

## Chapter 3.2

# User Perceptions and Groupware Use

**Gina Green**

*Baylor University, USA*

**John Day**

*Ohio University, USA*

**Hao Lou**

*Ohio University, USA*

**Craig Van Slyke**

*University of Central Florida, USA*

### INTRODUCTION

The increasingly complex, global nature of work tasks has led to increased interest in virtual teams that interact across space, time, and organizational boundaries to achieve organizational objectives (Bell & Kozlowski, 2002; Roebuck & Britt, 2002). One of the factors thought to contribute to the popularity of virtual teams is the availability of groupware systems (Townsend, DeMarie & Hendrickson, 1998). While some groupware systems, such as electronic mail, have become almost ubiquitous in many organizations, other groupware applications have not enjoyed similar acceptance (Briggs, Adkins, Mittleman, Kruse, Miller & Nunamaker, 1999; Orlikowski, 1993). Because of the importance of groupware

to the success of virtual teams, it is important to understand *why* this innovation has not successfully diffused.

This article uses a diffusion of innovation (DOI) perspective (Rogers, 1995) to understand factors that impact intentions to use groupware technology. The Rogers' DOI perspective gives us a much richer set of factors than other technology adoption models, and should therefore better aid in understanding groupware adoption (Plouffe, Hulland & Vendenbosch, 2001). We surveyed 186 college students and found that intentions to use groupware technology are impacted by perceptions of: relative advantage gained from use of the groupware, amount of complexity in groupware use, compatibility with work practices, and demonstrable results. Suggestions for

positively influencing these factors are offered in order to ensure more successful groupware implementations.

## BACKGROUND

### Group Support Systems

Groupware technology facilitates the work of groups by providing electronic means to communicate, cooperate, coordinate, solve problems, compete, or negotiate. While traditional technologies such as the telephone qualify as groupware, the term is ordinarily used to refer to a specific class of technologies relying on modern computer networks.

The origins of groupware technology are often traced back to the early 1980s, when academic researchers at the University of Arizona, University of Minnesota, and Southern Methodist University developed group “decision rooms” supported by group decision-making software (Power, 2003). With advances in telecommunications over the last two decades, groupware applications have expanded to include e-mail, audio/video/data conferencing, instant messaging, electronic meeting systems, and a host of Web-based collaboration tools. With approximately 130 million workers worldwide expected to telework in 2003, the integration of groupware into organizations is expected to grow rapidly (Roebuck & Britt, 2002).

The growth in virtual teams also reflects this change in work habits, as employees may be located anywhere around the world at any point in time (Townsend et al., 1998). Virtual teams use groupware to span geographic, temporal, and organizational boundaries. The sophisticated communication facilities of groupware facilitate frequent communication among team members, which is an important factor in creating a sense of identity in virtual teams (Kezsbom, 2000). In particular, asynchronous groupware helps overcome time-related barriers to distributed work (Kelly & Jones, 2001).

Groupware technologies are typically categorized along two dimensions, time and place (Johansen, 1988), as shown in Figure 1. Based on the time dimension, users of the groupware can work together at the same time or different times. On the other hand, the place dimension indicates that groupware users can work together in the same place or in different places.

### Diffusion of Innovations

Diffusion of innovation (DOI) research is concerned with how use of an innovation spreads throughout a social system (Mahajan, Mueller & Bass, 1990). Diffusion theory has been applied to a wide range of technologies, including information and communication technologies such as groupware. Diffusion theory states that potential adopters’ *perceptions* of an innovation’s characteristics, rather than an objective assessment of

Figure 1. Groupware classification (Source: Johansen, 1988)

	Same time “synchronous”	Different time “asynchronous”
Same place “co-located”	Group decision support systems, Voting, presentation support	Shared computers
Different place “distance”	Videophones, chat, instant messaging D	Discussions, e-mail, workflow

6 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/user-perceptions-groupware-use/18228](http://www.igi-global.com/chapter/user-perceptions-groupware-use/18228)

## Related Content

---

### Learning to Use IT in the Workplace: Mechanisms and Masters

Valerie K. Spitler (2007). *Contemporary Issues in End User Computing* (pp. 292-323).

[www.irma-international.org/chapter/learning-use-workplace/7041](http://www.irma-international.org/chapter/learning-use-workplace/7041)

### Examining User Perceptions of Third-Party Organizations Credibility and Trust in an E-Retailer

Robin L. Wakefield and Dwayne Whitten (2008). *End-User Computing: Concepts, Methodologies, Tools, and Applications* (pp. 1637-1651).

[www.irma-international.org/chapter/examining-user-perceptions-third-party/18276](http://www.irma-international.org/chapter/examining-user-perceptions-third-party/18276)

### General and Specific Computer Self-Efficacy: An Empirical Comparison of their Strength in Predicting General and Specific Outcomes

James P. Downey, R. Kelly Rainer Jr. and Summer E. Bartczak (2010). *Computational Advancements in End-User Technologies: Emerging Models and Frameworks* (pp. 176-192).

[www.irma-international.org/chapter/general-specific-computer-self-efficacy/38092](http://www.irma-international.org/chapter/general-specific-computer-self-efficacy/38092)

### Consumer Complaint Behavior in the Online Environment

Ji-Young Hong and Wei-Na Lee (2008). *End-User Computing: Concepts, Methodologies, Tools, and Applications* (pp. 1607-1619).

[www.irma-international.org/chapter/consumer-complaint-behavior-online-environment/18274](http://www.irma-international.org/chapter/consumer-complaint-behavior-online-environment/18274)

### Predicting Green Supply Chain Impact With SNN-Stacking Model in Digital Transformation Context

Te Li and Praveen Kumar Donta (2023). *Journal of Organizational and End User Computing* (pp. 1-19).

[www.irma-international.org/article/predicting-green-supply-chain-impact-with-snn-stacking-model-in-digital-transformation-context/334109](http://www.irma-international.org/article/predicting-green-supply-chain-impact-with-snn-stacking-model-in-digital-transformation-context/334109)