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Examining the effects of cultural diversity on global virtual team performance: A Global Leadership and Organisational Behaviour Effectiveness-based analysis

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Orientation: The contemporary business landscape reinforces the necessity of global virtual teams (GVTs) as a flexible organisational work format that transcends national boundaries. Cultural diversity of collaborative teams often leads to challenges in communication, collaboration and task execution, which impact their performance.

Research purpose: This study investigates the cultural diversity of GVTs and its effects on team performance.

Motivation for the study: In global collaboration work contexts where there is limited communication and interaction, national culture presents a critical diversity dimension, which is often underexplored and inadequately understood.

Research design, approach and method: The study surveyed 1292 students across 254 multicountry GVTs. Hierarchical multiple regression was employed to analyse the interaction between the key Global Leadership and Organisational Behaviour Effectiveness (GLOBE) variables and team performance.

Main findings: Diversity in the teams' uncertainty avoidance had a significant and positive effect on team performance, while in-group collectivism diversity had a significant but negative effect on team performance.

Practical/managerial implications: The positive effect of uncertainty avoidance on team performance demonstrates that variability of teams on this dimension creates a balance on the tendency of individuals to prioritise certainty over uncertain decisions despite potentially higher returns. While diversity improves team performance, managers should have teams that are cohesive through aligning shared goals with clear individual responsibility.

Contribution/value-add: The study contributes to the international business and human resource literature by demonstrating how uncertainty avoidance and in-group collectivism shape performance in GVTs using the GLOBE framework which is rarely used in previous research.

Keywords: global virtual teams; team performance; national culture; diversity; GLOBE.

Introduction

In an era where the globe instantly connects at the click of a mouse, rapid technological advances have led to the adoption of global virtual teams (GVTs) that work beyond time, space, and culture (Kargina 2025; Zakaria & Muton 2022). Dynamism in the business environment and world crises such as the coronavirus disease 2019 (COVID-19) pandemic underscore the criticality of GVTs (Tavoletti et al. 2022, 2023; Zakaria & Muton 2022) as an alternative workplace collaborative setup.

Global virtual teams offer ample benefits for organisations for enhanced decision-making because of borderless knowledge transfer, innovation and increased access to a global pool of human resources that is responsive to rapid market pressures (Froese et al. 2025; Killingsworth, Xue & Liu 2016). Despite these benefits, GVTs experience performance challenges. Substantial challenges have been associated with the cultural diversity of team members (Kargina 2025). Thus, the interface between national cultural diversity of GVT members and team performance is an interesting debate in international human resource management literature (Adamovic 2018;

Butler et al. 2018; Hoch & Dulebohn 2017) and the general international business field (Lippert & Dulewicz 2018). There is a continued need for further understanding of the effects of national culture on GVTs' performance (Han & Beyerlein 2016; Lippert & Dulewicz 2018).

Understanding cultural diversity provides better opportunities in developing superior responses to international business challenges (Minkov & Hofstede 2012). International labour mobility for strategic and operational needs comes at high financial costs and complex immigration laws for firms. To mitigate the challenges, firms resort to blended approaches that include GVTs. Recognising the effects of cultural diversity in the GVTs therefore has practical implications for international firms. Multiple studies have shown that cultural diversity has a strong influence on organisational collaboration, such as leadership (Chutnik & Grzesik 2009; Hoch & Dulebohn 2017), team structure (Hoch & Dulebohn 2017; Zakaria, Amelinckx & Wilemon 2004), communication (Krawczyk-Bryłka 2016; Zakaria & Muton 2022), and processes (Lurey & Raisinghani 2001; Mockaitis, Rose & Zettinig 2012), ultimately affecting team outputs (Gilson et al. 2015).

Given that GVTs are contextually bound, norms, values and beliefs are inculcated in team members through societal institutions (Fong Boh, Nguyen & Xu 2013; Hilali & Benyahia 2026). How a nation's values and practices affect performance in these inherently multinational, collaborative structures is an area worthy of investigation (Crowne 2020; Taras et al. 2019). This understanding can shed light on how best to manage work teams with cultural differences. However, GVT studies have relied on Hofstede's cultural framework, leaving other approaches such as Global Leadership and Organisational Behaviour Effectiveness (GLOBE) dimensions underutilised. This study rises to the challenge and extends the GLOBE framework to GVTs to provide nuanced insights beyond commonly studied contexts (Nadeem & Sully de Luque 2020). The impetus for adopting the GLOBE framework stems from its distinctive conceptualisation of culture as values and practices (House et al. 2004) offering more robust theorising.

The objective of the article is to examine the effect of the GLOBE value dimensions on team performance using broad categories based on team processes.

Specifically, we explore the effect of:

- Communication-related cultural diversity of a GVT on the team's performance.
- Collaboration-related cultural diversity of a GVT on the team's performance.
- Task execution-related cultural diversity of a GVT on the team's performance.

The study contributes to diversity literature by applying the GLOBE-inspired theorising of cultural diversity. It extends literature by applying the GLOBE framework to GVT performance literature and providing nuanced insights into the mechanisms through which cultural diversity affects team performance. Practically, the study offers a framework for understanding dynamics of cultural variability in teams to improve collaborations and task execution.

Theoretical background

Theorising cultural diversity

Global virtual teams are geographically dispersed groups of people who work together using communication and information technologies to accomplish specific tasks (Froese et al. 2025; Kargina 2025). The geographic dispersion positions GVTs as multinational; hence, the members would vary in their beliefs, values, attitudes, and perceptions of priority because of the influence of their culture (Hilali & Benyahia 2026). Hofstede (1984) posits that people from different nationalities fundamentally vary in terms of their behaviours because of their differences in shared national culture.

Facets of cultural differences manifest as cultural diversity across various levels of culture. Cultural diversity is the extent to which members of a team are heterogeneous in their values and practices (Hofstede 1991; Javidan et al. 2006; Kirkman & Shapiro 2005). These differences present significant challenges in GVTs where teams have limited communication and interaction to facilitate effective cohesion and understanding. While team diversity literature indicates that several diversity sources may affect teams in various ways, effects because of cultural differences are often misunderstood and misinterpreted (Hilali & Benyahia 2026; Stahl & Maznevski 2021). This is largely because cultural diversity often occurs subconsciously, complicating both research and practice (Hilali & Benyahia 2026; Stahl & Maznevski 2021).

Literature on cultural diversity has been theoretically influenced by several frameworks, which seek to explain national differences in the cultural trajectory, such as Hofstede's cultural dimensions (Hofstede 1991), Schwartz value dimensions (Schwartz 1992) and GLOBE (House et al. 2004). Notably in GVTs, Hofstede's (1980) seminal work remains the most used and validated across many areas of study such as in international marketing, management and organisational culture (Owusu Ansah & Louw 2019; Shi & Wang 2011). Despite the extensive use, Hofstede's cultural dimensions are heavily criticised (Hsu, Woodside & Marshall 2013) for measurement deficiencies, and the use of national-level constructs for individual-level analysis (Brewer & Venaik 2014).

The GLOBE dimensions, developed from a project that started in the 1990s (House et al. 2004), present the most recent development aimed at understanding cultural diversity. Even though the Hofstede dimensions still have a place in understanding culture and its effect, the GLOBE dimensions offer improvements in theoretical comprehensiveness and methodological rigour (Javidan

et al. 2006; Shi & Wang 2011). The GLOBE framework conceptualises cultural values as practices and values measured through nine attributes of: (1) performance orientation, (2) assertiveness, (3) future orientation, (4) humane orientation, (5) institutional collectivism, (6) in-group collectivism, (7) gender egalitarianism, (8) power distance, and (9) uncertainty avoidance. Apart from the design pre-eminence of the GLOBE dimensions, they embrace the distinction between cultural values and practices (Javidan et al. 2006). Differentiating between values and practices is the common understanding in studying culture (Hofstede 1991; Schwartz 1992). Despite this, the GLOBE dimensions demonstrate a complex, in some cases, non-linear relationship between values and practices (Hofstede 1980, 1991). Most importantly, the GLOBE results show a distinction between values and practices. Thus values are an important aspect of understanding culture, on their own they are not a robust way of measuring culture.

Furthermore, values and practices were found to relate to different cultural phenomena. Practices are highly associated with a society's economic health, competitiveness, human development, etc., while values reflect abstract principles that people from a particular culture prioritise (Hilali & Benyahia 2026) and are associated with attributes such as leadership (House et al. 2004; Javidan et al. 2006). This means that a society's effectiveness is associated with its practices, while the effectiveness of leaders in a society is associated with the society's values and aspirations. This is a phenomenon that would not be understood if values and practices were not treated as distinctive from one another (Javidan et al. 2006).

This study, therefore, uses the GLOBE cultural dimensions because of their theoretical and empirical robustness and potential to yield a better understanding of cultural diversity on GVT performance.

Effects of cultural diversity in global virtual teams

Past research on cultural diversity indicates that its effect in teams is inconsistent, either negative, positive or indifferent (Chevrier 2003). These inconsistencies create a theoretical puzzle and underscore the need for further research that unravels the complexities of modern workplace dynamics. In the context of GVTs which are challenging because of their remote operational nature, the effects of cultural diversity on team performance remain an area worthy of exploration (Woehr, Arciniega & Poling 2013). Previous research has adopted a varying focus on how cultural differences affect many areas in teamwork, such as knowledge sharing (Killingsworth et al. 2016; Zakaria et al. 2004), team dynamics (Mockaitis et al. 2012), communication (Jarvenpaa & Leidner 1999), leadership (Hoch & Dulebohn 2017), and peer evaluation (Crowne 2020; Tavoletti et al. 2022), among others.

This study contributes to an established research agenda for studies that seek to enhance comprehension of how deep-seated background factors emanating from country-level differences affect organisational collaboration (Beugelsdijk, Kostova & Roth 2017). Exploring these differences has the propensity to provide solutions to challenges facing organisational collaboration today (Owusu Ansah & Louw 2019).

Theorising global virtual team performance

Measuring performance in this new age of borderless work is problematic (Tavoletti et al. 2022, 2023). Team performance in GVTs is a measurement of the teams' outcome in relation to a particular specific and acceptable task (Gheni et al. 2019). This measures the extent to which a team's output meets the required standards (Lurey & Raisinghani 2001). Horwitz and Horwitz (2007) argue that team performance is multidimensional as it encompasses several outcome measures such as quantifiable output, qualitative team outcomes and team cohesion. This implies that there are many ways of evaluating GVTs' performance and these vary from one project to another depending on the task at hand. It follows that performance measurement in organisations can vary (Stahl et al. 2010) across objective or subjective measures.

Lurey and Raisinghani (2001) propose that team performance should be assessed as an evaluation of: (1) an objective measure of quantity or quality of the output; (2) the process of conducting work as opposed to the output; and (3) the individual member's level of satisfaction with the team's work. In this study, team performance is conceptualised as an objective measurement of the required output. While individual evaluations may suffer from perceptual influence, they are acceptable in research where other objective measures may not be available (Singh, Darwish & Potočnik 2016), which is the case in this study.

Conceptualising a Global Leadership and Organisational Behaviour Effectiveness-inspired framework of the effects of cultural diversity on team performance in global virtual teams: Predicting the effects of the GLOBE dimension on team performance specifically based on GVT literature is a daunting task because of the scarcity of its application; hence, the broader literature on diversity and organisational collaboration is consulted to guide the hypotheses development.

An optimistic view on diversity in teamwork is adopted consistent with the Information Processing theory (Stahl et al. 2010). The Information Processing theory advances the 'value in diversity hypothesis' and argues that diversity in teams brings about different sources of information which act as a pool of cognitive resources (Mayo et al. 2017) that enhance task undertaking and team performance. While the theory has provided empirical confirmation in controlled settings, there is a need to examine its validity in other settings to enable generalisation (Williams & O'Reilly 1998). This study embraces the position advanced by the Information Processing theory and argues that people from different cultural backgrounds bring about different 'world views', which would in turn enrich team performance.

While the GLOBE framework represents distinct aspects of culture, they are unlikely to influence team performance through identical mechanisms. Drawing on the GLOBE framework and the optimistic perspective to process literature, the nine dimensions are categorised into three theoretically meaningful classifications in line with team collaboration processes, which they are expected to shape. Dimensions are grouped into communication-related, collaboration-related, and task execution-related classifications to enable examination of the effects of cultural diversity on team performance.

Communication-related diversity of a global virtual team on team performance: Diversity in communication-related processes can hinder information exchange and comprehension, leading to misunderstandings and reduced coordination, which ultimately impairs team performance (Kargina 2025). Because GVTs are prone to misunderstanding due to limited communication and interaction (Hilali & Benyahia 2026), the cultural dimensions of power distance, assertiveness and gender egalitarianism may have a bearing on team performance through their effect on team communication.

Power distance dimension addresses the differences within the members' acceptance of inequalities in power and authority (House et al. 2004). The diversity implies that team members vary in their tolerance for unequal distribution of power. The variance in their respect for authority and hierarchy can lead to conflict in expectations of effective leadership in work relationships, which would in turn impact the team's communication and performance (Hilali & Benyahia 2026). It is therefore hypothesised (H) that:

> **H1a:** Power distance diversity in a GVT has a negative association with the team's performance.

The assertiveness diversity dimension relates to how members differ in their approach towards communication and interaction (Cuhadar & Rudnák 2022). In highly assertive societies, members display direct communication, which can sometimes be confrontational, whereas in less assertive cultures, harmony and modesty are valued (Nadeem & Sully de Luque 2020). Diversity in assertiveness can lead to conflicts because of varying communication styles, which negatively impact team performance; hence, it is hypothesised that:

> **H1b:** Assertiveness diversity in a GVT has a negative association with the team's performance.

Gender egalitarianism dimension relates to the way members of a team vary in their propensity to value gender equality and shun gender-based discrimination (Nadeem & Sully de Luque 2020). Team members with high gender egalitarianism tend to promote equal representation for all members of the team, while those with low gender egalitarianism tend to observe more traditional gender biases. Consistent with the assertion of Pieterse, Van Knippenberg and Van Dierendonck, (2012) assertion, this diversity brings varied perspectives and information sources, resulting in performance benefits. Hence, it is hypothesised that:

> **H1c:** Gender egalitarianism diversity in a GVT has a positive association with the team's performance.

Collaboration-related diversity of a global virtual team on the team's performance: Cultural diversity in attributes that relate to team collaboration can potentially impair team performance. Institutional collectivism, in-group collectivism and humane orientation are socially oriented dimensions, which relate to how much the team members value collective efforts and relationships. Because of technologically mediated collaboration in GVTs, shared understanding in collaboration can enhance team performance.

Institutional collectivism diversity is the degree to which team members vary in their affinity to valuing organisational-oriented practices (Nadeem & Sully de Luque 2020). People in collectivist cultures value shared interdependence and aligned accountability to organisational pursuits (Hilali & Benyahia 2026) while less collectivist members would be less strict towards upholding shared goals. Thus, teams carrying divergent values on institutional collectivism would lead to conflicting priorities, which negatively impact team collaboration and team performance. Therefore, it is hypothesised that:

> **H2a:** Institutional collectivism diversity in a GVT has a negative association with team performance.

In-group collectivism is the extent to which team members value loyalty and commitment towards each other (House et al. 2004). Generally, people self-select into social groups, and favour those from their group (Mayo et al. 2017). Considering that individuals tend to develop a preference to work with those they share similarities with (Williams & O'Reilly 1998), diversity because of in-group collectivism is likely to yield negative results because it brings about social disintegration (Stahl et al. 2010), which affects collaboration. Hence, it is hypothesised that:

> **H2b:** In-group collectivism diversity in a GVT has a negative association with team performance.

Humane orientation is the variability in team members' affinity for practices that reward values of altruism and kindness (Nadeem & Sully de Luque 2020). This dimension brings to the fore the significance of interpersonal relations in facilitating collaboration. It is therefore hypothesised that:

> **H2c:** Humane orientation diversity in a GVT has a negative association with team performance.

Task execution-related diversity of a global virtual team on the team's performance: Task execution reflects the category that relates to the values and practices that team members display in their approach towards work performance and planning. This encapsulates the dimensions of performance orientation, future orientation and uncertainty avoidance.

Performance orientation captures a team's commitment towards fostering excellence and goal achievement (House et al. 2004). Team members from highly performance-oriented backgrounds would value targets and high performance, while those with a lower performance orientation would place less emphasis on high achievements (Nadeem & Sully de Luque 2020). Diversity because of performance orientation may lead to tensions because of misalignment and conflicting priorities (Schreiber, Van Dijk & Drory 2025), thus affecting task execution and team performance. Hence, it is hypothesised that:

> **H3a:** Performance orientation diversity in a GVT has a negative association with team performance.

Uncertainty avoidance diversity is the degree to which team members vary in their tendency to tolerate uncertainty, lack of structure, and ambiguity (Schreiber et al. 2025). In cross-cultural management literature, high uncertainty avoidance has been found to positively and significantly influence teams' ability to execute organisational mandate without interference (Owusu Ansah & Louw 2019). Diversity in uncertainty avoidance among team members can result in complementary practices where those with high uncertainty avoidance practices are more formalised and structured, while those with low uncertainty avoidance are more intuitive (House et al. 2004). Thus, it is hypothesised that:

> **H3b:** The diversity in uncertainty avoidance in a GVT has a positive association with team performance.

Future orientation reflects the extent to which team members prioritise planning for future gains and put off immediate gratification (Cuhadar & Rudnák 2022). Like long-term orientation by Hofstede, members who are highly future-oriented promote structure and planning and are less reactive. Diversity on this dimension means divergent perspectives on task performance by the team. Those with high future orientation would prioritise task completion to achieve set goals; those with short-term orientation would prioritise immediate completion of tasks. Although approached from different belief systems, these perspectives align in that both perspectives commit to achieving the goals without unnecessary delays and thus, it is hypothesised that:

> **H3c:** Future orientation diversity in a GVT has a positive association with team performance.

Accordingly, the framework (see Figure 1) presents a GLOBE-inspired representation of the hypothesised relationships between cultural diversity and GVT performance.

Research methods and design

Research design

A survey design was adopted. The study follows the foundation of cultural studies by the GLOBE project (House et al. 2004) that resulted in nine diverse cultural dimensions in cultural values and practices across societies, respectively. The article investigates the influence of the nine cultural values and practices of: (1) performance orientation, (2) assertiveness, (3) future orientation, (4) humane orientation, (5) institutional collectivism, (6) in-group collectivism, (7) gender egalitarianism, (8) power distance, and (9) uncertainty avoidance on overall team performance.

This study used data from 254 virtual multicountry collaborative teams (1292 individuals). The unit of analysis is the team. The sample comprised of 67.80% undergraduates, 28.33% graduates, and 3.87% were of other levels of qualification. The respondents were from 49 countries, which they consider to be their home. The use of student samples is not unique to this study. This has been applied in several studies that have advanced scholarship by providing large-scale test platforms for real-time organisational problems (Stahl & Maznevski 2021). While often criticised, the generalisability of the results in studies like this far exceeds the normal student samples and resonates with corporate work groups in many ways (Tavoletti et al. 2022). These include that: (1) the teams comprised of members from diverse cultures and geographical backgrounds; (2) the participants were tasked with solving a real-life problem encountered by real international organisations; (3) some of the participants were graduate students who also held positions as practitioners; and (4) the extensive sample size exceeded typical corporate study samples.

The individuals who made up the teams had no prior communication and were randomly assigned to teams based on a virtual international business consulting project. Table 1 presents the team formation descriptive statistics. The mean team size was 5.09 (standard deviation [SD] = 0.61). The mean age for team members was 22.76 (SD = 2.67) with a mean age diversity of 1.38 (SD = 1.01). The individuals were tested for ability to communicate in the English language, and the mean English score was 88.16 (SD = 6.16).

This study sought to answer the question of whether the performance of these teams can be predicted to benefit

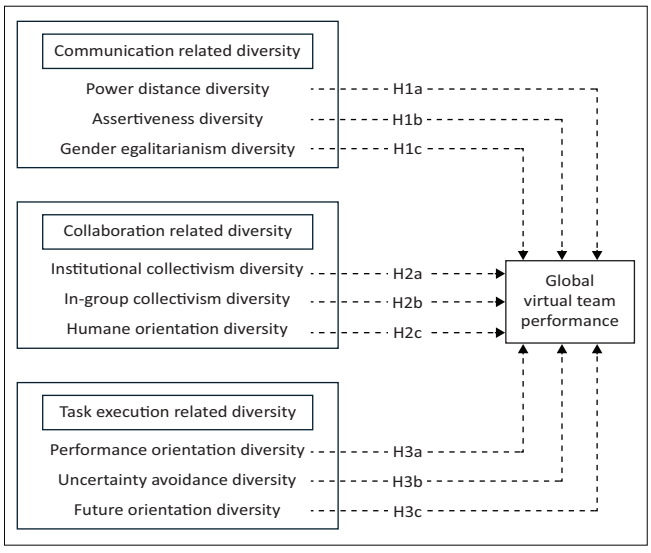


FIGURE 1: Effect of cultural diversity on global virtual team performance.

TABLE 1: Team formation descriptive statistics (N = 254).

Variable	Minimum	Maximum	Mean	SD
Team size	3.00	7.00	5.09	0.61
Average team age	19.00	28.00	22.76	2.67
Age diversity	0.00	3.76	1.38	1.01
Average English score	73.00	100.00	88.16	6.16

SD, standard deviation.

or suffer because of cultural diversity. Measurement of performance in GVTs is often evaluated based on an acceptable specified output (Gheni et al. 2019; Kankanhalli, Tan & Wei 2006). Team performance was based on task-related outcomes, which are the team's overall performance (report marks). Team performance was evaluated by an average of four participating instructors, using the same rubric, and scored on a scale of 1 to 7 where one represented the worst and seven represented the best performance. The average score was used as the team performance score. The score by each instructor was anonymous and could not be traced to the instructor, thus reducing socially desirable scoring. Furthermore, the team reports were coded, so the instructor did not know whose report they were grading.

The participants' home country was used to derive the country-specific cultural dimension score as depicted in the 2004 GLOBE societal culture values and practices study (GLOBE 2016). Where data were not available for certain countries, a proxy was used based on data of countries with characteristics that resemble the country without GLOBE data. The use of proxies is a common practice in business applications (Soares, Farhangmehr & Shoham 2007; Steenkamp 2001). There is empirical support for within-and-between country differences that make nationality an acceptable proxy for culture (Steenkamp 2001). Nations are the main source of their citizens' culture (Hofstede 1991) and nations with a long history have strong forces towards integration.

The proxies used were based on the literature. For instance, Botswana has been found to be culturally similar to Zambia (Van Binsbergen 1995) and Namibia (Denbow & Thebe 2006); hence, a proxy for Botswana cultural dimensions was calculated as an average of the Zambia and Namibia ratings; for Brunei, Malaysia was used as a proxy (Brunei Tourism 2019; Suwannathat-Pian 2012). For countries where GLOBE data are not available for both the country and its proxies, as suggested by the literature, country cluster data from the GLOBE project were used as a proxy. For instance, the literature suggests that Ivory Coast and Ghana are culturally similar (Clignet & Foster 1964), while Grenada is culturally like Trinidad, Tobago, and Jamaica (Pool 1994) but data for any of these are not available on the GLOBE project; only cluster data are available. To illustrate, Ghana is better represented by the sub-Saharan cluster, and averages from the cluster were used. While measures were taken to minimise inflated error rates and bias by using cluster scores or averages, it is acknowledged that measurement errors could not be fully eliminated.

The GLOBE data cultural dimensions measured were in two categories, that is: (1) social practices and (2) social values. Each dimension has a score in each category, resulting in a total of 18 scores. The respective dimensions are: (1) Uncertainty avoidance: The extent to which members of a society seek orderliness, consistency, structure, and formalised procedures; (2) Future orientation: The extent to which members of a society believe that their current actions will influence their future, and look far into the future for assessing the effects of their current actions; (3) Power distance: The degree to which members of a society expect and agree that power should be shared unequally; (4) Collectivist I (institutional collectivism): The level at which a society values and rewards collective action and resource distribution; (5) Humane orientation: Ideas, values and prescriptions for behaviour associated with the dimension of culture at which a society values and rewards altruism, caring, fairness, friendliness, generosity, and kindness; (6) Performance orientation: The level at which a society values and rewards individual performance and excellence; (7) Collectivist II (in-group collectivism): The level at which a society values cohesiveness, loyalty, and pride, in the collective; (8) Gender egalitarianism: The level at which a society values gender equality and lessens role differences based gender; and (9) Assertiveness: A set of social skills or a style of responding amenable to training or as a facet of personality (House et al. 2004).

To operationalise cultural team diversity, a mean deviation score was calculated for each of the variables as follows (Equation 1):

$$Mean\ Deviation = \frac{\sum\left(\left|X - \bar{X}\right|\right)}{n} \quad \text{[Eqn 1]}$$

Where:

- X = country score on a specific cultural dimension (for age diversity, then X = team member's age).
- $\bar{X}$ = team's mean score on a specific cultural dimension (for age diversity, $\bar{X}$ = team's mean age).
- n = number of team members.

This means that highly diverse teams on a specific cultural dimension had a high mean deviation score (maximum of 1) on that cultural dimension while the least diverse teams had the lowest score (possible lowest of 0).

Like related studies such as Crowne (2020) and Presbitero (2020), several control variables were used in the study. To mitigate the influence of factors beyond the primary variables of interest, team size, average English score and team age diversity were controlled for. Team sizes have been found to affect team performance (Kirkman & Shapiro 2005), with larger teams performing poorly while smaller teams performed better (Mockaitis et al. 2012). Hence, the need to control team size to establish that the variability in team performance is from cultural diversity and not team size.

English is the common language of communication and achieving shared tasks within GVTs. Because the GVTs comprise members with various English-language proficiencies, this has been found to have a bearing on their performance (Presbitero 2020). These variations extend beyond the use of different spoken languages to include differences in jargon (Morrison-Smith & Ruiz 2020). As such, because of this established effect of language on team members' performance, there is a need to control such variation effects. Team age was also included as a control variable because of its demonstrated effect on team performance. Williams and O'Reilly (1998) opine that demographic effects are closely intertwined with cultural diversity; hence, they cannot be divorced from their investigations.

Data gathering

Data were gathered through the X-culture project. The X-culture project is one of the largest experiential learning and research initiatives, which brings together graduate and undergraduate students to collaborate in GVTs (Stahl & Maznevski 2021). These multicultural, geographically dispersed teams collaborated through technologically mediated communication to solve real organisational challenges in real time (Taras et al. 2019). The principal author of the article was a collaborator in the project. The sample comprised of 1292 participants who were enrolled in an international marketing module in several higher learning institutions (universities) across 49 countries, constituting 254 multicountry teams.

Data analysis approach

Following the quantitative nature of the study, quantitative analytic techniques were used to analyse data and test the hypothesis posed in the study. These techniques include descriptive (descriptive statistics) and inferential analytic techniques (multiple regression), which are discussed in detail in the following section.

Ethical considerations

The X-culture project was granted exemption by the University of North Carolina Greensboro Office of Research and Compliance (UNCG IRB) under IRB number 11-0260. The exemption was granted on the grounds that the study is conducted in established or commonly accepted educational settings (universities) not involving minors (under the age of 18 years). A written informed consent form was obtained from the participants in the study.

Results

To test the explanatory power of the variables in the study, hierarchical multiple regression analysis (MRA) was employed. Prior to interpreting the results of the MRA, several assumptions were evaluated. Stem-and-leaf plots and box plots indicated the presence of some outliers. The outliers were winsorised (Gignac 2016). This is a process of changing the outlier value to the nearest value that is not an outlier, resulting in no univariate outliers in the data.

The inspection of the normal probability plot of standardised residuals, as well as the scatterplot of standardised residuals against standardised predicted values, indicated that the assumptions of normality, linearity and homoscedasticity of residuals were met. However, the relatively low tolerances for some predictors implied that multicollinearity would interfere with the interpretation of the results. To address the potential problem of multicollinearity, the societal practice and societal value scores of the affected variables ([1] uncertainty avoidance, [2] institutional collectivism, [3] in-group collectivism, [4] power distance, [5] assertiveness, and [6] performance orientation) were combined for an outcome of single composite variables (Allen & Bennett 2012). To illustrate, the uncertainty avoidance societal practices score was combined with the uncertainty avoidance societal values score to yield a composite uncertainty avoidance score. The resulting score measures the specific cultural dimension. A cultural dimension is defined by the values and practices (Javidan et al. 2006), which the composite score accounts for. This resulted in improved tolerance levels, suggesting that the multicollinearity assumption has been met.

The Mahalanobis distance exceeded the χ^2 for degrees of freedom (df) = 16 (at α = 0.001) of 39.252 for any case in the data file, indicating that multivariate outliers were of concern. The multivariate outliers were identified and ignored because their measure of influence (Cook's distance) was found to be extremely low (>0.01). This indicates that the data points do not have undue influence on the regression model's coefficients. There were no influential observations that skew the results.

After some variables were combined to form composite variables, 13 variables were left for further analysis. These include the dependent variable (team performance) and 12 independent variables. Table 2 presents the descriptive statistics for these variables (N = 254). The means for team diversity in the independent variables ranged from 0.12 (SD = 0.06) for human orientation societal values to 0.45 (SD = 0.08) for in-group collectivism. This indicates that the teams had low diversity in human orientation societal values while moderate diversity in the in-group collectivism dimension. The mean for team performance was 4.96 (SD = 0.94). This implies that team performance was above average with low team-performance dispersion.

Pearson's correlation matrix was calculated to check for potential multicollinearity problems (see Table 3). The correlations were below the cut-off point of 0.7. This signifies that the scales have acceptable internal consistency and convergent validity. Specifically, the predictor variables are distinct from one another and provide unique information and shall not cause issues with inflated standard errors.

TABLE 2: Descriptive statistics for the variables.

Cultural dimension	Minimum	Maximum	Mean	SD
Human orientation societal values	0.03	0.26	0.12	0.06
Gender egalitarianism societal practices	0.07	0.29	0.18	0.04
Performance orientation	0.09	0.30	0.18	0.04
Future orientation societal values	0.04	0.36	0.19	0.07
Gender egalitarianism societal values	0.01	0.48	0.23	0.11
Humane orientation societal practices	0.06	0.48	0.27	0.07
Power distance	0.16	0.45	0.27	0.05
Future orientation societal practices	0.13	0.49	0.31	0.07
Institutional collectivism	0.14	0.53	0.33	0.07
Assertiveness	0.14	0.54	0.34	0.08
Uncertainty avoidance	0.13	0.60	0.35	0.08
In-group collectivism	0.24	0.69	0.45	0.08
Team performance	2.30	7.00	4.96	0.94

SD, standard deviation.

To test the hypothesis that cultural diversity can account for a significant proportion of the variance in GVT performance beyond that accounted for by team member age diversity and team size, a hierarchical MRA was employed.

In Step 1 of the hierarchical MRA, team size, average age of team members, average English score, and team age diversity accounted for a significant 5.5% of the variance in team performance, $R^2 = 0.055$, $F(4, 249) = 3.64$, $p < 0.05$. This implies that the control variables collectively explain 5.5% of the differences observed in GVT performance. The remaining 94.5% is explained by other factors not included in this step. The probability of these results happening by chance is less than 5%. Therefore, the control variables are authentic significant predictors of GVT performance. Model 1 shows that structural (team size and team age diversity) and demographic traits (age and English language skills) matter for GVT performance.

In Step 2, 12 cultural diversity variables were added to the regression equation and accounted for an additional 8.9% in GVT performance, $\Delta R^2 = 0.089$, $\Delta F(12, 237) = 2.056$, $p < 0.05$. This indicates that adding cultural diversity variables explained an additional 8.9% of the variance in GVT performance. Specifically, the 12 cultural diversity variables are responsible for about 9% of why some GVTs perform better than others. This is a statistically significant result. Overall, the results show that cultural diversity matters for GVT performance. After controlling for structural and demographic variables in Model 1, cultural diversity variables still have a measurable and meaningful effect on how well GVTs perform.

In combination, the 16 predictor variables explained 14.4% of the variance in GVT performance, $R^2 = 0.144$, adjusted $R^2 = 0.087$, $F(16, 237) = 2.98$, $p < 0.05$. By Cohen's (2013) conventions, a combined effect of this magnitude can be considered 'medium' ($f^2 = 0.168$). The 16 variables successfully predict a statistically significant measure of GVT performance. However, the effect is weaker once adjusted for the larger number of independent variables. Overall, the regression model is statistically significant, implying that the model predicts GVT performance better than chance alone. The independent variables collectively account for 14.4% of the variance of GVT performance. This suggests that 85.6% of the variance is explained by other factors outside the model.

Unstandardised (B) and standardised (β) regression coefficients and squared semipartial (or 'part') correlations (sr^2) for each predictor on each step of the hierarchical MRA are reported in Table 4. As seen in Table 4, the only significant cultural diversity predictor variables of GVT performance were uncertainty avoidance ($sr^2 = 0.018$) and in-group collectivism ($sr^2 = 0.018$). The results show a positive significant association between uncertainty avoidance diversity and GVT performance. This indicates that the more diverse the team make-up is in the uncertainty avoidance dimension, the better the GVTs' performance. On the other hand, the results show a negative significant relationship between in-group collectivism diversity and GVT performance. This implies that the more diverse the team is on the in-group collectivism dimension, the poorer the GVTs' performance would be. In other words, in-group collectivism diversity can hinder GVT performance.

Discussion

While previous research has presented inconclusive effects of cultural diversity on team performance, the results of this study indicate that cultural diversity has a significant effect on GVTs' performance. This is consistent with the optimistic perspective that advances the value of diversity (Mayo et al. 2017). This study is clear on the positive effect of cultural diversity on team performance, albeit with a medium explanatory power. While this study suggests a positive effect of cultural diversity on GVT performance, other studies have been inconclusive, as the direction of the effect could not be determined (Kankanhalli et al. 2006; Shachaf 2008). The issue of cultural diversity and performance continues to be a 'black box', especially because the current results suggest that there are other variables that have a larger influence on GVT performance than cultural diversity. For instance, Taras (2025) found that cultural diversity was less significant in influencing GVT performance as compared to institutional differences, a lack of informal communication, and competing project commitments. Trust has also been found to be a critical mechanism through which communication and collaboration influence performance in teams (Schreiber et al. 2025).

Specifically, GVTs' performance was found to be positively associated with the heterogeneity in uncertainty avoidance, suggesting that GVTs that consist of individuals from cultures that prefer structure and orderliness and those from cultures that embrace uncertainty and thrive in unstructured situations are likely to perform better. In the setup of a GVT where there is a different understanding of accountability, varying values and practices, and even divergent communication styles (Hoch & Dulebohn 2017; Lippert & Dulewicz 2018), then such heterogeneity is likely to help the team to develop a balanced understanding and common practices that would benefit the team. Consistent with these

TABLE 3: Correlation matrix (N = 254).

Variable	1		2		3		4		5		6		7		8		9		10		11		12		13		14		15		16	
Team size	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Average team age	0.055	0.385	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
English score	0.153*	0.014	-0.012	0.851	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Team age diversity	0.055	0.382	0.640**	< 0.001	-0.041	0.519	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Uncertainty avoidance	0.127*	0.043	0.216**	< 0.001	0.094	0.135	0.189**	0.002	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Future orientation societal practices	-0.007	0.916	-0.379**	< 0.001	-0.057	0.363	-0.295**	< 0.001	0.233**	< 0.001	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Power distance	0.053	0.398	0.206**	< 0.001	-0.010	0.873	0.142*	0.023	0.626**	< 0.001	0.288**	< 0.001	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Institutional collectivism	0.055	0.382	0.051	0.415	-0.233**	< 0.001	-0.021	0.739	0.153*	0.015	0.273**	< 0.001	0.209**	< 0.001	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Humane orientation societal practices	0.072	0.254	-0.147*	0.019	-0.124*	0.049	-0.264**	< 0.001	-0.132*	0.036	0.033	0.604	-0.192**	0.002	0.359**	< 0.001	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Performance orientation	0.119	0.059	0.327**	< 0.001	0.085	0.175	0.257**	< 0.001	0.669**	< 0.001	0.238**	< 0.001	0.634**	< 0.001	0.137*	0.029	-0.250**	< 0.001	-	-	-	-	-	-	-	-	-	-	-	-	-	-
In-group collectivism	-0.026	0.675	-0.010	0.874	0.010	0.870	0.037	0.561	0.688**	< 0.001	0.417**	< 0.001	0.629**	< 0.001	0.061	0.335	-0.181**	0.004	0.445**	< 0.001	-	-	-	-	-	-	-	-	-	-	-	-
Gender egalitarianism societal practices	-0.045	0.480	-0.051	0.418	-0.113	0.072	-0.064	0.311	-0.057	0.366	0.189**	0.002	-0.038	0.544	-0.036	0.564	0.228**	< 0.001	0.062	0.327	0.215**	< 0.001	-	-	-	-	-	-	-	-	-	-
Assertiveness	0.009	0.891	0.060	0.342	0.041	0.520	-0.036	0.572	0.232**	< 0.001	-0.193**	0.002	0.168**	0.007	-0.002	0.975	0.273**	< 0.001	0.201**	0.001	0.305**	< 0.001	0.324**	< 0.001	-	-	-	-	-	-	-	-
Future orientation societal values	0.184**	0.003	0.420**	< 0.001	0.093	0.139	0.323**	< 0.001	0.617**	< 0.001	-0.169**	0.007	0.390**	< 0.001	0.061	0.334	-0.032	0.611	0.533**	< 0.001	0.212**	< 0.001	0.001	0.985	0.189**	0.003	-	-	-	-	-	-
Human orientation societal values	0.019	0.762	0.492**	< 0.001	0.000	0.998	0.431**	< 0.001	0.410**	< 0.001	-0.123*	0.050	0.508**	< 0.001	-0.018	0.779	-0.189**	0.003	0.418**	< 0.001	0.435**	< 0.001	0.060	0.340	0.272**	< 0.001	0.143*	0.023	-	-	-	-
Gender egalitarianism societal values	0.109	0.083	0.406**	< 0.001	-0.017	0.791	0.272**	< 0.001	0.046	0.468	-0.452**	< 0.001	0.018	0.772	0.165**	0.009	0.363**	< 0.001	0.142*	0.024	-0.133*	0.035	0.179**	0.004	0.335**	< 0.001	0.490**	< 0.001	0.251**	< 0.001	-	-
Performance	-0.022	0.724	0.210**	< 0.001	0.075	0.235	0.144*	0.022	0.153*	0.015	0.015	0.812	0.106	0.093	-0.034	0.593	-0.098	0.118	0.167**	0.008	-0.016	0.797	-0.120	0.057	-0.040	0.525	0.067	0.288	0.097	0.122	-0.092	0.142

Note: Values in brackets indicate Sig. (2-tailed).

*, Correlation is significant at the 0.05 level (2-tailed); **, Correlation is significant at the 0.01 level (2-tailed).

TABLE 4: Hierarchical regression coefficients (B, β, and sr^2) predicting global virtual team performance.

Variable	B	95% CI	β	sr^2
Step 1				
Team size	-0.070	-0.259, 0.119	-0.045	0.002
Average team member's age	0.105	0.026, 0.184**	0.298	0.026
Average English score	0.012	-0.006, 0.031	0.081	0.006
Team age diversity	-0.094	-0.303, 0.115	-0.101	0.003
Step 2				
Team size	-0.088	-0.278, 0.102	-0.057	0.003
Average team age	0.136	0.044, 0.228**	0.386	0.030
Average English score	0.006	-0.014, 0.025	0.038	0.001
Age diversity	-0.121	-0.339, 0.096	-0.130	0.004
Uncertainty avoidance	3.585	0.437, 6.733*	0.318	0.018
Future orientation societal practices	1.187	-1.487, 3.861	0.092	0.003
Power distance	-0.945	-5.056, 3.166	-0.052	0.001
Institutional collectivism	-1.110	-3.148, 0.928	-0.082	0.004
Humane orientation societal practices	0.412	-2.145, 2.969	0.029	0.001
Performance orientation	2.649	-3.094, 8.393	0.104	0.003
In-group collectivism	-3.304	-6.177, -0.431*	-0.266	0.018
Gender egalitarianism societal practices	-1.048	-4.467, 2.371	-0.046	0.001
Assertiveness	0.352	-1.553, 2.257	0.030	0.001
Future orientation societal values	-1.577	-4.674, 1.520	-0.123	0.004
Human orientation societal values	0.053	-3.291, 3.396	0.003	0.001
Gender egalitarianism societal values	-1.393	-3.142, 0.356	-0.168	0.009

Note: B = unstandardised regression coefficient; β = standardised regression coefficient; sr^2 = squared semipartial correlation, representing the unique variance explained by each predictor. Positive coefficients indicate a positive relationship with global virtual team performance.

CI, confidence interval.

*, $p < 0.05$; **, $p < 0.001$.

results, high-performing GVTs have been found to be risk-averse (not leaving anything to chance when making decisions and taking time to consider all possible options, etc.), flexible in behaviour (change behaviour depending on who they interact with), communicate in a direct and precise way, use indirect language to avoid confrontation, etc. (Lippert & Dulewicz 2018). These characteristics are consistent with a heterogeneous team on the uncertainty avoidance dimension. Furthermore, Zakaria and Muton (2022) found that GVT members from high context cultures tend to switch their behaviours to accommodate effective collaboration and knowledge sharing with team members from other cultures. This cements the finding that heterogeneity in uncertainty avoidance is likely to positively influence GVT performance.

Another cultural dimension whose diversity was found to have a significant effect on GVT performance was in-group collectivism, albeit a negative effect. This implies that diversity in the in-group collectivism dimension is likely to reduce GVT performance. This is consistent with Mockaitis et al. (2012) who found that collectivist orientation was favourable for GVT performance as well as Lin, Standing and Liu's (2008) conclusion that cohesion affected GVTs' performance. Lippert and Dulewicz, (2018) also found high-performing GVTs to comprise members that are benevolent, put themselves in others' shoes, and perceive their service as valuable to the team. These are characteristics consistent with in-group collectivism.

Limitations and future research

Although this study advances understanding of the effects of cultural diversity on team performance using the rarely applied GLOBE framework, the results should be considered with notable limitations, which could enhance further research in the area. Studies differ in the operationalisation and conceptualisation of cultural value dimensions, diversity and performance or effectiveness (Woehr et al. 2013). Particularly, the use of the home country as a proxy for cultural dimensions can be problematic because other research has cautioned against its use because of in-country variances.

The subjects in the study were graduate and undergraduate students; however, the use of student samples in research has often attracted criticism (Taras et al. 2019). Future studies could involve diverse samples such as corporates to enhance the insights by comparing the outcomes with other populations. Considering that GVTs are inherently multilevel, involving individuals who are nested in teams, organisations and nations (Taras et al. 2019), future studies could contribute a multilevel perspective that explores the differences because of individual, team and contextual factors.

This study raises further research avenues for enhancing understanding of team performance and cultural diversity. Further research in this area should consider looking into a comparison of the results when using different cultural frameworks. Because team performance was measured according to the project marks that were allocated by instructors, it would be interesting to expand an analysis of whether national culture influences their evaluations of performance.

Conclusion

The purpose of this article was to understand the effect of cultural diversity on GVT performance. The study used GLOBE dimensions of culture. The results show that two cultural dimensions are likely to influence the performance of a GVT: (1) uncertainty avoidance and (2) in-group collectivism. However, the influence of these dimensions on GVT performance is not uniform.

Precisely, the more heterogeneous the teams were in the uncertainty avoidance dimension, the more likely the team was to perform better in their assigned task. This is not entirely surprising, considering that uncertainty avoidance is the extent to which members of a society seek orderliness, consistency, structure, and formalised procedures (House et al. 2004) and literature suggests that teams that perform well have a balance of these traits (Lippert & Dulewicz 2018). Therefore, in line with this finding, it is important for firms to have hybrid frameworks that offer a balance between highly structured functional standards and safe unstructured areas for innovation. A balanced framework provides stability of planned key performance areas to be achieved while allowing the team the space to determine

how to achieve the targets within set limits. Team members who are high on uncertainty avoidance require psychological security to effectively contribute to the team without fear of making mistakes, which is offered by the documented standards, while members who are low on uncertainty avoidance creatively focus on how to achieve the end goal. Typically, members from societies that are low on uncertainty avoidance are given more room to explore; however, they are managed not to 'over-explore' through the set limits.

Lastly, in-group collectivism diversity was found to be negatively associated with GVT performance. This is also not surprising because in-group collectivism is the extent to which a society values cohesiveness, loyalty, and pride in the collective. Thus, if there is diversity in this dimension, then there will be little team cohesiveness, and members will not feel proud of being part of the collective. Literature has also suggested that collectivism enhances team performance (Lippert & Dulewicz 2018). Hence, following this finding, it is important to have a unified team. Deliberate management actions are required to align shared goals and individual responsibility to build a basis where team members feel collective responsibility for achieving team results. Specifically, each team member should understand the overarching purpose of the team and how each member's role is dependent on the others for the team to achieve its purpose. Furthermore, each member should feel psychologically safe to contribute to debates and be vulnerable. Team members should be clear that healthy debates, tension, and diverse perspectives are necessary to enhance team performance.

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Competing interests

The authors, Tendy M. Matenge and Tshegofatso A. Monkge, declare that they have no financial or personal relationships that may have inappropriately influenced them in writing this article.

CRediT authorship contribution

Tendy M. Matenge: Conceptualisation, Data curation, Formal analysis, Investigation, Methodology, Project administration, Supervision, Validation, Visualisation, Writing – original draft, Writing – review & editing. Tshegofatso A. Monkge: Validation, Writing – original draft, Writing – review & editing. All authors reviewed the article, contributed to the discussion of results, approved the final version for submission and publication, and take responsibility for the integrity of its findings.

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Data availability

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References

Adamovic, M., 2018, 'An employee-focused human resource management perspective for the management of global virtual teams', *The International Journal of Human Resource Management* 29(14), 2159–2187. https://doi.org/10.1080/09585192.2017.1323227

Allen, P. & Bennett, K., 2012, *SPSS Statistics: A practical guide*, 1st edn., Cengage Learning, Melbourne.

Beugelsdijk, S., Kostova, T. & Roth, K., 2017, 'An overview of Hofstede-inspired country-level culture research in international business since 2006', *Journal of International Business Studies* 48(1), 30–47. https://doi.org/10.1057/s41267-016-0038-8

Brewer, P. & Venaik, S., 2014, 'The ecological fallacy in national culture research', *Organization Studies* 35(7), 1063–1086. https://doi.org/10.1177/0170840613517602

Brunei Tourism, 2019, *Brunei culture*, ASEAN-China Centre, Beijing.

Butler, C.L., Minbaeva, D., Mäkelä, K., Maloney, M.M., Nardon, L., Paunova, M. et al., 2018, 'Towards a strategic understanding of global teams and their HR implications: An expert dialogue', *The International Journal of Human Resource Management* 29(14), 2209–2229. https://doi.org/10.1080/09585192.2018.1428720

Chevrier, S., 2003, 'Cross-cultural management in multinational project groups', *Journal of World Business* 38(2), 141–149. https://doi.org/10.1016/S1090-9516(03)00007-5

Chutnik, M. & Grzesik, K., 2009, 'Leading a virtual intercultural team: Implications for virtual team leaders', *Journal of Intercultural Management* 1(1), 82–90.

Clignet, R. & Foster, P., 1964, 'Potential elites in Ghana and the Ivory Coast a preliminary comparison', *American Journal of Sociology* 70(3), 349–362. https://doi.org/10.1086/223845

Cohen, J., 2013, *Statistical power analysis for the behavioral sciences*, 2nd edn., Routledge, New York, NY.

Crowne, K.A., 2020, 'Does national culture influence peer evaluations on global virtual teams?', *Journal of Teaching in International Business* 31(3), 191–213. https://doi.org/10.1080/08975930.2020.1831421

Cuhadar, S. & Rudnák, I., 2022, 'Link between cultural dimensions and leadership styles of organizational managers in Turkey context of Hofstede and GLOBE studies', *Studia Mundi – Economica* 9(4), 88–103. https://doi.org/10.18531/STUDIA.MUNDI.2022.09.04.88-103

Denbow, J. & Thebe, P., 2006, *Culture and customs of Botswana*, T. Falola (ed.), Greenwood Press, Westport, Connecticut.

El Hilali, Z. & Benyahia, M., 2026, 'Implications of Hofstede's cultural dimensions for effective virtual team leadership', *Qlantic Journal of Social Sciences* 7(1), 297. https://doi.org/10.55737/qjss.vii-i.26471

Fong Boh, W., Nguyen, T.T. & Xu, Y., 2013, 'Knowledge transfer across dissimilar cultures', *Journal of Knowledge Management* 17(1), 29–46. https://doi.org/10.1108/13673271311300723

Froese, F.J., Blay, T., Gibson, C.B., Shaffer, M.A. & Benitez, J., 2025, 'Global virtual work: A review, integrative framework, and future research opportunities', *Journal of International Business Studies* 56(6), 691–719. https://doi.org/10.1057/S41267-025-00775-1

Gheni, A.Y., Jusoh, Y., Jabbar, M.A., Mohd Ali, N., Shanmugam, M. & Yousif, H.A., 2019, 'Measuring the performance of the virtual teams in global software development projects', *Journal of Information Technology Management* 11(1), 43–59. https://doi.org/10.22059/JITM.2019.73269

Gignac, G., 2016, *Dealing with an outlier – Winsorize*, *How2Stats*, viewed 17 July 2026, from https://www.youtube.com/watch?v=WJuB0vZp6w4.

Gilson, L.L., Maynard, M.T., Young, N.C.J., Vartiainen, M. & Hakonen, M., 2015, 'Virtual teams research: 10 years, 10 themes, and 10 opportunities', *Journal of Management* 41(5), 1313–1337. https://doi.org/10.1177/0149206314559946

GLOBE, 2016, *An overview of the 2004 study: Understanding the relationship between national culture, societal effectiveness and desirable leadership attributes, GLOBE 2020*, viewed 17 July 2026, from https://globeproject.com/study_2004_2007.html.

Han, S.J. & Beyerlein, M., 2016, 'Framing the effects of multinational cultural diversity on virtual team processes', *Small Group Research* 47(4), 351–383. https://doi.org/10.1177/1046496416653480

Hoch, J.E. & Dulebohn, J.H., 2017, 'Team personality composition, emergent leadership and shared leadership in virtual teams: A theoretical framework', *Human Resource Management Review* 27(4), 678–693. https://doi.org/10.1016/j.hrmr.2016.12.012

Hofstede, G., 1980, *Culture's consequences: International differences in work-related values*, Sage, Beverly Hills, CA.

Hofstede, G., 1984, *Culture's consequences: International differences in work-related values*, p. 327, Sage, Beverly Hills, CA, viewed 15 July 2026, from https://books.google.com/books/about/Culture_s_Consequences.html?id=Cayp_Um4O9gC.

Hofstede, G., 1991, *Cultures and organisations: Software of the mind*, McGraw Hill Higher Education, New York, NY.

Horwitz, S.K. & Horwitz, I.B., 2007, 'The effects of team diversity on team outcomes: A meta-analytic review of team demography', *Journal of Management* 33(6), 987–1015. https://doi.org/10.1177/0149206307308587

House, R.J., Hanges, P.J., Javidan, M., Dorfman, P.W. & Gupta, V., 2004, *Culture, leadership, and organizations: The GLOBE study of 62 societies*, Sage, California.

Hsu, S.-Y., Woodside, A.G. & Marshall, R., 2013, 'Critical tests of multiple theories of cultures' consequences', *Journal of Travel Research* 52(6), 679–704. https://doi.org/10.1177/0047287512475218

Jarvenpaa, S.L. & Leidner, D.E., 1999, 'Communication and trust in global virtual teams', *Organization Science* 10(6), 791–815. https://doi.org/10.1287/orsc.10.6.791

Javidan, M., House, R., Dorfman, P., Hanges, P.J. & De Luque, M.S., 2006, 'Conceptualizing and measuring cultures and their consequences: A comparative review of GLOBE's and Hofstede's approaches', *Journal of International Business Studies* 37(6), 897–914. https://doi.org/10.1057/palgrave.jibs.8400234

Kankanhalli, A., Tan, B.C.Y. & Wei, K.-K., 2006, 'Conflict and performance in global virtual teams', *Journal of Management Information Systems* 23(3), 237–274. https://doi.org/10.2753/MIS0742-1222230309

Kargina, M., 2025, 'Cultural differences in global virtual teams: Mapping knowledge and identifying research directions', *Journal of Management & Organization* 31(6), 3054–3074. https://doi.org/10.1017/jmo.2023.41

Killingsworth, B., Xue, Y. & Liu, Y., 2016, 'Factors influencing knowledge sharing among global virtual teams', *Team Performance Management* 22(5/6), 284–300. https://doi.org/10.1108/TPM-10-2015-0042

Kirkman, B. & Shapiro, D., 2005, 'The impact of cultural value diversity on multicultural team performance', in *Managing multinational teams: Global perspectives*, pp. 33–67, Elsevier, Leeds.

Krawczyk-Bryłka, B., 2016, 'Intercultural challenges in virtual teams', *Journal of Intercultural Management* 8(3), 69–85. https://doi.org/10.1515/joim-2016-0017

Lin, C., Standing, C. & Liu, Y.-C., 2008, 'A model to develop effective virtual teams', *Decision Support Systems* 45(4), 1031–1045. https://doi.org/10.1016/j.dss.2008.04.002

Lippert, H. & Dulewicz, V., 2018, 'A profile of high-performing global virtual teams', *Team Performance Management: An International Journal* 24(3/4), 169–185. https://doi.org/10.1108/TPM-09-2016-0040

Lurey, J.S. & Raisinghani, M.S., 2001, 'An empirical study of best practices in virtual teams', *Information & Management* 38(8), 523–544. https://doi.org/10.1016/S0378-7206(01)00074-X

Mayo, M., Kakarika, M., Mainemelis, C. & Deuschel, N.T., 2017, 'A metatheoretical framework of diversity in teams', *Human Relations* 70(8), 911–939. https://doi.org/10.1177/0018726716679246

Minkov, M. & Hofstede, G., 2012, 'Is national culture a meaningful concept?', *Cross-Cultural Research* 46(2), 133–159. https://doi.org/10.1177/1069397111427262

Mockaitis, A.I., Rose, E.L. & Zettinig, P., 2012, 'The power of individual cultural values in global virtual teams', *International Journal of Cross Cultural Management* 12(2), 193–210. https://doi.org/10.1177/1470595812439868

Morrison-Smith, S. & Ruiz, J., 2020, 'Challenges and barriers in virtual teams: A literature review', *SN Applied Sciences* 2(6), 1096. https://doi.org/10.1007/s42452-020-2801-5

Nadeem, S. & Sully de Luque, M.F., 2020, 'Developing an understanding of the human resource (HR) complexities in Pakistan with a GLOBE cultural lens', *Journal of Management & Organization* 26(4), 483–501. https://doi.org/10.1017/jmo.2017.79

Owusu Ansah, M. & Louw, L., 2019, 'The influence of national culture on organizational culture of multinational companies', *Cogent Social Sciences* 5(1), 1623648. https://doi.org/10.1080/23311886.2019.1623648

Pieterse, A.N., Van Knippenberg, D. & Van Dierendonck, D., 2012, 'Cultural diversity and team performance: The role of team member goal orientation', *Academy of Management Journal* 56(3), 782–804. https://doi.org/10.5465/AMJ.2010.0992

Pool, G.R., 1994, 'Culture, language and revolution in Grenada', *Anthropologica* 36(1), 73. https://doi.org/10.2307/25605753

Presbitero, A., 2020, 'Foreign language skill, anxiety, cultural intelligence and individual task performance in global virtual teams: A cognitive perspective', *Journal of International Management* 26(2), 100729. https://doi.org/10.1016/j.intman.2019.100729

Schreiber, E., Van Dijk, D. & Drory, A., 2025, 'The effect of cultural diversity on employees' trust in their teammates: Transformational leadership as a moderator', *Leadership & Organization Development Journal* 46(4), 593–611. https://doi.org/10.1108/LODJ-10-2024-0661

Schwartz, S.H., 1992, 'Universals in the content and structure of values: Theoretical advances and empirical tests in 20 countries', *Advances in Experimental Social Psychology* 25(C), 1–65. https://doi.org/10.1016/S0065-2601(08)60281-6

Shachaf, P., 2008, 'Cultural diversity and information and communication technology impacts on global virtual teams: An exploratory study', *Information & Management* 45(2), 131–142. https://doi.org/10.1016/j.im.2007.12.003

Shi, X. & Wang, J., 2011, 'Interpreting Hofstede Model and GLOBE Model: Which way to go for cross-cultural research?', *International Journal of Business and Management* 6(5), 93. https://doi.org/10.5539/ijbm.v6n5p93

Singh, S., Darwish, T.K. & Potočnik, K., 2016, 'Measuring organizational performance: A case for subjective measures', *British Journal of Management* 27(1), 214–224. https://doi.org/10.1111/1467-8551.12126

Soares, A.M., Farhangmehr, M. & Shoham, A., 2007, 'Hofstede's dimensions of culture in international marketing studies', *Journal of Business Research* 60(3), 277–284. https://doi.org/10.1016/j.jbusres.2006.10.018

Stahl, G.K., Maznevski, M., Voigt, A. & Jonsen, K., 2010, 'Unraveling the effects of cultural diversity in teams: A meta-analysis of research on multicultural work groups', *Journal of International Business Studies* 41(4), 690–709. https://doi.org/10.1057/jibs.2009.85

Stahl, G.K. & Maznevski, M.L., 2021, 'Unraveling the effects of cultural diversity in teams: A retrospective of research on multicultural work groups and an agenda for future research', *Journal of International Business Studies* 52(1), 4–22. https://doi.org/10.1057/s41267-020-00389-9

Steenkamp, J.E.M., 2001, 'The role of national culture in international marketing research', *International Marketing Review* 18(1), 30–44. https://doi.org/10.1108/02651330110381970

Suwannathat-Pian, K., 2012, 'Review of Brunei: Traditions of monarchic culture and history R. H. Hickling's Memorandum upon the Brunei constitutional history and practice Brunei historical document series 1 by B. A. Hussainmiya, Nicholas Tarling', *Journal of the Malaysian Branch of the Royal Asiatic Society* 85(302), 109–111. https://doi.org/10.1353/ras.2011.0035

Taras, V., 2025, 'The barriers to global virtual team effectiveness: Expectations vs. reality', *Organizational Dynamics* 54(3), 101144. https://doi.org/10.1016/J.ORGDYN.2025.101144

Taras, V., Baack, D., Caprar, D., Dow, D., Froese, F., Jimenez, A. et al., 2019, 'Diverse effects of diversity: Disaggregating effects of diversity in global virtual teams', *Journal of International Management* 25(4), 100689. https://doi.org/10.1016/j.intman.2019.100689

Tavoletti, E., Bernhard, T., Dong, L. & Taras, V., 2023, 'Peer performance evaluations in global virtual teams: A longitudinal analysis of surface- and deep-level attributes', *Journal of International Management* 29(3), 101029. https://doi.org/10.1016/j.intman.2023.101029

Tavoletti, E., Stephens, R.D., Taras, V. & Dong, L., 2022, 'Nationality biases in peer evaluations: The country-of-origin effect in global virtual teams', *International Business Review* 31(2), 101969. https://doi.org/10.1016/j.ibusrev.2021.101969

Van Binsbergen, W., 1995, 'Aspects of democracy and democratisation in Zambia and Botswana: Exploring African political culture at the Grassroots', *Journal of Contemporary African Studies* 13(1), 3–33. https://doi.org/10.1080/02589009508729561

Williams, K. & O'Reilly, C., 1998, 'The complexity of diversity: A review of forty years of research', *Research in Organizational Behavior* 21, 77–140.

Woehr, D.J., Arciniega, L.M. & Poling, T.L., 2013, 'Exploring the effects of value diversity on team effectiveness', *Journal of Business and Psychology* 28(1), 107–121. https://doi.org/10.1007/s10869-012-9267-4

Zakaria, N., Amelinckx, A. & Wilemon, D., 2004, 'Working together apart? Building a knowledge-sharing culture for global virtual teams', *Creativity and Innovation Management* 13(1), 15–29. https://doi.org/10.1111/j.1467-8691.2004.00290.x

Zakaria, N. & Muton, N.R., 2022, 'Cultural code-switching in high context global virtual team members: A qualitative study', *International Journal of Cross Cultural Management* 22(3), 487–515. https://doi.org/10.1177/14705958221137256