

## Chapter XXVII

# Instrumental and Social Influences on Adoption of Collaborative Technologies in Global Virtual Teams

**Andre L. Araujo**  
*College of William & Mary, USA*

### ABSTRACT

*Recent advances in Web-based technologies along with investments in international outsourcing and offshore locations have unquestionably increased the importance of global virtual teams. However, because global virtual teams have their members dispersed in different countries and rely extensively on electronic communication to exchange information, complete tasks, and coordinate activities, their implementation is accompanied by challenges beyond those found in traditional teams whose members often meet face-to-face in the same cultural context. One such challenge has to do with cross-cultural collaboration. Although there is a sense that collaborative technologies offer the essential tools for supporting collaboration, it is unknown whether virtual members will actually adopt collaborative technologies in a cross-cultural setting. To gain knowledge about this potential endemic aspect of cross-cultural teamwork, one needs to examine the factors that influence the adoption of collaborative technologies in global virtual teams. Drawing on the work of organizations, cognitive theory, and information systems researchers, this study offers a framework that describes the key components underlying collaborative technology adoption in global virtual teams by integrating both social and instrumental aspects of group work.*

## INTRODUCTION

Recent advances in **Web-based technologies** along with investments in international outsourcing and offshore locations have unquestionably increased the importance of global virtual teams. This flatter and more team-based form of organizational work allows managers of globally dispersed teams to assemble individuals of differing expertise who are not physically and locally available. However, because global virtual teams have members dispersed in different countries and rely extensively on **electronic communication** to exchange information, complete tasks, and coordinate activities, their implementation is accompanied by challenges beyond those found in **traditional teams** whose members often meet face-to-face and in the same cultural context (Kankanhalli, Tan, & Wei, 2007; Maznevski & Chudoba, 2000). One such challenge has to do with cross-cultural collaboration. When working in global virtual teams, cultural values, beliefs, and behaviors of team members may be so different and disparate that they can hurt cooperation and ultimately result in lowered levels of collaborative technology adoption. Thus, although there is a sense that collaborative technologies offer the essential tools for supporting globally distributed teamwork, it is unknown whether virtual members will actually adopt such technologies (Munkvold, 2005; Quresha et al., 2006; Rutkowski, Vogel, van Genuchten, Bemelmans, & Favier, 2002; Saunders, Van Slyke, & Vogel, 2004). This study addresses some of these issues.

Drawing on the work of organizations, cognitive theory, and information systems researchers, this study offers an integrated framework that describes the key components underlying the adoption of collaborative technologies in global virtual teams by integrating both the social and instrumental aspects of teamwork. The framework advances research by examining the following question: ***What are the factors that influence collaborative technology adoption in global***

*virtual teams?* The next section discusses the background of this research. Then, the following section presents the focus of the paper followed by a discussion of the framework and its propositions. The final section discusses the main contributions of this study.

## RESEARCH BACKGROUND

Organizational theorists (e.g., March & Simon, 1957; Rogers, 1995) and MIS scholars (e.g., Daft & Lengel, 1984; Fulk, Schmitz, & Steinfield, 1990; Karahanna, 1999; Zmud, Lind, & Young, 1990) have long been concerned with the understanding of IT adoption. Two major schools of thought have offered alternative views on this topic: a) the **instrumental school** and b) the **social constructionist school**. Typically, models rooted in the instrumental school suggest that technology directly and positively influences organizational productivity as long as people objectively (or rationally) evaluate and select the technology best aligned to their skills and the requirements of the task. While this view has yielded extensive literature on IT adoption, the social constructionist school argues that such technological determinism fails to recognize that “behavior occurs in a very social world which is far from neutral in its effects” (Fulk et al., 1990, p. 117). In other words, IT adoption is not always as simple and rational as it could be because it is a complex, subjective, and evolving process that is subject to social influences. The **social constructionist view** suggests that people’s subjective interpretations of their work, the organization, and technology help determine IT adoption. While each of these two schools offers important analytical tools with which to examine technology adoption in organizations, recent theorizations suggest that, in the real world, both instrumental and social aspects of teamwork coexist, making them difficult to distinguish (Fulk, 1993). In other words, social behaviors and subjective interpretations, as

7 more pages are available in the full version of this document, which may be purchased using the "Add to Cart" button on the publisher's webpage:

[www.igi-global.com/chapter/instrumental-social-influences-adoption-collaborative/20188](http://www.igi-global.com/chapter/instrumental-social-influences-adoption-collaborative/20188)

## Related Content

---

### Socio-Technical Influences on Virtual Research Environments

Marisa Ponti (2010). *International Journal of e-Collaboration* (pp. 33-44).

[www.irma-international.org/article/socio-technical-influences-virtual-research/42101](http://www.irma-international.org/article/socio-technical-influences-virtual-research/42101)

### Interactivity Redefined for the Social Web

V. Sachdev, S. Nerur and J. T.C. Teng (2010). *Handbook of Research on Social Interaction Technologies and Collaboration Software: Concepts and Trends* (pp. 586-600).

[www.irma-international.org/chapter/interactivity-redefined-social-web/36063](http://www.irma-international.org/chapter/interactivity-redefined-social-web/36063)

### Analyzing Communal Tag Relationships for Enhanced Navigation and User Modeling

Edwin Simpson and Mark H. Butler (2009). *Collaborative and Social Information Retrieval and Access: Techniques for Improved User Modeling* (pp. 43-64).

[www.irma-international.org/chapter/analyzing-communal-tag-relationships-enhanced/6636](http://www.irma-international.org/chapter/analyzing-communal-tag-relationships-enhanced/6636)

### Feature Selection Using Elephant Herd Principal Component Optimization Technique in Big Data Streams Using Internet of Things

Gayathri Devi N. and Manikandan K. (2022). *International Journal of e-Collaboration* (pp. 1-14).

[www.irma-international.org/article/feature-selection-using-elephant-herd-principal-component-optimization-technique-in-big-data-streams-using-internet-of-things/304041](http://www.irma-international.org/article/feature-selection-using-elephant-herd-principal-component-optimization-technique-in-big-data-streams-using-internet-of-things/304041)

### Technology Leverages a Community University Collaboration

Sandra J. Chrystal (2009). *Handbook of Research on Electronic Collaboration and Organizational Synergy* (pp. 130-141).

[www.irma-international.org/chapter/technology-leverages-community-university-collaboration/20170](http://www.irma-international.org/chapter/technology-leverages-community-university-collaboration/20170)