



## Trust and knowledge sharing in diverse global virtual teams

Praveen Pinjani<sup>a,\*</sup>, Prashant Palvia<sup>b,1</sup>

<sup>a</sup> Department of Business Administration, College of Business, Delaware State University, 1200 N. Dupont Highway, Dover, DE 19901, USA

<sup>b</sup> Joe Rosenthal Excellence Professor of Information Systems and Operations Management and Director, McDowell Research Center for Global IT Management, Information Systems and Operations Management, Bryan School of Business and Economics, The University of North Carolina at Greensboro, Greensboro, NC 27402-6165, USA

### ARTICLE INFO

#### Article history:

Received 29 November 2010

Received in revised form 3 October 2012

Accepted 29 October 2012

Available online 28 February 2013

#### Keywords:

Global virtual teams

Knowledge sharing

Mutual trust

Collaborative technology

### ABSTRACT

Global virtual teams (GVTs) allow organizations to improve productivity, procure global knowledge, and transfer *best practice* information instantaneously among team members. GVTs rely heavily on IT and have little face-to-face interaction, thereby increasing problems resulting from geographic barriers, time language, and cultural differences, and inter-personal relationships. The purpose of our study was to design a normative framework that would assist organizations in understanding the relationship between diversity, mutual trust, and knowledge sharing among GVTs, with additional focus on understanding the moderating impact of collaborative technology and task characteristics. Empirical data was collected from 58 GVTs and analyzed using a Hierarchical Multiple Regression technique. Results showed that in GVTs, deep level diversity has a more significant relationship with team processes of mutual trust and knowledge sharing than visible functional level diversity. This relationship is moderated by the collaborative capabilities of available technology and levels of interdependence of the task. Furthermore, knowledge sharing and mutual trust mediate the relationship between diversity levels and team effectiveness.

© 2013 Elsevier B.V. All rights reserved.

### 1. Introduction

Global virtual teams (GVTs) are groups that (a) are identified by their organizations and group members as being a team; (b) are responsible for making and implementing decisions important to the organization's strategy [8]; (c) use technology-supported communication more than face-to-face communication; and (d) work and live in different countries. Compared to virtual and co-located traditional teams, GVTs connect people across organizational units whose policies, systems, and structures may not mesh together easily. They involve people from multiple disciplines, functions, location, and culture; organizations work together on specific opportunities. Also, their major use of electronic medium is to aid the GVTs; team members must operate quickly and effectively and this requires high levels of technological support. Technology has therefore become absolutely critical for GVTs in carrying out their basic team functions: communicating, decision-making, learning, collaborating, and managing knowledge.

GVTs allow organizations to improve efficiency and productivity, procure global expert knowledge from internal and external sources, and provide best practice information nearly

instantaneously. GVTs thus have little face-to-face (F2F) interaction and are seen as a new form of organizational structure [26]: they cut across organizational and national cultures and functional areas, increasing team diversity which may result in less effective performance.

While GVTs offer an expanded range of benefits, their implementation is at risk if organizations fail to address the many challenges they present [23]. Challenges are caused by distance and time zone changes, by language and cultural differences, by adoption and implementation of technology, by member interaction, and by a lack of trust and shared understanding among the team members. Project failures have been reported and calls for better understanding of GVT problems have been made.

Three areas must be considered when designing a collaborative GVT environment: *people, process, and technology*. Members of the GVT have no history of working together and may lack the skills needed to work effectively with people of different cultures, working in different time zones, and using incompatible systems. Members who are not competent in using new technologies present further challenges to team performance and member satisfaction [3]. Recent literature in GVT highlights the importance of relationship building, cohesion, and trust as processes that foster team effectiveness. GVTs also face significant difficulty in achieving such processes. To date, the majority of virtual team research has focused on conflict, interpersonal trust, group and individual identity, and group cohesiveness [16]. Little empirical

\* Corresponding author. Tel.: +1 302 857 6929; fax: +1 302 857 6927.

E-mail addresses: [ppinjani@desu.edu](mailto:ppinjani@desu.edu) (P. Pinjani), [pccpalvia@uncg.edu](mailto:pccpalvia@uncg.edu) (P. Palvia).

<sup>1</sup> Tel.: +1 336 334 4818; fax: +1 336 334 5580.

research has explored the socio-emotional processes inherent in the virtual work environment. Models that could be used to understand better team development and effectiveness have been limited to those based on the traditional co-located teams.

GVTs can potentially bring together people with knowledge and perspectives from different parts of the world to meet their objectives. But problems are complicated, because team members may be unwilling to share knowledge, and lack trust that their knowledge will be “stolen” and used by potential competitors. For teams unable to establish a shared knowledge base, problems include a failure to communicate, difficulty in understanding the importance of information, and difficulty in interpreting the meaning of silence by others [6]. Compared to FTF interaction, GVT members find it hard to establish trust in a new working relationship: it is also difficult to assess teammates’ trustworthiness without ever having met.

Although various technologies offer many benefits, technological differences can result in delayed communication, frustration, and with decreased productivity and effectiveness. Thus the purpose of our study was to design a normative framework to assist organizations in understanding trust and knowledge sharing among diverse GVTs, with a focus on understanding the impact of task interdependence.

## 2. Literature review

### 2.1. GVT diversity

Considerable research has been conducted to understand the differences in the performance of diverse teams compared to their homogenous counterparts [5]. Perhaps the greatest problem facing GVT is in understanding the relationships between team members; developing cohesion among them is a challenge. Thus a growing body of research addresses the issues of improving collaboration between members of a GVT [20].

Diversity poses both opportunities and threats and empirical findings about team outcomes and performance are mixed [11]. Organizational scholars considering the link between diversity and performance have generally concluded that the relationship is neither simple nor direct. In some studies, diverse teams outperformed homogeneous teams by bringing a broader array of knowledge and experience to the group, while in other situations homogeneous teams performed better by avoiding conflicts and communication problems. If managed properly, team heterogeneity can create significant operational synergy, but mismanaged team diversity can be an impediment by causing intra-group conflict, miscommunication, and lack of trust.

Diversity due to demographic differences such as age, sex, or race, is termed *surface level diversity*, whereas diversity due to personal characteristics, such as idiosyncratic attitudes, values, and preferences are termed *deep-level diversity* [27]. A third form of diversity termed *functional diversity* is the extent to which team members differ in their functional background. In this, the underlying assumption is that different functional backgrounds result in non-overlapping knowledge and expertise, resulting in team members having a larger knowledge base on which they can draw in making decisions and taking actions.

Prior research has found that in contexts that reduce the effects of surface level diversity, deep level diversity has a strong effect [15]. The literature points out that GVTs offer the opportunity to overcome surface level and demographic diversity as most communication and interaction takes place through electronic media. However, because of GVTs dispersed nature and inherent membership diversity, *overall diversity* has a significant impact on GVT performance and outcome. Harrison and Klein [10] noted that, although the different types of diversity are qualitatively and

distinctively different, they may be linked over time. However, we know of no empirical research that exists to validate such relationships.

### 2.2. Mutual trust

Trust, the positive and confident expectation of the behavior of another party, is a vital quality for effective virtual teams and online exchanges [19]. Trust in a team context has been defined as the degree of confidence of team members in one another. For GVT, the risk of potential misunderstanding and mistrust is heightened [30]. GVTs develop a “swift” form of trust but it is very fragile and temporal; however, trust amongst group members may be improved through social communication that complements rather than substitutes task communication. Trust and team performance are apparently positively correlated with effective communication among members.

### 2.3. Shared knowledge

The intellectual power of a virtual team is in its diffused expertise and ability to blend different experiences to create shared knowledge. When individuals work within a GVT, they can utilize others’ knowledge as well as develop their own [9]. The more effective their knowledge sharing, the better it they can perform their tasks [13]. Shared knowledge in team settings occurs through joint training and by experience gained through problem-solving among members. When shared knowledge is incomplete, individuals’ interrelate less. When team members are unable to interrelate, knowledge integration is less likely to occur. Efficiently managed team knowledge has a positive influence on the success of the team’s project [2].

### 2.4. Collaborative technology

The technology used by GVT is important, as media richness has been found to impact team effectiveness, efficiency, level of communication, relationships among team members, and team commitment [29]. Effective ICT increases the positive impact of diversity and mitigates the negative effects of cultural diversity. Prior research has found that technology can improve interpersonal processes like socialization [1] and reduce conflict.

Recently Sarker et al. [25] developed a model of technology adoption by groups based on a *valence* perspective. Based on this, they proposed that group supportability may be assessed by determining how technology can increase parallelism, transparency, and sociality within the group.

### 2.5. Task interdependence

This can be defined as the degree to which completing a task requires the interaction of team members. Several researchers have argued that the degree of task interdependence has a substantial effect on team processes and outcomes; it moderates the relationship between team diversity and team performance by influencing team member interaction and coordination. The role of task design and its impact on team performance has been investigated resulting in a belief that task differences moderate the relationships between team inputs, processes, and outputs.

Recently, the focus has been on treating diversity as a single construct without understanding the various facets of diversity, and without looking at the effects of functional level and deep-level diversity. Much of the research has also ignored the effect of building relationships on trust and knowledge sharing among team members. Overall, research on GVT is fragmented and much

متن کامل مقاله

دریافت فوری ←

**ISI**Articles

مرجع مقالات تخصصی ایران

- ✓ امکان دانلود نسخه تمام متن مقالات انگلیسی
- ✓ امکان دانلود نسخه ترجمه شده مقالات
- ✓ پذیرش سفارش ترجمه تخصصی
- ✓ امکان جستجو در آرشیو جامعی از صدها موضوع و هزاران مقاله
- ✓ امکان دانلود رایگان ۲ صفحه اول هر مقاله
- ✓ امکان پرداخت اینترنتی با کلیه کارت های عضو شتاب
- ✓ دانلود فوری مقاله پس از پرداخت آنلاین
- ✓ پشتیبانی کامل خرید با بهره مندی از سیستم هوشمند رهگیری سفارشات