

Cross Cultural Leadership and Team Effectiveness in Global Virtual and Hybrid Teams: A Systematic Literature Review

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Abstract

The global shift toward virtual and hybrid work has intensified the complexity of cross-cultural leadership, particularly in relation to coordination, communication, and relational processes in digitally mediated environments. Although research on global leadership, cultural intelligence, and virtual teams has grown substantially, understanding of how cross-cultural leadership behaviours influence team effectiveness through psychosocial mechanisms under varying cultural conditions remains fragmented. To address this gap, this study conducts a systematic literature review of 50 peer-reviewed journal articles published between 2010 and 2025 and indexed in Scopus. The synthesis reveals a recurring pattern indicating that adaptive cross-cultural leadership behaviours are associated with the effectiveness of global virtual and hybrid teams through relational and communicative mechanisms, most notably trust, communication quality, and psychological safety. Cultural factors, including national value differences, power distance, and multicultural diversity, emerge as important moderators shaping how leadership behaviours are interpreted and enacted within distributed teams. The findings further suggest that the degree of virtuality and the characteristics of communication media condition the strength and nature of these relationships. The primary contribution of this review lies in the development of an integrative conceptual model that links cross-cultural leadership behaviours, psychosocial mechanisms, and team effectiveness in virtual and hybrid contexts. By doing so, this study extends theoretical insights from global leadership and cultural intelligence research into digitally mediated work settings and provides a structured foundation for future research and global human resource management practice.

KEYWORDS

cross-cultural leadership; virtual teams; hybrid teams; cultural intelligence; global HRM

Introduction

The global transition toward virtual and hybrid teams has fundamentally reshaped how leadership is enacted in cross-national organizations. Digital technologies enable extensive remote collaboration, yet simultaneously intensify challenges related to coordination, communication, and relationship building in geographically and culturally dispersed teams (Gilson et al., 2015). In this context, cross cultural leadership extends beyond the adaptation of leadership styles to cultural differences and increasingly involves managing socially and psychologically mediated interactions through digital communication technologies (Maznevski & Chudoba, 2000). These dynamics underscore the growing urgency of cross-cultural leadership capable of managing cross-national diversity, demonstrating cultural sensitivity, and leveraging collaborative technologies effectively (Ang & Van Dyne, 2015). The role of cross cultural leadership becomes particularly salient as organizations increasingly rely on virtual and hybrid work models. Leaders are

required not only to possess technical competence in utilizing collaborative technologies but also to demonstrate adaptive capabilities that enable them to navigate cultural differences, reduce communication ambiguity, and foster shared understanding within global teams (Rockstuhl et al., 2011). Cultural intelligence serves as a foundational capability that allows leaders to recognize cultural variation and flexibly adapt leadership behaviors to situational demands (Earley & Ang, 2004). Moreover, cultural sensitivity is essential for cultivating inclusive work environments, minimizing miscommunication, and building mutual trust, especially when interpersonal interactions are constrained by virtual settings (Thomas & Inkson, 2017).

Despite substantial advances in research on global leadership, cultural intelligence, and virtual teams, the existing literature continues to exhibit inconsistencies in explaining how cross-cultural leadership contributes to team effectiveness in virtual and hybrid contexts. Some studies emphasize that adaptive leadership and structured communication enhance coordination and role clarity in distributed teams, whereas other studies suggest that overly formalized approaches may constrain social interaction, reduce psychological safety, and weaken team members' engagement, particularly within certain cultural contexts (Zander et al., 2012). These divergent findings indicate that the relationship between cross-cultural leadership and team effectiveness is not universal but is contingent upon underlying psychosocial mechanisms and contextual conditions (Liao, 2017).

Moreover, the majority of prior studies tend to examine leadership, cultural factors, and virtual work in isolation, thereby failing to capture the interactive dynamics among these elements. As a result, understanding of how cross-cultural leadership behaviours translate into team outcomes through mechanisms such as trust, communication quality, and psychological safety in digitally mediated work environments remains fragmented (Breuer et al., 2016). This fragmentation hinders the development of a comprehensive theoretical framework capable of explaining the effectiveness of global virtual and hybrid teams in an integrated manner (Taras et al., 2010).

In light of these issues, several key gaps can be identified in the literature. First, to date, there is no systematic literature review that specifically synthesises the influence of cross-cultural leadership on global team effectiveness in virtual and hybrid contexts with an explicit focus on the underlying psychosocial mechanisms. Existing reviews tend to address global leadership, cultural intelligence, or virtual teams separately, without integrating these streams into a coherent analytical framework.

Second, the role of cultural factors as moderators in the relationship between cross-cultural leadership and team outcomes has not been examined systematically. Although individual studies acknowledge the importance of cultural values, national differences, and multicultural diversity, empirical evidence on how these factors shape leadership effectiveness in virtual teams remains dispersed and insufficiently organised.

Third, the mediating mechanisms through which cross-cultural leadership influences team effectiveness particularly trust, communication quality, and psychological safety—have not been comprehensively synthesised within the context of digitally distributed work. This gap underscores the need for a synthesis approach

that explicitly links leadership behaviours, cultural dynamics, and psychosocial mechanisms in order to advance a more integrated theoretical understanding of global virtual and hybrid team effectiveness.

In response to these gaps, the purpose of this systematic review is to comprehensively synthesise empirical evidence on the relationship between cross-cultural leadership and team effectiveness in global virtual and hybrid contexts. Specifically, this SLR seeks to integrate previously fragmented findings by examining how cross-cultural leadership behaviours operate through key psychosocial mechanisms namely trust, communication quality, and psychological safety and how cultural factors and degrees of virtuality condition the strength and direction of these relationships. Through this integrative approach, the review aims to reconcile inconsistencies in prior research and provide a more structured understanding of cross-cultural leadership dynamics in digitally mediated work environments.

To guide the synthesis, this review addresses three research questions. First, how do cross-cultural leadership behaviors influence the effectiveness of global virtual and hybrid teams? Second, how do cultural factors shape the relationship between cross-cultural leadership behaviors and team outcomes? Third, what mediating or moderating mechanisms conceptually and empirically explain these relationships? Together, these questions are designed to integrate perspectives on leadership, culture, and virtual team dynamics that have largely evolved in parallel rather than in concert.

This review makes three primary contributions. First, at the theoretical level, it offers a systematic synthesis of 50 studies published between 2010 and 2025 by integrating cross-cultural leadership, psychosocial mechanisms, and virtual work contexts into a coherent conceptual framework. This framework clarifies the mechanisms through which cross-cultural leadership is associated with global team effectiveness and identifies key boundary conditions shaping these relationships. Second, methodologically, the review maps research patterns across study designs, virtual and hybrid contexts, and levels of analysis, thereby elucidating sources of heterogeneity in prior findings and distinguishing more robust evidence from indicative results. This approach enhances transparency in the interpretation of accumulated evidence. Third, from a practical perspective, the findings provide a conceptual foundation for global HRM and leadership development by highlighting the central role of trust, communication quality, and psychological safety in leading culturally diverse teams operating in digital and distributed environments.

Literature Review

The literature on cross-cultural leadership in the context of global virtual and hybrid teams has exhibited substantial theoretical and empirical development over the past two decades. Digital transformation, the globalization of value chains, and organizations' increasing reliance on remote collaboration have fundamentally altered how leaders interact with team members from diverse cultural backgrounds. These shifts call for new conceptual frameworks capable of explaining leadership dynamics within increasingly distributed and technology-mediated work environments (Gilson et al., 2015).

The concept of cross-cultural leadership has emerged in response to global organizations' need to lead culturally diverse workforces. In this context, leaders are often expected to demonstrate adaptive capabilities, contextual

sensitivity, and cultural awareness when navigating differences in communication preferences and work-related expectations. While these competencies are frequently discussed as distinct attributes, they are conceptually interrelated. In particular, cultural intelligence (CQ) can be understood as an overarching capability that encompasses metacognitive, motivational, and behavioral capacities, whereas adaptive and contextual competencies represent situational manifestations of CQ as leaders respond to specific cultural and task demands in virtual and hybrid environments (Rockstuhl et al., 2011).

Existing literature consistently reports positive associations between CQ and leadership effectiveness in international contexts, as CQ enables leaders to interpret cultural cues and adjust their behaviors accordingly (Ang & Van Dyne, 2015). However, this relationship should not be assumed to be uniformly beneficial. Prior studies have noted that the effectiveness of CQ is context-dependent and may be constrained by factors such as limited technological affordances, structural power asymmetries, and the absence of rich social cues in virtual settings. Moreover, measurement challenges and conceptual overlap between CQ and other forms of intelligence, such as emotional or social intelligence, have raised questions regarding construct distinctiveness and operational clarity. These limitations suggest that CQ alone may be insufficient to ensure leadership effectiveness in digitally mediated and structurally constrained collaboration contexts.

Within virtual team contexts, leadership challenges intensify considerably. The absence of face-to-face interaction limits leaders' access to critical social cues necessary for building interpersonal relationships and monitoring team dynamics. Research by Liao, (2017), suggests that virtual leaders must adopt leadership approaches that are more structured, explicit, and communication-intensive, particularly in providing direction, clarifying expectations, and facilitating technology-enabled collaboration. These findings are reinforced by (Purvanova, 2014), who demonstrates that performance differences between face-to-face and virtual teams largely stem from heightened communication and coordination challenges inherent in digital environments.

At the same time, culture remains a central factor shaping team members' perceptions of and responses to leadership behaviors. Multinational studies consistently show that national cultural values such as power distance, collectivism-individualism, and uncertainty avoidance—influence communication preferences, decision-making styles, and comfort levels in virtual collaboration (Taras et al., 2010). Leaders who fail to recognize these cultural dynamics risk increasing miscommunication, eroding trust, and undermining coordination effectiveness.

Research on global virtual teams further identifies three core psychosocial mechanisms underpinning successful virtual collaboration: trust, communication quality, and psychological safety. A meta-analysis by (Breuer et al., 2016), demonstrates that trust exerts a significant influence on virtual team effectiveness, particularly because early interactions often occur without physical meetings, rendering swift trust especially critical. Communication quality has also been shown to be a primary determinant of virtual team performance, as intensive reliance on digital media frequently generates ambiguity and delays in information exchange (Maznevski & Chudoba, 2000). Moreover, psychological safety, as articulated by (Edmondson, 2019), is essential for enabling team members to voice ideas, ask questions, and

express disagreement without fear of misinterpretation conditions that are especially difficult to sustain in cross-cultural virtual settings.

In the post-COVID-19 literature, research on digital leadership, hybrid work, and cultural diversity has expanded rapidly. Studies such as (Contreras et al., 2020) emphasize that leaders must integrate technological competence with cultural sensitivity to manage digital fatigue, declining engagement, and the coordination complexity associated with working across time zones. These developments reinforce the argument that cross-cultural leadership in virtual contexts requires not only behavioral adaptation, but also the strategic integration of technology, communication practices, and psychosocial dynamics.

Overall, the literature suggests that cross-cultural leadership in global virtual and hybrid teams is a multidimensional phenomenon, shaped by the interaction between leaders' adaptive competencies, team members' cultural values, and psychological mechanisms that sustain effective digital collaboration. Despite this growing body of research, the literature remains fragmented and has yet to offer a comprehensive integrative model explaining the interrelationships among leadership, culture, technology, and team effectiveness. This gap provides a strong rationale for the present SLR, which seeks to synthesize existing findings and develop a more systematic conceptual framework.

Methods

The methods section of this systematic literature review was developed in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA 2020) guidelines, which are widely adopted in internationally reputable scholarly publications, (Haddaway et al., 2022). All research procedures were designed to ensure transparency, replicability, and traceability across each stage of study identification, screening, quality appraisal, and synthesis. A narrative and thematic systematic literature review approach was employed, given the heterogeneity of research designs, organizational contexts, and sample characteristics across the included studies. The SLR approach was selected for its capacity to integrate both empirical and conceptual evidence dispersed within the domains of cross-cultural leadership and global virtual work, while also revealing theoretical relationship patterns that have not been comprehensively documented in prior research (Snyder, 2019).

While this review relied on the Scopus database as the primary source of literature, this choice was made to ensure consistency in indexing standards, peer-review quality, and bibliographic completeness across studies. Scopus is widely recognized for its extensive coverage of high-impact journals in management, international business, and organizational studies. To mitigate the potential limitations associated with single-database reliance, the synthesis emphasizes analytical integration rather than exhaustive enumeration, focusing on conceptual convergence, theoretical patterns, and recurring mechanisms across studies rather than frequency-based generalizations.

Literature Identification and Search Strategy

The literature identification process was conducted using the Scopus database, recognized as one of the largest and most credible scientific indexes in the fields of management and business. The search strategy was constructed using a combination of keywords representing the core constructs of the review, including cross-cultural leadership, virtual and

global teams, cultural factors, and team effectiveness. Keywords were formulated based on the PICO framework (Population–Interest–Context) to ensure direct relevance to the research questions. The search was limited to peer-reviewed articles published in English between 2010 and 2025. Additional filters were applied to subject areas to ensure that the retrieved studies were situated within the domains of business, management, or social sciences.

Study Selection

Study selection was conducted through a two-stage screening process. The first stage involved a review of titles and abstracts to assess initial eligibility based on predefined inclusion criteria, such as the presence of leadership-related constructs, a virtual or hybrid team context, and cross-cultural dimensions. Studies that failed to meet the conceptual or methodological criteria were systematically excluded. The second stage consisted of a full-text review of the remaining articles to verify data completeness and relevance to the three research questions guiding the review. The selection process was documented using a PRISMA flow diagram, which records the number of studies retained and excluded at each stage.

Quality Appraisal

Quality appraisal was conducted using the Joanna Briggs Institute (JBI) Critical Appraisal framework to assess methodological rigor, transparency of research design, and coherence between evidence and interpretation. Rather than functioning solely as an inclusion filter, quality appraisal informed the interpretive weighting of evidence during synthesis. Studies assessed as high quality were prioritized when identifying core theoretical patterns and mechanisms, while findings from moderate-quality studies were used to support contextual variation and exploratory insights. This approach reduced the risk of over-reliance on methodologically weaker evidence while preserving the diversity of perspectives necessary for theory-building in complex and heterogeneous research domains.

Data Extraction and Synthesis

Data extraction was carried out using a custom-designed extraction scheme developed specifically for this review. Extracted information included bibliographic data processed using VOSviewer, (van Eck & Waltman, 2010) and Biblioshiny (Aria & Cuccurullo, 2017), research methods, sample characteristics, key findings, stated limitations, and relevance to the three research questions. The extracted data were subsequently analyzed using a combination of narrative synthesis and thematic analysis to identify recurring patterns, cross-study themes, and interrelationships among constructs. The narrative synthesis approach enabled the integration of both qualitative and quantitative evidence, while thematic analysis facilitated the development of a coherent conceptual structure capable of addressing the research questions in a consistent and in-depth manner.

Given the substantial heterogeneity in research designs, samples, and analytical approaches across the included studies, a meta-analytic synthesis was deemed inappropriate. Instead, narrative synthesis and thematic analysis were employed to preserve contextual richness and enable cross-study comparison of conceptual relationships rather than effect sizes. This approach allowed the review to accommodate qualitative insights, quantitative associations, and mixed-methods findings within a unified analytical structure, while explicitly acknowledging variation in methodological assumptions and evidentiary strength.

Bibliometric techniques using VOSviewer and Biblioshiny were employed not as standalone analytical methods, but as complementary tools to support the thematic synthesis. Co-authorship networks, keyword co-occurrence, and source mapping were used to identify dominant research clusters, conceptual concentrations, and underexplored thematic intersections. These patterns informed the interpretation of fragmentation in the literature and guided the identification of theoretical gaps, thereby strengthening the analytical linkage between descriptive trends and the review's research questions.

Result and Discussion

The identification and selection of studies were documented using a PRISMA flow diagram. The initial database search yielded 102 articles, with no duplicates detected; therefore, all records ($n = 102$) proceeded to the title and abstract screening stage. At this stage, 51 records were excluded for failing to meet the preliminary inclusion criteria, leaving 51 articles for full-text assessment. All reports at this stage were successfully retrieved ($n = 51$) and evaluated for eligibility. During full-text review, several reports were excluded primarily due to lack of open access, non-journal article format, or language other than English (e.g., No Open Access, Non-Article, and Non-English). Consequently, 50 studies met the inclusion criteria and were incorporated into this systematic review.

This section reports the synthesized findings of a systematic review of fifty empirical studies that fulfilled the final inclusion criteria and satisfied methodological quality thresholds. Employing narrative synthesis and thematic analysis, the results identify consistent patterns of association among key constructs relevant to the three research questions. The structure of the results encompasses descriptive characteristics of the included studies, the delineation of dominant thematic domains, and the integrative relationships emerging across diverse organizational and cultural contexts.

The reviewed literature offers a comprehensive account of the development of research on cross-cultural leadership in global virtual and hybrid team settings. The temporal distribution of publications indicates a steady increase from 2018 onward, with a marked surge during the 2020–2025 period, corresponding to the widespread institutionalization of remote and hybrid work following the COVID-19 pandemic. These trends signal the growing centrality of cross-cultural leadership within international human resource management scholarship, particularly in relation to managing culturally diverse workforces in digitally mediated environments. (See [Figure 1](#)).

Bibliometric analysis conducted using Biblioshiny indicates that the literature included in this SLR is concentrated within a limited number of core journals. Sustainability (Switzerland) emerges as the most productive source, contributing nine articles, suggesting that issues of cross-cultural leadership and virtual team collaboration are frequently examined within broader discussions of organizational sustainability and socio-technical transformation. This pattern reflects an increasing tendency to situate leadership and human resource challenges in digital work environments within sustainability-oriented and systems-level perspectives.

The International Journal of Cross Cultural Management ranks as the second most prominent outlet, with four published articles, consistent with its established focus on cross-cultural managerial dynamics and their implications for global leadership practice. Several other journals contribute two articles each, including the International Journal of Conflict Management, the International Journal of Human Resource Management, the International Journal of Information Systems and Project Management, and the Journal of International Management. This distribution indicates that cross-cultural leadership in virtual teams is not framed solely as a human resource management issue, but is also closely linked to conflict management processes, information technology-enabled project coordination, and international management strategies. (See [Figure 2](#)).

In addition, a number of journals contribute a single article to the reviewed corpus such as Advanced Education, Asia Pacific Management Review, Asian Association of Open Universities Journal, and Behaviour and Information Technology. The presence of these outlets suggests that scholarly discussions of cross-cultural leadership and global virtual teams extend beyond traditional HRM and management journals to encompass

higher education, Asia-Pacific management contexts, and human-technology interaction studies.

Overall, this publication pattern demonstrates that research on cross-cultural leadership in global virtual and hybrid team contexts is inherently interdisciplinary. The literature converges at the intersection of cross-cultural management, human resource management, conflict management, information systems, and organizational sustainability, underscoring the multifaceted nature of leadership challenges in digitally mediated global work environments. (See [Figure 3](#)).

Author analysis identifies scholars such as Taras, Farrell, Richards, Szkudlarek, and Xie as leading contributors to the development of the global leadership and cross-cultural management literature. The co-authorship network reveals a dense and well-connected research community, indicating that knowledge advancement in this domain is largely driven by collaborative efforts across institutions and national boundaries. This pattern reflects the cumulative and international nature of scholarship in global human resource management, where theoretical refinement and empirical progress are shaped through sustained cross-institutional and cross-country collaboration. (See [Figure 4](#)).

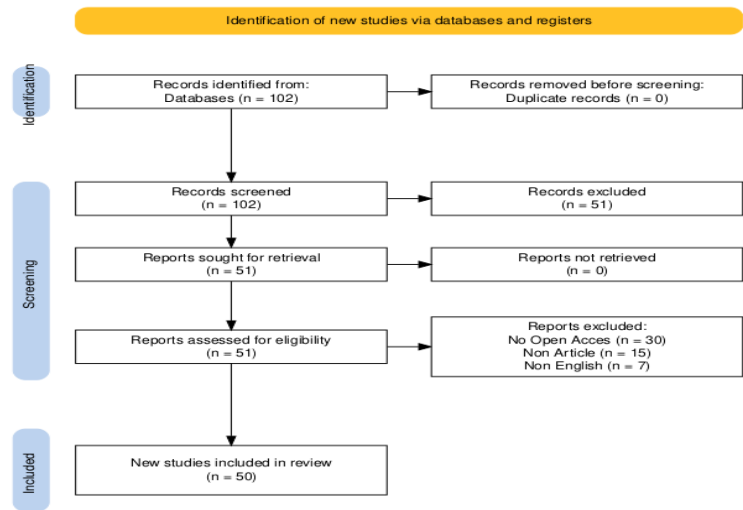


Figure 1. PRISMA flow diagram illustrating the identification, screening, and inclusion process of studies in the SLR

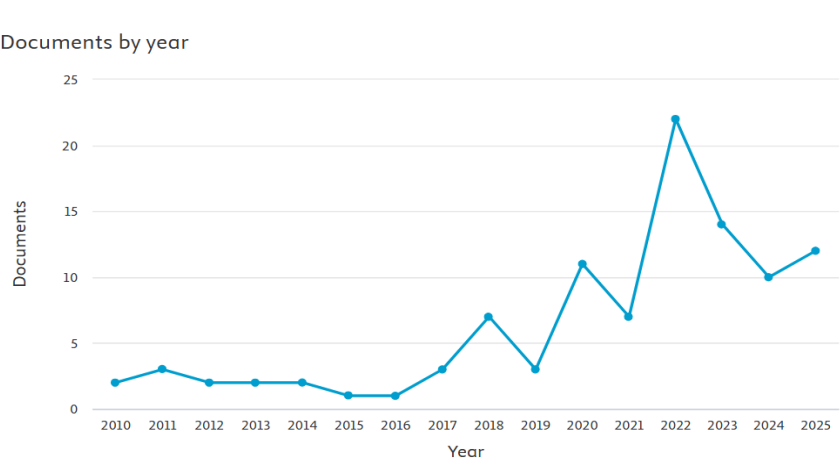


Figure 2. Trends in Publications on Cross-Cultural Leadership in Global Human Resource Management

 VOSviewer

Table 1. Integrative Conceptual Model of Cross-Cultural Leadership in Global Virtual and Hybrid Teams

Model Component	Category	Constructs / Variables	Conceptual Role	Key Relationships
Antecedent	Leadership	Cross-Cultural Leadership Behaviours	Primary driver of global team effectiveness	Indirect effect via mediating mechanisms
		Adaptive leadership behaviours	Ability to adjust leadership actions to cultural and virtual contexts	→ Mediating mechanisms
		Cultural intelligence (CQ)	Capability to recognize, interpret, and manage cultural differences	→ Mediating mechanisms
		Culturally sensitive communication practices	Communication approaches aligned with cultural norms and expectations	→ Mediating mechanisms
Mediating Mechanisms	Psychosocial	Trust	Relational mechanism supporting cooperation and collaboration	Transmits leadership effects to outcomes
		Communication quality	Clarity, frequency, and effectiveness of information exchange	Transmits leadership effects to outcomes
		Psychological safety	Shared belief that the team environment is safe for interpersonal risk-taking	Transmits leadership effects to outcomes
Outcomes	Team Outcomes	Global Team Effectiveness	Overall effectiveness of global virtual and hybrid teams	Indirectly influenced by leadership
		Team performance	Achievement of team goals and task outcomes	← Mediating mechanisms
		Collaboration quality	Quality of teamwork and cooperative processes	← Mediating mechanisms
		Coordination effectiveness	Alignment and synchronization of tasks and roles	← Mediating mechanisms
Moderators / Boundary Conditions	Contextual Factors	Cultural factors (national culture, cultural diversity, power distance)	Condition the strength and direction of relationships	Moderate leadership → mediators
		Degree of virtuality (virtual vs. hybrid)	Extent of physical dispersion and digital mediation	Moderate leadership → mediators
		Communication media characteristics	Media richness, synchronicity, and technological affordances	Moderate mediators → outcomes

Sources: Developed based on cross-study thematic synthesis (2010–2025)

The geographic distribution of publications depicted in the map reveals a pronounced concentration of scholarly output in developed economies, most notably the United States, which exhibits the highest intensity and represents the largest absolute contribution to research on cross-cultural leadership and global virtual teams. Beyond the United States, Western European countries including France, the United Kingdom, Italy, Spain, and the Netherlands also emerge as major contributors. This pattern reflects well-established research traditions in international management, organizational behavior, and global leadership within these national contexts. Australia appears as a significant research hub in the Asia-Pacific region, underscoring its role in advancing scholarship on global human resource management and digitally mediated work. Overall, the observed distribution suggests that knowledge production in this domain is predominantly driven by countries characterized by mature digital infrastructures, high levels of institutional globalization, and strong academic ecosystems, which collectively facilitate sustained research on cross-cultural leadership in global virtual and hybrid work environments.

The color distribution on the map indicates that research contributions from developing countries remain relatively limited and sporadic. Regions such as Southeast Asia, Africa, Latin America, and the Middle East appear with noticeably lighter shading, signaling substantially lower publication volumes. This pattern reinforces earlier bibliometric findings that scholarship on cross-cultural leadership in virtual team contexts is predominantly shaped by Global North perspectives, while representation from the Global South remains comparatively scarce. Such geographic imbalance underscores the need for more inclusive research approaches capable of capturing cross-cultural leadership dynamics in developing-country contexts, which are increasingly salient in a rapidly expanding global digital economy.

Overall, the visualization suggests that knowledge development in this field remains unevenly distributed across regions. The literature's strong reliance on cultural and economic contexts drawn from advanced economies may constrain the generalizability of existing findings. This imbalance highlights significant opportunities for future research to examine cultural variation, organizational structures, and socio-economic conditions in developing

countries, thereby enriching both theoretical understanding and practical insights into cross-cultural leadership within global virtual and hybrid teams. (See [Figure 5](#)).

Keyword co-occurrence analysis reveals that the structure of the literature is organized into several interconnected thematic clusters, with a central gravity around the terms virtual teams and global virtual teams. These keywords exhibit strong co-occurrence with knowledge sharing, collaboration, project management, teamwork, remote work, and COVID-19, indicating that the majority of studies position virtual teams as the primary context for examining remote work dynamics, project coordination, and knowledge exchange in the post-pandemic environment. Concurrently, a distinct cultural cluster emerges, characterized by the proximity of terms such as cultural diversity, cultural intelligence, national culture, multiculturalism, diversity, and language, reflecting the literature's emphasis on how cultural heterogeneity and leaders' capabilities to manage value differences shape work processes within global teams.

Another prominent cluster centers on leadership and transformational leadership, which strongly co-occur with virtual teams and cultural intelligence. This pattern suggests that a substantial body of research examines the role of transformational leadership styles and cross-cultural leadership competencies in guiding multicultural virtual teams. The co-occurrence patterns across the three core clusters leadership, culture, and virtual work reinforce the interpretation that the effectiveness of global virtual teams is not determined solely by technological choices or task structures. Rather, it is primarily shaped by the interaction between leaders' adaptive competencies, the management of cultural diversity, and collaborative mechanisms such as knowledge sharing and teamwork within digital work ecosystems. Overall, the bibliometric evidence substantiates the thematic synthesis of the SLR, confirming that cross-cultural leadership in virtual teams represents a rapidly expanding research domain driven by globalization, evolving work arrangements, and the increasing complexity of cross-national collaboration in digital environments.

Taken together, these bibliometric patterns offer more than descriptive mapping; they provide insights into the epistemological structure of the literature on cross-cultural leadership and virtual teams. The dominance of publications originating from Global North countries suggests that prevailing theoretical frameworks have largely been developed within advanced economies characterized by mature digital infrastructures and relatively stable organizational systems. This concentration raises concerns regarding contextual bias, as leadership practices and team dynamics in developing or transitional economies may be shaped by markedly different institutional, technological, and cultural constraints.

Furthermore, the concentration of publications within a limited set of high-impact journals reflects a consolidation of dominant theoretical perspectives, particularly those grounded in cultural intelligence, global leadership, and social exchange frameworks. While this concentration has contributed to theoretical coherence, it may also limit conceptual diversity by privileging certain assumptions about leadership adaptability and communication effectiveness. The observed keyword clusters reinforce this tendency, indicating a strong focus on leadership behaviours and collaboration outcomes, while comparatively less attention is paid to structural

constraints, technological asymmetries, and power differentials in virtual team settings. Collectively, these patterns suggest that existing knowledge may be systematically shaped by dominant contexts and theoretical traditions, underscoring the need for more inclusive and context-sensitive theorizing.

Drawing on the cross-study synthesis, this review proposes an explicit integrative model of cross-cultural leadership in global virtual and hybrid teams. The model positions cross-cultural leadership behaviours as a central antecedent of team effectiveness, operating primarily through three psychosocial mediators: trust, communication quality, and psychological safety. These mediating mechanisms explain how leadership behaviours are translated into collective outcomes within digitally mediated environments.

Importantly, the model conceptualizes these relationships as contingent rather than universal. Cultural factors, including national value orientations and multicultural diversity, as well as contextual conditions such as the degree of virtuality and task complexity, function as boundary conditions that shape the strength and direction of leadership effects. By specifying these mediating and moderating pathways, the model moves beyond narrative description and provides a structured analytical framework for understanding when and how cross-cultural leadership contributes to team effectiveness in virtual and hybrid contexts.

To synthesize the fragmented findings across the reviewed studies and to make the underlying relationships explicit, this review proposes an integrative conceptual model of cross-cultural leadership in global virtual and hybrid teams, as illustrated in [Table 1](#). The model consolidates evidence from the thematic synthesis by specifying the pathways through which leadership behaviours are translated into team effectiveness, while explicitly incorporating the mediating and moderating mechanisms identified across the literature.

As depicted in [Table 1](#), cross-cultural leadership behaviours serve as the primary antecedent shaping global team effectiveness. Rather than exerting a direct and universal influence, leadership effects are transmitted through psychosocial mechanisms, namely trust, communication quality, and psychological safety, which function as proximal drivers of collaborative outcomes in virtual and hybrid teams. The model further emphasizes that these relationships are contingent upon contextual moderators, including cultural factors, degrees of virtuality, and communication media characteristics. By explicitly articulating these mediated and moderated pathways, the model underscores that leadership effectiveness in global virtual teams is inherently context-dependent and embedded within broader socio-technical environments.

Although the majority of reviewed studies report positive associations between cross-cultural leadership and team effectiveness, the evidence is not uniformly supportive. Several studies suggest that excessive leadership adaptation or highly formalized communication structures may undermine social interaction and reduce psychological safety, particularly in cultures characterized by implicit communication norms or higher power distance. These findings indicate that leadership adaptation is not inherently beneficial and may generate unintended consequences when misaligned with cultural expectations or communication preferences.

This pattern highlights the importance of recognizing boundary conditions under which cross-cultural leadership behaviours are likely to be effective. Rather than assuming adaptive leadership as a universal solution, the findings point to a more nuanced understanding in which leadership effectiveness emerges from the alignment between leadership behaviours, cultural context, and the affordances of digital communication technologies.

The reviewed studies employ a wide range of research designs, including qualitative, quantitative, and mixed-methods approaches, reflecting methodological diversity in the investigation of cross-cultural leadership phenomena in virtual team contexts. Findings related to the first research question indicate that cross-cultural leadership behaviors exert a direct and positive influence on the effectiveness of virtual and hybrid teams. Leaders who are able to adapt their communication styles and managerial behaviors to the cultural differences of team members tend to foster stronger coordination, enhance task clarity, and reinforce team cohesion. Empirical studies by (Farrell et al., 2025) and (Weinzierl, 2025) demonstrate that leaders' abilities to navigate language differences, social norms, and communication preferences constitute key factors enhancing perceptions of effectiveness in global teams operating in both synchronous and asynchronous modes. These findings are further reinforced by evidence showing that adaptive leadership behaviors reduce role ambiguity, a common challenge in distributed work settings.

With respect to the second research question, the synthesized findings indicate that cultural factors function as critical moderators of the relationship between cross-cultural leadership and team outcomes. Studies examining national cultural differences consistently report that dimensions such as power distance, collectivism, and uncertainty avoidance shape team members' preferences for decision-making structures, communication styles, and trust in leadership. (Farrell et al., 2025) emphasize that perceptions of leadership effectiveness are strongly influenced by the degree of alignment between leadership styles and team members' cultural values. In addition, research by (Dev et al., 2025) highlights cultural intelligence as a pivotal leadership competency that strengthens leaders' capacity to manage multinational virtual teams. Leaders with higher levels of cultural intelligence are more effective in mitigating cultural friction and fostering mutual acceptance among team members.

Findings addressing the third research question confirm that the relationship between cross-cultural leadership and team effectiveness is consistently mediated by several psychosocial mechanisms. Trust emerges as a central mediator forming the foundation of collaboration in virtual work contexts. Studies by (Voloboiev, 2025) and (Weinzierl, 2025) show that trust particularly swift trust functions as a critical mechanism facilitating rapid adaptation and collaboration in environments characterized by limited face-to-face interaction. Moreover, communication quality is shown to play a dual role as both a mediator and a moderator. Leaders who establish clear, consistent, and culturally adaptive communication practices tend to enhance team effectiveness, especially when team members operate across different time zones and cultural backgrounds. Psychological safety is also identified as a key mechanism promoting openness, participation, and information sharing within virtual teams. (Dev et al., 2025) demonstrate that psychological safety increases when leaders display empathy, cultural

sensitivity, and supportive behaviors, ultimately contributing to improved team performance.

Overall, this literature synthesis yields an integrative model linking cross-cultural leadership to the effectiveness of global virtual and hybrid teams through trust, communication quality, and psychological safety, while being moderated by national cultural values and cultural intelligence. These findings suggest that cross-cultural effectiveness in digital work contexts depends not merely on technical competencies or technological infrastructures, but fundamentally on leaders' abilities to understand and adapt to the cultural dynamics shaping virtual interaction. The resulting integrative model provides a robust foundation for advancing global leadership theory and offers meaningful practical implications for organizations that increasingly rely on cross-national collaboration, (Dev et al., 2025); (Farrell et al., 2025); (Voloboiev, 2025) and (Weinzierl, 2025).

Cross-cultural leadership in the context of global virtual and hybrid teams emerges as an adaptive competence that integrates cultural sensitivity with the ability to effectively leverage collaborative technologies (Weinzierl, 2025). The synthesis indicates that the role of leaders is no longer confined to providing direction; rather, it has evolved toward that of a facilitator who navigates cultural differences, manages meaning across contexts, and creates operational clarity within communication environments that are often constrained to digital cues (Voloboiev, 2025). The effectiveness of cross-cultural leadership in this setting depends on leaders' capacity to align their behaviors with team members' cultural expectations while simultaneously ensuring consistency and coherence of information flows across virtual channels (Farrell et al., 2025). These findings underscore that cross-cultural leadership should not be understood merely as a leadership style, but as a form of adaptive competence operating at the intersection of culture and technology (Anggiani & Fatonah, 2025).

The need for more structured communication intensifies significantly as organizations transition work activities to virtual platforms (Dev et al., 2025). The absence of nonverbal cues requires leaders to develop communication practices that are more explicit, coherent, and well documented in order to reduce ambiguity that may trigger cross-cultural misunderstandings and conflict (Tan et al., 2025). Well-managed communication structures enable the development of shared meaning, even when team members operate across geographically dispersed locations and multiple time zones (Asfahani, 2025). Studies within the reviewed dataset demonstrate that the performance effectiveness of virtual teams is strongly contingent upon leaders' abilities to regulate communication rhythms, ensure clarity of instructions, and mediate culturally driven differences in interpretation (Zhylynska & Tyshchenko, 2024).

Trust and psychological safety are consistently identified as fundamental mechanisms linking cross-cultural leadership to team effectiveness (Bula et al., 2024). Trust develops through leaders' behavioral consistency and clarity of communication, particularly in contexts where team members have limited opportunities to build interpersonal closeness through physical interaction (Yousef, 2024). The presence of trust enables team members to collaborate with reduced anxiety, engage in more open information sharing, and take the interpersonal risks necessary for effective collaboration (Mohan et al., 2024). Psychological safety complements this mechanism by providing a relational climate in which team members can express ideas and

dissenting views without fear of misinterpretation or negative consequences (Leppäkumpu & Sivunen, 2024). Culturally sensitive leaders are better positioned to cultivate such environments, as they recognize cultural variations in the expression of criticism, disagreement, and creative initiative (Depoo & Hermida, 2024).

The findings of this review extend cultural intelligence theory by demonstrating that CQ functions not only as an individual-level capability but also as a contextual mechanism that conditions the effectiveness of leadership practices in virtual environments. Rather than operating as a direct predictor of outcomes, CQ appears to shape how leadership behaviours are interpreted and enacted within culturally diverse teams (Noto et al., 2023), (Bartel-Radic & Munch, 2023).

Similarly, the results challenge implicit assumptions within global leadership theory that behavioural adaptability uniformly enhances effectiveness. The evidence suggests that adaptability may be constrained by the degree of virtuality and the structure of communication media, indicating that leadership theories developed in face-to-face contexts require conceptual refinement to account for digitally mediated work settings (Alon et al., 2023), (Kaur Bagga et al., 2023), (Jacob et al., 2023).

Consistent with this view, the findings of this review suggest that cultural intelligence enhances leadership effectiveness primarily when supported by enabling organizational structures, appropriate communication technologies, and psychologically safe team climates, rather than operating as a standalone capability.

Building on this insight, the practical implications of these findings highlight the need for organizations to move beyond isolated competency development and adopt a more systemic approach to global leadership development. Organizations should strengthen leaders' capabilities in managing cultural diversity and digital communication complexity through structured intercultural leadership training programs that prioritize the development of cultural intelligence, cross-cultural communication management, and digital empathy (Caputo et al., 2023); (Rahim et al., 2022). In addition, leadership development initiatives should incorporate digital competence as a core capability, given that leaders' strategic use of collaborative technologies has a direct impact on team effectiveness (Bastiaansen & Wilderom, 2022). Multinational organizations are also encouraged to invest in communication infrastructures that support message clarity, information transparency, and accessibility across time zones (Zettinig et al., 2022). Furthermore, the assessment of cultural intelligence should be considered as part of global team leader selection processes, as cultural sensitivity is a significant predictor of successful cross-national collaboration (Stratone et al., 2022).

Finally, the future research agenda calls for more holistic exploration of multilevel relationships among leaders, team members, and teams (Davidaviciene & Al Majzoub, 2022). Longitudinal studies are needed to capture how trust develops and evolves over time in virtual team contexts characterized by frequent membership changes (Swart et al., 2022). There is also a clear need to extend research contexts to developing countries, given that much of the existing literature remains centered on organizations in advanced economies (Tahirkheli, 2022). Moreover, future studies should examine how AI-mediated communication interacts with cultural dynamics and reshapes leadership roles within global teams (Reis et al.,

2022). As AI-enabled collaborative technologies continue to advance, integrating technological and cultural perspectives becomes increasingly critical for understanding the future of cross-cultural leadership (Batırlık et al., 2022).

However, it is equally important to recognize the structural constraints that shape leadership effectiveness in virtual settings. Importantly, several studies highlight structural constraints that limit the impact of leadership behaviours in virtual teams, including time-zone dispersion, technological inequality, and uneven access to communication resources. These constraints suggest that leadership effectiveness cannot be fully understood without considering the broader socio-technical systems within which virtual teams operate. As such, leadership adaptation alone may be insufficient to overcome systemic barriers embedded in digital collaboration environments.

Conclusion

This systematic review demonstrates that cross-cultural leadership constitutes a critical, yet context-dependent, driver of effectiveness in global virtual and hybrid teams. Across fifty studies published between 2010 and 2025, the evidence consistently indicates that leadership influence is not exerted directly, but rather operates through psychosocial mechanisms most notably trust, communication quality, and psychological safety which enable coordination, shared understanding, and sustained collaboration in digitally mediated environments. Cultural context plays a decisive moderating role by shaping how leadership behaviours are interpreted and enacted, thereby reinforcing the view that leadership effectiveness in global virtual teams cannot be assumed to be universal.

The primary theoretical contribution of this review lies in advancing a mediated and contingent understanding of cross-cultural leadership. While existing theories such as cultural intelligence, global leadership, and social exchange theory provide valuable foundations, the findings of this review suggest that these perspectives require refinement when applied to virtual and hybrid work contexts. Specifically, leadership effectiveness is shown to be conditional upon socio-technical and cultural boundary conditions, challenging implicit assumptions within traditional leadership models that emphasize behavioural adaptation without sufficient attention to structural and technological constraints. By articulating an integrative conceptual model, this review clarifies how leadership behaviours, cultural dynamics, and psychosocial mechanisms jointly shape team outcomes, thereby extending leadership theory beyond leader-centric explanations. Several limitations should be acknowledged. The reliance on a single database restricts the breadth of potentially relevant studies, while methodological heterogeneity across the reviewed literature precluded the calculation of meta-analytic effect sizes. These limitations constrain the generalizability of conclusions and underscore the need for cautious interpretation of aggregated findings, particularly across diverse cultural and institutional contexts.

Building on these insights, future research should move beyond descriptive comparisons and explicitly examine leadership processes as multi-level and socio-technical phenomena. Longitudinal designs are needed to capture the development of trust and psychological safety over time, while studies situated in underrepresented

regions and emerging economies are essential to challenge the dominance of Global North perspectives identified in the literature. Moreover, future work should investigate how AI-enabled collaboration tools, technological asymmetries, and organizational infrastructures interact with cultural dynamics to shape leadership effectiveness, thereby advancing more context-sensitive and inclusive theories of global leadership. Overall, this review repositions cross-cultural leadership in virtual and hybrid teams as an emergent property of interactions among leaders, team members, cultures, and technologies, rather than as a function of leadership behaviours alone. This perspective provides a more nuanced foundation for future scholarship and offers actionable implications for global HRM and leadership development in an increasingly digital and culturally complex world.

Author contributions

All authors contributed substantially to the conception, design, execution, and refinement of this systematic literature review. The first author was primarily responsible for formulating the research objectives, designing the systematic review protocol, conducting the literature search, screening and quality appraisal of studies, and drafting the initial manuscript. The second author contributed to the development of the theoretical framework, critical interpretation of the synthesized findings, and refinement of the discussion and conclusion sections. Both authors jointly reviewed and revised the manuscript, approved the final version, and agree to be

accountable for all aspects of the work.

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Conflict of interest

The authors declare no conflicts of interest related to this study. The research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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