Chapter II
Creativity in Asynchronous Virtual Teams:
Putting the Pieces Together

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ABSTRACT

Three related experiments, involving nearly 100 teams and 400 graduate students, found that virtual teams communicating strictly asynchronously produced significantly more creative results than did teams that engaged in some amount of synchronous communication (i.e., face-to-face or synchronous electronic communication). Using these experiments, four studies are conducted to explore creativity in the asynchronous virtual teams—each from a different aspect. Study one investigates individual team member personality, study two investigates team composition, while studies three and four investigate facets of team interaction. This chapter presents key findings from each study and synthesizes results across them. The analysis highlights the importance of team members, in terms of personality, as well as the composition of teams, in influencing interaction and the resultant creativity on a team level.

INTRODUCTION

Three related experiments, involving nearly 100 teams and 400 graduate students, investigated creativity in virtual teams (Ocker, 1995, 2001; Ocker et al., 1996; 1998; Ocker & Fjermestad, 1998). In each experiment, teams worked for approximately two weeks to determine the high-level requirements and design for a computerized post office (Goel, 1989; Olson et al., 1993). The means of communication, in essence, the way in which teams collaborated to complete their work—was manipulated in these experiments. Some teams interacted only electronically via either asynchronous or synchronous computer conferencing, while other teams used a combination of asynchronous communication interspersed with face-to-face (FtF) meetings. Still other teams

collaborated via a series of traditional FtF meetings without any electronic communication, to provide a base-line for comparison.

Interestingly, and seemingly a paradox to many, is the consistent finding across experiments that teams in the asynchronous computer-mediated communication (CMC) condition—those teams without any FtF or synchronous electronic communication—produced significantly more creative results than teams in the other communication conditions. To explore this finding in more depth, four additional studies were conducted, each using a subset of asynchronous virtual teams from the aforementioned experiments. Each study was designed to explore creativity from a different aspect. Study one investigated individual team member personality. Study two focused on team composition. Studies three and four investigated the facets of team interaction. This chapter presents key findings from each study and synthesizes results across studies, to put together the pieces of asynchronous virtual team creativity.

The remainder of this chapter is organized as follows. The chapter proceeds with an overview of experimental design and methods of the ex-

Table 1. Comparison of experiments 1, 2, and 3

	Experiment 1 (extended)[1] (Ocker et al., 1996, 1998)	**Experiment 2 (Ocker & Fjermestad, 1998)**	**Experiment 3 (Ocker, 2001)**
Communication modalities	asynchronous, synchronous, hybrid (asynch. & FtF), FtF	asynchronous, hybrid (asynch. & FtF)	asynchronous, hybrid (asynch. & FtF)
Length	14 days	same	17 days
Subjects	predominantly CIS and IS graduate students from mid-Atlantic university	same	MBA and MSIS grad. students from a different mid-Atlantic university
Computer conferencing system	EIES2	Web-EIES (EIES2 base with a web user interface)	First Class
Training task	entertainment for Dutch Visitors	same	same
Training procedures	detailed script of procedures developed and followed	similar (modifications made to reflect web interface)	similar (modifications made to reflect First Class interface)
Experimental task	Automated Post Office	Computerized Post Office	same
Experimental procedures	detailed script of procedures developed and followed	same	similar (minor modifications made to reflect 17 day experiment length)
Measures	multiple surveys; panel of judges rated creativity	same	objective measure of creativity; Adjective Check List added to surveys