

## Chapter 3.3

# A Macro–Level Approach to Understanding Use of E–Collaboration Technologies

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### INTRODUCTION

The term *e-collaboration technologies* (ECT) in an organization refers to the collective system of interactive computer-based tools that facilitate a variety of group tasks. It thus includes among others, electronic mailing systems, bulletin boards, intranets and extranets, messaging systems, group support systems, decision rooms, computer conferencing tools, and computer based video-conferencing systems, etc. ECTs have often been referred to in the literature, using various terms to highlight specific uses such technologies have been put to. These include *group decision support systems*, *group support systems*, *computer supported collaborative work*, *groupware*, and *collaborative technologies*.

ECTs are among the many IT applications that have seen a rapid deployment in organizations due to greater use of task-teams and groups. There is thus an increased use of inter-departmental and cross-functional teams (Sarker, Valacich, & Sarker, 2005). Groups are hence viewed as a “basic unit of the formal organization structure” (Applegate, 1991). Second, the coming of the PCs, the advent of easy-to-use software and the developments in network technologies constitute additional impetus for the use of computers to support collaborative work in organizations.

Use of technology support for collaborative work is believed to increase productivity in organizations. It is hence important to examine the use of such technologies in greater depth (Markus, 1994). Increasing access to communication technologies without adequately understanding the

task requirements and the potential change in the work environment and processes may lead to information overload and may not benefit the user. This study therefore, aims at enhancing our understanding of the broad factors influencing the use of ECT in organizations.

The article is organized in the following manner. The first section reviews concerned literature relevant to the use of ECT in organizations. The second section describes a framework depicting the drivers of ECT use in organizations. The framework represents a macro level perspective of the phenomenon. The subsequent section highlights the implications of such a framework and the potential for further research.

## BACKGROUND

Researchers have argued that adoption and use of communication technologies arise from changes in the organization itself. Three perspectives have often been used to highlight this. The first is the technological perspective which views technology as an enabler of organizational forms; the second is the organizational perspective which views technology as being designed to fit organizational structures and forms while the third perspective is an “emergent perspective” which views technologies as “occasions” for structuring (Dutton, 1999). In all these three perspectives, adoption

and use of technology is subsumed.

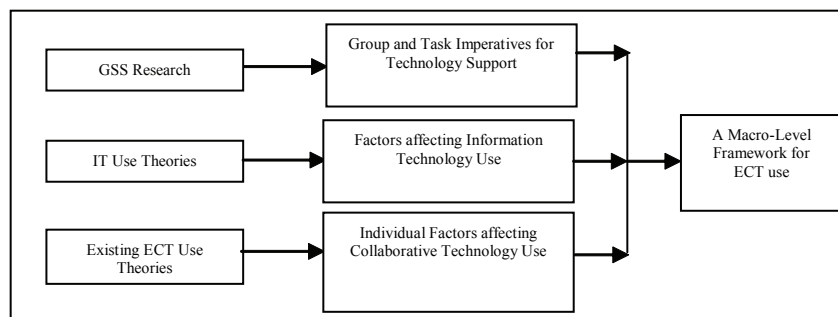
The organizational perspective involves development of integrative frameworks which encompass various factors which help design the “fit” between the organization and the technology. Such integrating frameworks in research entail knitting together varied sets of variables which represent or manifest the same underlying or superjacent construct (Gladstein, 1984). This is mainly due to a diversity of perspectives and standpoints assumed by different researchers.

Current theories which have primarily focused on groups and teams in laboratory settings may not adequately explain behavior seen in complex, interdependent task and technology settings in organizations. Some authors have pointed out this inadequacy of current theory in the area (Gallivan, 2001; Van den Hooff, Groot, de Jonge, 2005). Among the research issues suggested by many GDSS researchers and authors (e.g., Dennis, Nunamaker, & Vogel, 1990; DeSanctis & Gallupe, 1985; Gray & Mandviwalla, 1999), “an integrated framework for...understanding field use of GSS” has been highlighted as an essential direction of research.

## IT Use Theories

In order to be able to understand use of e-collaboration technologies, one can essentially draw upon theories of information technology adoption and

*Figure 1. Background*



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