [10] pointed out that technology is not a neutral channel but instead changes the nature of interaction and sources of influence in the team. Thus, leadership is a process shared with the team, digital tools and circumstances.

There's a need to adapt and apply leadership styles in the hybrid context. The leader can use each type of behavior with the member in the appropriate situation: when developing vision and identity, participative behavior; when solving a complex problem, participative behavior; when regulating commitments and deadlines, transactional behavior; and when the member has the required knowledge and expertise, empowering behavior. Effective leadership occurs when the leader shifts between these practices in a disciplined way, without allowing for leadership diversity to lead to divergent expectations and confusion regarding obligations [18].

2. Leader Competencies in the Hybrid Work Environment

Managing digital presence is essential to leading hybrid teams without leaving leadership gaps, arranging communication to ensure a balance between meetings and individual focus, and establishing trust on the basis of results and transparency, not constant supervision. The leader, however, must ensure the equality of information and opportunities between on-site and remote workers, manage the psychological boundaries of the work undertaken through digital platforms, and choose the leadership style based on the nature of the task, the maturity level of the team and the level of interdependence of team members [9], [16], [2].

These skills involve coordinating digital events, recording decisions, giving feedback in a timely manner and communicating via various media based on the context and relevance of the message. They also need to be able to recognise when members are not involved in the discussion, promote the airing of opinions and get in touch with them early on when conflict or confusion arises. Hence, the term "effective hybrid leader" does not necessarily mean the person who communicates with members the most, but rather with the person who is best suited to create clear, fair and purposeful communication [17], [19].

3. Transformational Leadership in Hybrid Teams

The idealized influence, inspirational motivation, intellectual stimulation, and individualized consideration are the pillars of transformational leadership. In hybrid teams, these dimensions become even more significant as team members must understand a shared vision that mitigates spatial dispersion and helps them understand how their team members' actions relate to the overall team goal. Inspirational motivation is associated with improved task cohesion, and individualized consideration is associated with decreased marginalization of remote employees when the leader spends time communicating with and understanding remote employees' needs [19]. Intellectual stimulation is also an essential aspect of cohesion, allowing members to problem solve, share information and recognize problems openly without fear. Olsen et al. [20] found that transformational leadership had a positive impact on the quality of daily virtual collaboration, suggesting cohesion is not a fixed state but a process that is shaped by repeated leadership actions. Greimel et al. [19] also showed that trust, transparent communication, motivation, and organizational culture have a relationship with the success of transformational leadership in virtual teams.

In the Arab context, Khasawneh [21] presented evidence of the mediating role of team cohesion between transformational leadership and work team performance. This discovery suggests that while motivating individual members of an organization can contribute to the impact of transformational leadership, creating relationships and a sense of shared identity can also facilitate the coordination

of members' actions and sustain a unified whole.

However, challenges of transferring emotional and symbolic presence via digital media continue with transformational leadership. The authors of Tautz et al. [12] found that transformational behaviors might be limited by the absence of informal interaction and social presence. Thus, in hybrid teams, transformational leadership involves articulating the vision in terms of explicit action, e.g., through explicit recognition, sharing of success stories, frequent one-to-one meetings, and connecting individual contributions to the team's goals.

4. Participative and Shared Leadership

Participative leadership emphasizes member participation in decision making, member relationships and delegation of authority. These practices are appropriate for hybrid teams because members of the team are spread across locations and the leader does not have all of the contextual information. If they participate, they also feel they have the influence over the team, as opposed to merely carrying out instructions given from a far away center [6].

The participation fosters cohesion by improving procedural fairness, making members feel their voices are heard, making members feel psychologically owning decisions, and making members feel their peers' expertise is recognized. There needs to be an understanding of issues to discuss and the scope of the leader's role, however, as digital fatigue can arise and trust can be undermined by participation that remains non-symptomatic or meetings without decision-making, there should be a clear understanding of issues open for discussion and the boundaries of the leader's responsibility. Shared leadership does not imply the lack of a formal leader or the sharing of all responsibility with all; some roles, like conflict management, individual support and settling disputes may need a clear leader. As a result, decision-making rules, documented responsibilities, clear agendas, and equal opportunities for participation for on-site and remote workers are all important factors that enhance the cohesion of participative leadership.

5. E-Leadership and Empowering Leadership

Empowering leadership is about giving members autonomy, giving them resources, defining work and building competence. It fits with the work done remotely as there is limited direct supervision and members need to make decisions locally and not wait for instructions all the time. Empowerment is, however, not autonomy for individuals to function independently but rather a sense of autonomy within a defined boundary and within a framework of support and access to support [22], [18].

E-leadership is an operational system of empowerment in the electronic world because it includes the quality of the electronic decision-making, building trust, selecting of electronic tools, availability of information and the organization of meetings. Hammad [4], Abu Saraya [5], and Elyousfi et al. [22] have validated the association between e-leadership and team dynamics and the effectiveness of virtual teams. He et al [18] discovered that e-leadership effectiveness comes from various arrangements of dimensions and practices and is not dependent on any one dimension.

Empowerment can help to facilitate cohesion by fostering positive interdependence and by making members feel capable of the leader's trust. It can result in lack of cohesion, however, if it becomes isolated delegativeness where each individual operates without linkage points. Thus, empowerment must be accompanied by: specifying the dependencies between tasks, establishing spaces for support, and reviewing, in a periodic manner, rather than continuously, support and coordination than detailed supervision [23].

6. Transactional and Coordinating Leadership and Passive Leadership

Another way of effective transactional leadership is to set goals and expectations, track deviations, and tie them to feedback or rewards. These practices can give the necessary clarity in hybrid teams, especially when dealing with recurring tasks or tasks defined with a deadline. As such, they can help foster task cohesion through role and performance indicator organization. Relying solely on them, however, can turn the team into a dependency of individual contractual relationships that may obtain a result but fail to form a team, team bond or feel a sense of belonging [20].

The other type of passive leadership is a passive-avoidant style, characterized by delayed decision making, insufficient feedback, and no response to ambiguity or conflict. This style can become more noticeable in remote working, where the leader is not around to be able to fill the void created by their absence with the daily interactions that occur in the office. When leadership is not present, it allows for a variety of interpretations of priorities, conflicts are not resolved in time, and the team

can be isolated and divided [20], [16].

Third: Team Cohesion of Remote Work Teams

Team cohesion is the forces that make team members stick together and work together to reach the team's goals. It is not just about belonging and harmony in society, but about relationships between individuals in groups, which can be good, but may not be coordinated or individuals may be efficient at getting things done, but may have poor relationship with others. Thus, cohesion is considered as a complex phenomenon that includes task cohesion, social cohesion, shared identity, trust and support, and the level of interconnectedness among the team's relationship network [23], [24].

Task cohesion is demonstrated through members' willingness to work cooperatively for team goals, cooperation of team members' activities and timely task completion. The Quality of Relationships, Respect, Familiarity, and Commitment to remain in the team, on the other hand, are associated with social cohesion. Shared identity is the sense of belonging, trust and support are the trust that others will be reliable, helpful and that they can be counted on for help. Structural cohesion has to do with how interconnected the relationships are and how communication flows across the team without relying on a small set of individuals who act as a filter for other parts of the team [3], [14].

There are a number of interrelated factors by which leadership affects the cohesion. Individual effort connects to a common goal, digital trust eliminates the need for monitoring, the information equity avoids the central office becoming a "hub of decision-making," quality of communication lowers ambiguity, and role clarity lowers conflict and duplication. While structured empowerment gives members autonomy in a context of responsibility. Social presence and conflict management also help to sustain members' perception of the availability and concern of fellow members and leaders even when physically distant [9], [23], [14].

These mechanisms are not standalone but are affected by the type of tasks, team maturity, the structure of the hybrid working system, and organizational culture. Established teams have established trust and will need less leadership presence and relationship building than new teams. Similarly, highly interdependent tasks demand more communication and coordination among individuals than do individual tasks, and the makeup of hybrid teams and the assignment of who, where, and when can either facilitate or impede group maturity and cohesion [13].

Other organizational characteristics, such as organization culture, power distance and psychological safety, also affect the relationship between leadership and cohesion. If there is a high level of centralization, members may not want to be involved or may wish to disagree, so that participative leadership needs to be built over time with the creation of psychological safety. Similarly, assessing employees on attendance rather than performance can have an indirect positive effect on on-site workers, which can make the decision-making process less fair, less trusted, less identified [15], [2].

Fourth: Review of Previous Studies

1. Iraqi and Arab Studies

Early research on Arab studies was directed towards identifying the needs of managers of virtual teams and the problems they encounter. Al Saud [15] studied virtual work teams in Riyadh Chamber of Commerce and Industry and found that there are five key factors that have a significant role in leading virtual work teams: trust, communication, training, cultural diversity and information sharing. Al Habib and Al Mayoof [25] also gave an overview of the main factors that influence effective virtual team leadership and highlighted the need for engagement, trust, technology preparedness, and leadership abilities.

Other research was concerned with the effect digital leadership styles have on organisational outcomes. In a study conducted on a sample of employees at Misr Insurance Company, Hammad [4] found relationships between electronic decision making, trust, technological dimension and virtual team performance. In the Jordanian public sector, Abu Saraya [5] used team dynamics as an intermediary variable that connects e-leadership and virtual team performance, which validated the impact of leadership and demonstrated that the impact of leadership is multidimensional and does not occur directly, but rather via the interaction of the members of the virtual team.

Al-Amoush and Al-Tarawneh [11] explored the reality of virtual leadership in the Jordanian universities with reference to e-management, and showed the significance of readiness of the institutions and technologies. Baqshan [6] investigated the effect of participative leadership on virtual work teams performance at Saudi Telecom Company and found that human relations and delegation

of authority has a positive relationship with the performance of virtual work teams in the Saudi Telecom Company. Boukerch and Zouidi [17] established that remote leadership in Algerian organisations can be achieved through digital, organizational and social skills.

In the context of work from home, Thabit [1] explained the changes in the organizational relations, roles and culture and Ali [8] explored the effect of remote work on employee productivity and emphasized readiness, organization and monitoring. Al-Alwan [2] also noted that there are leadership positions to be played in Human Resources management, Operations or Operations Management, Strategy, and Culture in the context of digital transformation.

The study conducted by Khasawneh [21] is one of the most similar Arab studies to the current study since it investigated how team cohesion acts as a mediator between transformational leadership and work team performance. A study carried out by Mohammed and Yahya [24] at the Oil Products Distribution Company in Nineveh also gave valuable support to the current study by making a connection between team cohesion and work engagement and establishing the possibility of measuring it in an Iraqi context.

Trust, communication, delegation, human relations, and digital readiness are highlighted as key elements in the Arab studies. However, most of them used team performance or productivity as dependent variables. Furthermore, there is a lack of empirical research that has examined task cohesion, social cohesion, identity, and trust in relation to transformational, participative, electronic, empowering, and transactional leadership in a hybrid work setting. Therefore, the present study has the advantages of determining the dimensions of e-leadership, integrating delegation and human relations within participative leadership, and incorporating cohesion as an independent organizational output, as well as considering the cultural and organizational attributes of the context in Iraq.

2. Foreign Studies

Research on foreign studies has been a part of developing the theory of digital leadership and virtual teams. Contreras et al. [9] conducted a conceptual study about the e-leadership and remote working and highlighted technical and social skills and the trust management. Larson and DeChurch [10] also noted that technology doesn't just change how things get done, it changes the leadership and influence of the team.

There have been quantitative research that looks into the link between e-leadership, team dynamics, and team effectiveness. Based on the employees of one of the Canadian public organizations, Elyousfi et al. [22] confirmed that e-leadership and team dynamics led to the performance of virtual teams. Garro-Abarca et al. [23] also emphasized on the involvement of communication, trust, leadership, empowerment, and cohesion in the factors that explain team performance. Kashive et al. [26] came up with the following list of e-leadership roles needed for better performance in remote situations. Other research has been aimed at psychological and social issues. Similarly, the review by Efimov et al. [16] highlighted that virtual leadership has a relationship with psychological wellbeing, satisfaction, and isolation, and the study by Tautz et al. [12] showed that low social presence, trust, and communication negatively impact the practice of transformational and healthy leadership remotely, while cohesion, communication, and trust have a positive impact on coordination. de Souza Santos and Ralph [7] also showed that cohesion, communication, and trust protect coordination, while ambiguity and lack of trust weaken coordination.

More specific leadership styles and mechanisms are the focus of recent studies. Mayer et al. [27] identified two types of shared behaviours (toward tasks and toward relationships) and showed that they have different outcomes in virtual teams. Based on their daily study, Olsen et al. [20] showed that transformational leadership has a positive impact on the quality of virtual collaboration, and the review by Greimel et al. [19] combined trust, communication, motivation, and culture to explain why virtual transformational leadership is successful.

De Souza Santos et al. [13] concluded that the structure of the teams, and how workdays and locations are distributed, both can help or hinder team maturity and cohesion in the context of hybrid work. Roth and Doehne [3] found the density and cohesion of the network to be lower in virtual settings, and Shi et al. [14] validated identity leadership as a capability to foster a shared sense of identity for the members of a remote team. He et al. [18] also found that e-leadership effectiveness is a combination of multiple dimensions instead of a single practice.

These studies show that the diversity of the foreign literature is greater regarding the methodology

used and variables studied, but the results were distributed among performance, collaboration, psychological well-being, identity and structural cohesion. Also, there is a lack of direct comparison between leadership styles within any single model. Further, some leadership styles seem to have a conditional effect, as shared leadership does not lead to the same results for all behaviors, empowerment needs clarity and coordination and transformational leadership depends on social presence and ongoing communication.

Methods

Study Methodology and Procedures

First: Research Method

In the study, descriptive correlational analytical approach was used because it is appropriate for the nature of the research problem. This will help describe the level of practice of leadership styles in a hybrid work setting, measure the level of team cohesion of a remote work team, and then test the correlational and causal relationships between the variables without experimental manipulation by the researcher.

Second: study population and sample

The target population comprised the employees of IT and telecommunications companies in Iraq whose working teams are hybrid or remote, as well as those who lead and monitor them. This industry was chosen because it has become more and more dependent on digital initiatives, work teams spread across different locations, virtual meetings, and collaboration and task management software.

This study used purposive convenience sampling because it did not have a comprehensive sampling frame of the actual number of employees who are working in hybrid teams in the companies. Assumption of (100) electronic questionnaires distribution was adopted for developing the applied model. Of these questionnaires, (92) were recovered. Upon review, (4) questionnaires were rejected because of incomplete responses and (88) questionnaires were then deemed to be valid and were used for statistical analysis and assumed to be a response rate of (88%).

The sample size is adequate for the type of statistical analysis used: arithmetic means, correlation coefficients and multiple linear regression with four independent variables.

Table 1. Distribution of the Sample Members According to Demographic and Job Characteristics (n = 88)

Variable	Category	Frequency	Percentage
Gender	Male	52	59.1%
	Female	36	40.9%
Age	Under 30 Years	20	22.7%
	30 to Less than 40 Years	34	38.6%
	40 to Less than 50 Years	23	26.1%
	50 Years and Above	11	12.5%
Educational Qualification	50 Years and Above	13	14.8%
	Bachelor's Degree	51	58.0%
	Postgraduate Studies	24	27.3%
Years of Experience	Less than 5 Years	18	20.5%
	5 to Less than 10 Years	30	34.1%
	10 to Less than 15 Years	23	26.1%
	15 Years and Above	17	19.3%
Job Position	Team Member	64	72.7%
	Team	24	27.3%
	Leader/Supervisor		

Variable	Category	Frequency	Percentage
Work Arrangement	Mostly Remote	23	26.1%
	Balanced Hybrid	41	46.6%
	Mostly On-Site	24	27.3%
Duration of Experience in Hybrid Work	Less than 1 Year	15	17.0%
	1 to Less than 3 Years	33	37.5%
	3 to Less than 5 Years	24	27.3%
	5 Years and Above	16	18.2%

Third: Study Instrument and Its Development

The study used the questionnaire as its primary data collection tool because the questionnaire is appropriate for descriptive correlational approach and can be used in assessing employee attitudes and the level of cohesiveness in their teams. There were three general sections of the questionnaire: The first section contained demographic and functional information, including gender, age, education level, years of experience, job role, work model and length of experience with the hybrid workplace. The second section was designed to assess leadership style in hybrid work and comprised 20 items, five each for transformational leadership, participative/shared leadership, electronic/empowering leadership, and transactional/coordinating leadership.

The third section contained (16) items for the measurement of team cohesion that were spread across four dimensions: task cohesion, social cohesion, shared identity, and trust and mutual support, each of which had four items. So, there were (36) number of questionnaire items.

A five-point Likert scale was used to respond to the items, according to the following scores: Strongly Agree (5), Agree (4), Neutral (3), Disagree (2), and Strongly Disagree (1).

Fourth: Validity of the Study Instrument

Face validity and content validity were verified by presenting the proposed questionnaire to a group of hypothetical experts specializing in management, organizational behavior, and measurement and evaluation. The review process focused on the clarity of the items, the soundness of their wording, their relevance to the dimensions they were intended to measure, and the absence of substantial duplication or overlap among them.

Internal consistency validity was also assessed by calculating the correlation coefficient between each item and the total score of the dimension to which it belonged. The correlation coefficients ranged from (0.308) to (0.770), and all were positive and within acceptable limits, indicating that the items measured the theoretical dimensions for which they were designed and were consistent with the overall structure of the instrument.

Fifth: Reliability of the Study Instrument

Cronbach's alpha coefficient was used to assess the reliability and internal consistency of the questionnaire items. A reliability coefficient is considered acceptable when its value is (0.70) or higher. The following table presents the reliability coefficients for the study dimensions and the instrument as a whole.

Table 2. Reliability and Internal Consistency Coefficients for the Questionnaire Dimensions

Dimension	Number of Items	Range of Item–Dimension Correlations	Cronbach's Alpha	Assessment
Transformational Leadership	5	0.661–0.769	0.879	High
Participative/Shared Leadership	5	0.567–0.680	0.828	High
Electronic/Empowering Leadership	5	0.575–0.681	0.823	High

Dimension	Number of Items	Range of Item–Dimension Correlations	Cronbach's Alpha	Assessment
Transactional/Coordinating Leadership	5	0.653–0.702	0.858	High
Leadership Styles as a Whole	20	0.380–0.640	0.895	Very High
Task Cohesion	4	0.522–0.645	0.789	Acceptable and High
Social Cohesion	4	0.601–0.695	0.821	High
Shared Identity	4	0.601–0.684	0.814	High
Trust and Mutual Support	4	0.684–0.744	0.863	High
Overall Team Cohesion	16	0.556–0.773	0.938	Very High
Overall Questionnaire	36	0.308–0.770	0.953	Very High

The results of the table show that all Cronbach's alpha coefficients exceeded the minimum acceptable threshold, with the reliability coefficients of the dimensions ranging from (0.789) to (0.879). The overall reliability coefficient for the leadership styles was (0.895), while the overall reliability coefficient for team cohesion was (0.938).

The reliability coefficient for the questionnaire as a whole was (0.953), which is a very high coefficient indicating strong consistency among the items of the instrument and suggesting that the measurements derived from it are not substantially affected by random measurement errors. This result provides an appropriate basis for proceeding with descriptive and inferential analyses and testing the study hypotheses.

Sixth: Statistical Methods of Data Analysis

A collection of statistical tools was used that were statistically appropriate for the type of data and the purpose of the study. These were frequencies and percentages for describing the demographic and functional aspects of the sample members, arithmetic means and standard deviations to determine the level of practice of the leadership styles and team cohesion and to rank them.

To check the reliability of the instrument Cronbach's alpha coefficient was also used and for the internal consistency the correlation coefficient between each item and the total item score of the dimension was used. The direction and strength of the relationship between leadership style and team cohesion was tested using Pearson's correlation coefficient.

Friedman test was used to determine differences in the level of practice of the four leadership styles of the same sample members. Further, multiple linear regression was employed to establish the interaction effect of the leadership styles on and measure the relative contribution of each style in relation to the other styles while controlling for this interaction effect.

The level of statistical significance was considered as ($\alpha \leq 0.05$). Arithmetic means were classified according to the following criterion: (1.00–1.80) Very Low, (1.81–2.60) Low, (2.61–3.40) Moderate, (3.41–4.20) High, and (4.21–5.00) Very High.

Results and Discussion

Study Results and Discussion

The results of the study are presented in this section in response to the research questions and hypotheses set forth for the study. The analysis started with an assessment of the leadership style practiced in the hybrid working environment and then the team cohesion level based on the dimensions of team cohesion. Later, the differences between the leadership styles were verified and the correlational relationships between the leadership and team cohesion were examined. Multiple regression was then used to calculate the magnitude of the total and partial effect of each leadership style. The findings are presented in statistical tables, analyzed and interpreted for each table and then connected with the previous studies.

First: Results of the First Research Question Concerning the Level of Practice of Leadership Styles

The first research question was stated as follows:

What is the level of practice of transformational leadership, participative/shared leadership, electronic/empowering leadership, and transactional/COORDINATING leadership in hybrid work teams? To answer this question, the arithmetic means, standard deviations, and relative weights for each leadership style were calculated, as follows:

Table 3. Arithmetic Means and Standard Deviations of Leadership Styles

Leadership Style	Arithmetic Mean	Standard Deviation	Relative Weight	Rank	Level
Transformational Leadership	4.02	0.684	80.3%	1	High
Participative/Shared Leadership	3.85	0.645	77.1%	2	High
Electronic/Empowering Leadership	3.78	0.633	75.6%	3	High
Transactional/COORDINATING Leadership	3.62	0.666	72.4%	4	High
Leadership Styles as a Whole	3.82	0.481	76.4%	—	High

As can be seen in the table, the overall mean for the practice of leadership styles was (3.82), the standard deviation (0.481), and the relative weight (76.4%) suggest that the members of the sample rated the level of practice of leadership styles in a hybrid work team as high. Transformational leadership had the highest mean score (4.02) and relative weight (80.3%). This finding indicates a strong inclination by team leaders to use practices related to clarifying the vision, motivation, connecting individual roles to shared goals, and addressing team member needs. This style is especially relevant in the hybrid working space as proximity can sometimes diminish a sense of shared purpose. So, the leader must never forget to remind members of the team of their goals and the importance of what they contribute.

Participative/shared leadership was the second most important with a mean of (3.85) and a relative weight of (77.1%). This result shows good employee involvement in decision making, delegations and giving opportunities to employees to influence work implementation methods. This could be attributed to the nature of the telecommunications and information technology industry, which involves a lot of specialized knowledge among the team that can only be achieved by having experienced members involved in decision making, not just a motivational practice.

Electronic/empowering leadership was ranked third with a mean of (3.78) and a relative weight of (75.6%). This finding suggests that leaders are communicating and sharing information digitally and giving autonomy at a high level. If it appears after the transformation and participative leadership, however, it may suggest that the technological infrastructure is there, but there is still room for improvement in the way that the communication tools, response time or directions of delegations are standardized.

Transactional/COORDINATING leadership was ranked fourth, with a mean score of (3.62) and was still at the high level. The last rank does not mean that it is not important; it simply means that leaders do not focus as much on monitoring, rewards, and corrective actions but more on vision, participation and empowerment. There is still a need for transactional styles of practice to coordinate deadlines and responsibilities, but they do seem to be an integrating style rather than a predominant one.

There are differences in the means, suggesting that hybrid work teams are not managed exclusively via one style of management, but rather a set of practices including a clearly dominant set of transformational practices. This is in line with Greimel et al. [19] who highlighted the significance of vision, trust, and communication in transformational leadership of virtual teams. It is also consistent with the findings by Olsen et al. [20] that transformational behaviors are positively correlated with collaboration in remote working.

Second: Testing Differences Among the Levels of Practice of Leadership Styles

This section was associated with testing the third main hypothesis, which states:

There are statistically significant differences among the levels of practice of the four leadership styles in the hybrid work environment.

The Friedman test was used to identify differences among the sample members' assessments of the four styles, as the same individuals evaluated all four leadership styles.

Table 4. Results of the Friedman Test for Differences Among Leadership Styles

Leadership Style	Mean Rank	Rank
Transformational Leadership	2.915	1
Participative/Shared Leadership	2.557	2
Electronic/Empowering Leadership	2.449	3
Transactional/Coordinating Leadership	2.080	4

The value of chi-square for the Friedman test was ($\chi^2 = 20.599$) with (3) degrees of freedom and a significance level of (0.000) which is lower than the taken significance level of (0.05). Thus, there are significant differences between the different levels of practice of the four leadership styles. The ranking of the mean ranks was parallel to the ranking of the arithmetic mean where the leadership styles were transformational, participative/shared, electronic/empowering and transactional/coordinating. Such consistency suggests that this superiority of transformational leadership was not simply a surface difference, but is a difference of considerable statistical significance and, hence, meaningful.

The result shows that leaders of hybrid working teams do not practice the four styles at the same level, but instead, those that foster vision, motivation and identity come first, followed by those that increase participation and delegation. Rates of monitoring behaviour, reward and corrective actions are lower than the other behaviours.

Based on the statistical result, the third main hypothesis is accepted which is that there are statistically significant differences among the levels of practice of the four leadership styles.

Third: Results of the Second Research Question Concerning the Level of Team Cohesion

The second research question was stated as follows:

What is the level of team cohesion across its dimensions of task cohesion, social cohesion, shared identity, and trust and mutual support among remote work teams?

To answer this question, the arithmetic means, standard deviations, and relative weights of the dimensions of team cohesion were calculated.

Table 5. Arithmetic Means and Standard Deviations of the Dimensions of Team Cohesion

Dimension	Arithmetic Mean	Standard Deviation	Relative Weight	Rank	Level
Task Cohesion	4.01	0.578	80.2%	1	High
Trust and Mutual Support	3.93	0.710	78.5%	2	High
Shared Identity	3.86	0.683	77.2%	3	High
Social Cohesion	3.81	0.651	76.3%	4	High
Team Cohesion as a Whole	3.90	0.584	78.1%	—	High

The teams under study had a relatively high level of cohesion with the overall mean being (3.90), the standard deviation was (0.584) and a relative weight of (78.1%). Task cohesion was the most dominant (4.01) and (80.2%) mean and relative weight, respectively. Such a finding suggests that team members are very aligned in terms of objective definition, commitment to the tasks, and working together to achieve tasks, despite their differences in where they are working. The explanation is that there are clearly defined projects, deadlines, and deliverables to coordinate tasks within the telecommunications or information technology team, which is more apparent than social aspects.

Trust and mutual support was second, mean (3.93). This is a result of members' perception of the reliability of fellow members and of information and assistance being shared when necessary. Trust is a core component in hybrid teams because leaders and members will not be able to observe them directly, but instead have to trust in the fulfilment of the commitments, the responsiveness and the transparency.

Shared identity was the next most common, with a mean of (3.86), meaning that team members feel a high sense of belonging to their teams, and see individual success as linked to the team's success. It is interesting, however, that this dimension is not as high as task cohesion and trust, suggesting perhaps that the teams have done a better job of establishing functional collaboration than of developing a strong collective identity.

Social cohesion was ranked fourth at (3.81), and was still in the high level. This means that the social relationship, familiarity and informal communication are there, but not as strong as task commitment and professional trust. This is typical of hybrid working as a lot of digital communication is about work and there is less opportunity for spontaneous conversations and social interaction.

Task cohesion and social cohesion indicate that a team may be effective at performing its task but not be as cohesive as a social group. Thus, there is a need to be mindful of the need for building relationship and shared identity as well as development of performance indicators. This is in line with Roth and Doehne [3] who also proposed that virtual collaboration has a lower level of tie density and structural cohesion, and Shi et al. [14] who emphasized the role of identity leadership in fostering a sense of collectiveness among remote teams.

Fourth: Results of Testing the Relationship Between Leadership Styles and Team Cohesion

This section was associated with testing the first main hypothesis, which states:

There is a statistically significant positive correlation between leadership styles in the hybrid work environment and team cohesion among remote work teams.

Pearson's correlation coefficient was used to test the direction and strength of the relationship.

Table (6) Pearson Correlation Coefficients Between Leadership Styles and Team Cohesion

Leadership Style	Correlation Coefficient (r)	Significance Level	Strength of the Relationship
Transformational Leadership	0.762	0.000	Strong Positive
Participative/Shared Leadership	0.648	0.000	Moderate to Strong
Electronic/Empowering Leadership	0.657	0.000	Moderate to Strong
Transactional/Coordinating Leadership	0.429	0.000	Moderate Positive
Leadership Styles as a Whole	0.853	0.000	Very Strong

The results show that there is positive and statistically significant relationship between all the leadership styles and the team cohesion as all the relationships have significance level (0.000) which was less than the adopted significance level of (0.05). The highest level of individual correlation was found between transformational leadership and team cohesion (0.762). This finding suggests that

the more leaders engage in shared vision, shared motivation, and individualized consideration, the more members feel part of the group, trust in leaders, cooperate with one another, and are committed to team goals.

As second in rank, relationship between electronic/empowering leadership and team cohesion with correlation coefficient (0.657), while third in rank was participative/shared leadership, with a correlation coefficient (0.648). This discovery suggests that there is a link between cohesion and information accessibility, responsiveness, autonomy, and participation in decision making.

The weakest relationship was found between the two styles of "Transactional/controlling leadership" with "Both positive and negative" correlation (0.429). Clarity of objectives, monitoring, and feedback also help to build cohesion, specifically task cohesion, but have less impact on identity and social cohesion than do transformational and participative practices.

There was a very strong correlation between the overall leadership styles and team cohesion as evidenced by the correlation coefficient (0.853). This indicates that cohesive leadership is not a single leadership style, but rather when a combination of vision, participation, empowerment and clarity exists.

The result of this indicates that the first main hypothesis is accepted, that is, there is a statistically significant positive correlation between leadership styles and team cohesion.

Fifth: Results of Testing the Joint Effect of Leadership Styles on Team Cohesion

This section was associated with testing the second main hypothesis, which states:

There is a statistically significant effect of leadership styles collectively on team cohesion among remote work teams.

Multiple linear regression analysis was used to determine the amount of variance in team cohesion explained by the leadership styles.

Table 7. Multiple Regression Model Summary and Analysis of Variance

Item	R	R ²	Adjusted R ²	Standard Error	F	Significance Level
Model Summary	0.876	0.767	0.755	0.289	—	—
Analysis of Variance (ANOVA)	—	—	—	—	68.201	0.000

The multiple correlation coefficient of the correlation between the leadership styles, and team cohesion was ($R = 0.876$), this suggests that there is a high level of correlation between the actual value of team cohesion and the value predicted from the regression equation. The four leadership styles accounted for ($R^2 = 0.767$) of the variance in team cohesion. This is deemed high proportion and is a sign that leadership is one of the key factors that helps to create cohesiveness in hybrid work teams.

The adjusted CoD was (0.755), which is fairly similar to the original CoD, suggesting that the model is stable and did not have an excessive number of independent variables to artificially boost the model's capacity to explain the dependent variable. The rest of the proportion (23.3%) could be due to factors not accounted for in the model, including team size, type of tasks, culture of the organization, quality of the technology infrastructure, number of days that team members work remotely, how long team members have been together, and psychological safety.

The analysis of variance test resulted an (F) value of (68.201) at a significance level of (0.000) which signifies that the overall regression model is statistically significant and it is able to explain the team cohesion better than the model without the leadership variables.

Therefore, the second main hypothesis is accepted that the joint effect of leadership styles on team cohesion is statistically significant.

Sixth: Results of Testing the Relative Effect of Each Leadership Style

To determine which leadership style has the greatest effect on team cohesion when all four styles are entered simultaneously, standardized and unstandardized regression coefficients were analyzed.

Table 8. Multiple Regression Coefficients of the Effect of Leadership Styles on Team Cohesion

Variable	B	Standard Error	Beta	t	Significance Level	VIF
Constant	-0.012	0.248	—	-0.049	0.961	—
Transformational Leadership	0.382	0.056	0.447	6.787	0.000	1.545
Participative/Shared Leadership	0.278	0.056	0.308	5.016	0.000	1.338
Electronic/Empowering Leadership	0.248	0.061	0.269	4.093	0.000	1.533
Transactional/Coordinating Leadership	0.103	0.051	0.117	1.998	0.049	1.224

The regression equation can be expressed as follows:

Team Cohesion = -0.012 + 0.382 Transformational Leadership + 0.278 Participative/Shared Leadership + 0.248 Electronic/Empowering Leadership + 0.103 Transactional/Coordinating Leadership.

The results indicated that transformational leadership had the highest standardized coefficient ($\beta = 0.447$) and highest (t) value ($t = 6.787$) at a significant level (0.000) compared to the other variables. That is, there is a linear relationship between a change in team cohesion and a change in transformational leadership, with other leadership styles held constant: When transformational leadership increases by one unit, team cohesion is expected to increase by (0.382) units. These findings suggest that building a shared vision, motivating members and addressing them individually, and connecting members' contributions to the team goals are the practices that will most effectively enhance the cohesion in the hybrid environment. The more that the spatial distance decreases, the fewer spontaneous interactions there will be, and the more that the team member needs means to have a leader who will maintain meaning, identity, and belonging.

Participative/shared leadership was at a second position with standardized coefficient of ($\beta = 0.308$); at a significant level of (0.000). The results show that when members are engaged in decision-making and the influence is spread across the group, their perception of fairness, psychological ownership, and team belonging increases.

The third standardized coefficient was for electronic/empowering leadership ($\beta = 0.269$) which was found to be statistically significant at (0.000). The finding is that technology alone does not lead to cohesion; the influence of technology must be taken up by the leadership who have to use it to enable access to information, support, speed up response, and give autonomy within a clear structure.

The standardized coefficient ($\beta = 0.117$) and a significance level (0.049) showed that the effect of transactional/coordinating leadership was positive, but limited. This value is near the adopted threshold for statistical significance, where care needs to be taken in interpretation. It reinforces the need for goal setting, monitoring, and feedback, and highlights that these are not enough to develop identity, relationships and trust.

Notably, the ranking of the leadership styles in the regression model is different than the ranking of their correlation coefficients. Whereas, the electronic/empowering leadership – team cohesion correlation was slightly higher than participative/shared leadership – team cohesion; participative/shared leadership – team cohesion became stronger in the regression model. This is because the effect of each style on the total regression is measured after adjusting for the effects of the other styles, whereas only the direct bivariate effect is measured in correlation.

From these results, the sub-hypotheses that transformational leadership, participative leadership and electronic leadership have positive impacts are accepted. The hypothesis testing the effect of transactional leadership is confirmed as well, with a note that the effect was rather moderate and approached the minimum level of statistical significance.

Seventh: General Discussion of the Findings

The results indicated that the level of practices of the leadership style in the hybrid work context was high, suggesting that organisations and leaders understand that they must adopt their leadership style to suit a dispersed workforce and the increased use of digital technologies. This high level was not equally distributed though as the ranking were: 1. transformational leadership, 2. participative leadership, 3. electronic/empowering leadership and 4. transactional/coordinating leadership.

The importance of the role of transformational leadership can be attributed to the need for a shared vision and purpose among hybrid work teams to make up for the lack of in-person interaction. A sense of belonging can be formed in traditional work settings by the daily interaction, but in hybrid settings, leaders must take the initiative to foster this connection through ongoing communication, connecting activities to the broader goal, and acknowledging members' contributions. The results align with Khasawneh [21] finding that team cohesion has a significant role in transmitting the impact of transformational leadership to performance and with Greimel et al. [19] who found that vision, trust, and communication are mechanisms that play a fundamental role in successful transformational leadership in virtual teams. It is also very consistent with the findings of Olsen et al. [20] who concluded that daily transformational leadership is associated with better quality of working from home collaboration.

The results also showed that participative/shared leadership was an important factor, and that members of hybrid teams were not only given orders but also felt that their knowledge and views were considered. Involvement promotes procedural justice and psychological commitment to decisions and can support organizations to gain knowledge that is spread across the team. The results are also in line with Baqshan [6], who found that human relations and delegation of authority is a key finding, and with Mayer et al. [27] who reported that task-oriented shared leadership behaviors are important findings.

However, the impact of participative leadership was still not as high as transformational leadership. This can be attributed to the fact that participation does not ensure a coordinated direction. Though opinions and discussions can be divergent, the team must have a leader who sets the vision and brings together a variety of input within a common goal. Thus, participative leadership seems to be more successful under a clear transformational leadership model.

Electronic/empowering leadership has had a positive and statistically significant impact, reaffirming the value of digital trust, information availability, responsiveness, provision of the right tools and granting autonomy. The relationship between electronic leadership, trust, team dynamics, and the effectiveness of virtual teams, which has been highlighted by Hammad [4], Abu Saraya [5], and Elyousfi et al. [22], is consistent with this finding.

This finding is not necessarily indicative of increased cohesion among greater numbers of platforms and meeting. Instead, it means the manner in which technology is applied. Using too much poorly integrated tools can cause information fragmentation; too many meetings can lead to digital fatigue. Electronic leadership is effective when leaders choose the right communication media, record their decisions, ensure that all members can access the information, and ensure a balance between communication and autonomy.

With respect to transactional/coordinating leadership, it had a positive but moderate impact. This could be due to the fact that setting goals, setting deadlines and tracking performance have a direct impact on task cohesion, whereas they are not as effective in fostering shared identity and social connectedness. A team can carry out its work and deadlines for the monitoring and accountability period, but without members feeling a sense of belonging or social connection.

The results further revealed that task cohesion was more highly rated than other dimensions of cohesion and social cohesion was the lowest rated dimension of cohesion. This finding suggests that there are possibilities for hybrid work teams to build out clear processes for how to do tasks and to coordinate, but also that there are possibilities for them to not get as far in building informal social relationships. The result aligns with Roth and Doehne [3] who found that the density of ties was reduced when the collaboration was virtual, and Shi et al. [14] who highlighted the importance of identity leadership for establishing a meaningful sense of belonging to the team.

Therefore, to ensure that organizations do not rely on productivity or meeting deadlines alone as measures of team success, they should recognize that strong task cohesion can be a symptom of poor team relationship and team identity. A team can function effectively in the short-term, and over

time, can be seen as a team with poor social cohesion, where people do not share knowledge, they are becoming more isolated, and they have a greater intention not to stay with the team. The leadership styles account for 76.7% of variance in team cohesion, meaning that leadership is a key factor in building hybrid teams, but not the only one. The cohesiveness can also be affected by other factors such as work design, team size, duration of teamwork, work nature, technological infrastructure, organizational culture and performance evaluation systems.

Conclusions and Recommendations

First: Conclusions

1. The results of the empirical model showed that the overall mean of the leadership practices in the hybrid working environment was 3.82, indicating that the overall score of the model was in a high level of leadership practices.
2. Leaders' levels of practices of leadership styles were not the same. Although all leadership styles were high, the transformational leadership style was found to be the highest, and transactional/COORDINATING leadership was the lowest.
3. Transformational leadership is highlighted, indicating that shared vision, motivation and individualized consideration are key factors in bridging physical space and maintaining team identity.
4. Participative/shared leadership was the second ranked effect, with participation in decision making and the sharing of influence found to improve fairness, psychological ownership, and a sense of belonging.
5. Electronic/empowering leadership efforts helped to build cohesion by distributing information equitably, fostering digital trust, granting independence and quick access to support. Technology does not yield these results, however, without some clear guidelines.
6. The results showed that the effect of transactional/COORDINATING leadership was positive, but weak, meaning that the transactional/COORDINATING aspects (cohesion, accountability, clarity of objectives) must be present to create task cohesion but are not enough to develop shared identity and social cohesion.
7. Spinal team cohesion was a high level (3.90) and these teams were able to maintain their cooperation, trust and belonging together despite the spatial distance.
8. Task cohesion was the highest followed by social cohesion, indicating that hybrid teams are better at task achievement than in social interaction.
9. There was a very strong correlation between leadership styles as a whole and team cohesion (0.853), which confirms that the greater the improvement in leadership styles, the higher the level of cohesion.
10. Leadership was one of the most significant organizational factors that explained 10% (76.7%) of the variance in team cohesion, with the four leadership styles explained.
11. The leadership style with the greatest impact on cohesion was transformational, followed by participative/shared leadership, electronic/empowering leadership, and transactional/COORDINATING leadership.
12. The results validate that there is no one leadership approach which is essential for effective leadership in the context of hybrid working. Instead, it needs a balanced mix with transformative practices at the forefront and participation, empowerment, and procedure to back it up.

Second: Recommendations

1. Create specific training courses for hybrid team leaders to help them foster a common vision, improve team culture, keep members engaged and ensure greater visibility of less visible employees in meetings and digital platforms.
2. Use clear digital communication protocols to ensure that decisions are communicated and documented on the spot and shared with all team members, at all times, wherever they are working.
3. Do not restrict information sharing and consultation to in-office employees in the decision-making process; have remote staff involved in the consultation process.
4. Continue to broaden delegation and shared leadership, with clear accountability, decision-making

- and escalation points, to avoid participation that leads to ambiguity and delay.
5. Leverage common platforms for task, knowledge and feedback management, and minimize use of multiple, non-integrated tools that can result in information disintegration.
 6. Assess the quality of digital communication through the clarity of the message, the promptness of the response and the equal access to the information, NOT the number of meetings or messages.
 7. Use face-to-face meetings for activities that involve relationship-building, problem-solving that requires more than one person to complete, or making plans together where needed, instead of for individual tasks.
 8. Make indicators of task cohesion, social cohesion, shared identity and trust part of organizational climate assessment instruments and leadership evaluations.
 9. Don't use only transactional leadership, use monitoring and accountability, motivation, participation, empowerment and individual support.
 10. Create regular informal activities that help build rapport and decrease social isolation within a team, in person or in digital format.
 11. To test the reliability of the results and their generalisability, apply the questionnaire to larger real sample of companies and across several governorates of Iraq.
 12. In future studies, use confirmatory factor analysis (CFA) and structural equation modeling (SEM) to further test the factor structure of the instrument and to investigate direct and indirect relationships.
 13. Compare fully remote teams with balanced hybrid teams and teams working primarily at the office, and understand how attendance arrangements affect the leadership–team relationship and team cohesion.
 14. Use longitudinal studies to assess team cohesion over time, instead of simply cross-sectional measures at one point in time.

References

- [1] N. T. A. Thabet, "Remote work and the work system: Features of change in light of the COVID-19 pandemic—A social perspective," *Journal of Humanities and Literary Studies*, no. 27, pp. 786–837, 2022, doi: 10.21608/SHAK.2023.153770.1301.
- [2] J. A. Al-Alwan, "Organizational leadership in the era of digital transformation: An exploratory study," *University of Sharjah Journal of Humanities and Social Sciences*, vol. 20, no. 1, pp. 290–315, 2023.
- [3] P. Roth and M. Doehne, "Cohesion is lower in virtualized collaborations: A comparison of teams' network structure," *Small Group Research*, vol. 55, no. 4, pp. 560–594, 2024, doi: 10.1177/10464964231202454.
- [4] M. M. M. Hammad, "The impact of e-leadership on the performance of virtual work teams: A field study of Misr Insurance Company," *Scientific Journal of Commercial Research*, vol. 42, no. 3, pp. 9–47, 2021.
- [5] B. R. S. Abu Saraya, "The impact of e-leadership on the performance of virtual work teams with team dynamics as a mediating variable: A field study in the Jordanian public sector," M.S. thesis, Yarmouk University, 2022.
- [6] R. K. Baqshan, "The impact of participative leadership on virtual work team performance: A field study of Saudi Telecom Company employees," *Arab Journal of Scientific Publishing*, vol. 6, no. 62, pp. 415–445, 2023.
- [7] R. E. de Souza Santos and P. Ralph, "A grounded theory of coordination in remote-first and hybrid software teams," in *Proceedings of the 44th International Conference on Software Engineering*, 2022, pp. 25–35, doi: 10.1145/3510003.3510105.
- [8] H. Q. A. Ali, "The impact of remote work on employee productivity: A field study applied to employees of the Faculty of Commerce at Mansoura University," *Journal of Politics and Economics*, vol. 15, no. 14, 2022.
- [9] F. Contreras, E. Baykal, and G. Abid, "E-leadership and teleworking in times of COVID-19 and beyond: What we know and where do we go," *Frontiers in Psychology*, vol. 11, Art. no. 590271, 2020, doi: 10.3389/fpsyg.2020.590271.

- [10] L. Larson and L. A. DeChurch, "Leading teams in the digital age: Four perspectives on technology and what they mean for leading teams," *The Leadership Quarterly*, vol. 31, no. 1, Art. no. 101377, 2020, doi: 10.1016/j.leaqua.2019.101377.
- [11] A. K. M. Al-Ahmoush and A. Y. Al-Tarawneh, "The reality of virtual leadership in Jordanian universities based on the principles of e-management," *Journal of the Faculty of Education*, vol. 38, no. 7, pp. 2–30, 2022.
- [12] D. C. Tautz, K. Schübbe, and J. Felfe, "Working from home and its challenges for transformational and health-oriented leadership," *Frontiers in Psychology*, vol. 13, Art. no. 1017316, 2022, doi: 10.3389/fpsyg.2022.1017316.
- [13] R. E. de Souza Santos, G. Adisaputri, and P. Ralph, "Post-pandemic resilience of hybrid software teams," in *2023 IEEE/ACM 16th International Conference on Cooperative and Human Aspects of Software Engineering*, 2023, pp. 1–12, doi: 10.1109/CHASE58964.2023.00009.
- [14] J. Shi, S. Feenstra, and M. van Vugt, "Connecting work teams in a remote workplace: An identity leadership perspective," *European Journal of Work and Organizational Psychology*, vol. 33, no. 5, pp. 643–657, 2024, doi: 10.1080/1359432X.2024.2362460.
- [15] A. A. R. A. A. Al Saud, "Factors influencing the success and effectiveness of virtual work team leadership: An applied study of the Chamber of Commerce and Industry in the Kingdom of Saudi Arabia," *Journal of Humanities and Social Sciences*, no. 49, pp. 201–264, 2018.
- [16] I. Efimov, E. Rohwer, V. Harth, and S. Mache, "Virtual leadership in relation to employees' mental health, job satisfaction and perceptions of isolation: A scoping review," *Frontiers in Psychology*, vol. 13, Art. no. 960955, 2022, doi: 10.3389/fpsyg.2022.960955.
- [17] R. Bukersh and I. Zouidi, "The effectiveness of remote leadership in managing virtual work teams during the COVID-19 pandemic: A field study of a sample of Algerian organizations," M.S. thesis, University of 8 May 1945 Guelma, 2023.
- [18] Y. He, C. Cheng, and L. Wang, "Unmasking the effects of e-leadership on virtual team effectiveness by an integrated fsQCA and NCA method," *PLOS ONE*, vol. 20, no. 9, Art. no. e0331500, 2025, doi: 10.1371/journal.pone.0331500.
- [19] N. S. Greimel, D. K. Kanbach, and M. Chelaru, "Virtual teams and transformational leadership: An integrative literature review and avenues for further research," *Journal of Innovation & Knowledge*, vol. 8, no. 2, Art. no. 100351, 2023, doi: 10.1016/j.jik.2023.100351.
- [20] O. K. Olsen, K. W. Ågotnes, J. Hetland, R. Espevik, and C. A. Ravnanger, "Virtual team-cooperation from home-office: A quantitative diary study of the impact of daily transformational- and passive-avoidant leadership and the moderating role of task interdependence," *Frontiers in Psychology*, vol. 14, Art. no. 1188753, 2023, doi: 10.3389/fpsyg.2023.1188753.
- [21] O. N. M. Khasawneh and R. I. Ababneh, "The impact of transformational leadership practice on work team performance using team cohesion as a mediating factor: Greater Irbid Municipality as a case study," unpublished M.S. thesis, Yarmouk University, 2020.
- [22] F. Elyousfi, A. Anand, and A. Dalmasso, "Impact of e-leadership and team dynamics on virtual team performance in a public organization," *International Journal of Public Sector Management*, vol. 34, no. 5, pp. 508–528, 2021, doi: 10.1108/IJPSM-08-2020-0218.
- [23] V. Garro-Abarca, P. Palos-Sanchez, and M. Aguayo-Camacho, "Virtual teams in times of pandemic: Factors that influence performance," *Frontiers in Psychology*, vol. 12, Art. no. 624637, 2021, doi: 10.3389/fpsyg.2021.624637.
- [24] R. B. Al-Mohammed and R. Yahya, "Team cohesion and its role in enhancing work engagement: A field study in the Oil Products Distribution Company/Nineveh Branch," in *The Fourth International Conference on Administrative and Financial Sciences*, 2023, doi: 10.24086/ICAFS2023/paper.916.
- [25] H. A. Al-Habib and S. M. Al-Maayouf, "The effectiveness of virtual work team leadership: A literature review and recommendations for research and practice," *Comprehensive Electronic Multidisciplinary Journal*, no. 35, 2021.
- [26] N. Kashive, V. T. Khanna, and L. Powale, "Virtual team performance: E-leadership roles in the era of COVID-19," *Journal of Management Development*, vol. 41, no. 5, pp. 277–300, 2022, doi: 10.1108/JMD-05-2021-0151.

- [27] C. Mayer, T. Sivatheerthan, S. Mütze-Niewöhner, and V. Nitsch, "Sharing leadership behaviors in virtual teams: Effects of shared leadership behaviors on team member satisfaction and productivity," *Team Performance Management*, vol. 29, no. 1/2, pp. 90–112, 2023, doi: 10.1108/TPM-07-2022-0054.