

# A New Model and Theory of Asynchronous Creativity

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## INTRODUCTION

Global organizations necessarily operate in different countries with differing time zones, making face-to-face creativity costly in terms of travel and time expended. Yet for many other types of tasks, organizations would not hesitate to collaborate via e-mail, bulletin boards, file sharing, and other low-cost, readily available asynchronous media. Asynchronous e-collaboration is defined as collaboration among individuals engaged in a common task using electronic technologies that allow input at different times.

Many organizations automatically assume that synchronous, face-to-face (FTF) communication is best for creative tasks, a point of view propagated by outdated theory that suggests that FTF is the “richest” medium (Daft & Lengel, 1986). Recent research on process innovation (DeLuca & Valacich, 2006; Kock, 2006) suggests that certain characteristics of asynchronous e-collaboration are highly desirable. Organizations have postponed realization of benefits obtainable by virtual teams, a situation the author aims to improve by using the new model to develop new theory. With readily available, low-cost, simple Internet-based media, virtual teams have convened either purposefully or out of necessity, realizing cost savings and “surprisingly” good results.

There is a need for and call for theory which can explain and predict effects on creativity from use of asynchronous e-collaboration by dispersed teams (Hamilton, 2004; Kock, 2005b; Paulus, 2000; Weber, 2002). Asynchronous creativity theory (ACT), explained in this article, contributes to filling that need.

This article is divided into sections designed to introduce the theory to the readers. In the Background section, previous theory is summarized and the need for a new model and theory addressed. The model and theory are presented in four sections: a general model and theory overview and then one section on each set of influences on creativity—cognitive, social, and media

influences. Those three sections contain the propositions of the theory. In the last section, Conclusion, consistent with the central mission of a good theory (Van de Ven, 1989), ACT contributes to knowledge on creativity of teams which use asynchronous e-collaboration and applies the knowledge to developing and managing teams for organizational innovation.

## BACKGROUND

Most research on creativity is based on face-to-face (synchronous) interaction from a psychological trait perspective (Guilford, 1950), a social influences perspective (Amabile, Hennessey, & Grossman, 1986), or synchronous brainstorming (Dennis & Valacich, 1993; Dennis & Williams, 2005; Grise & Gallupe, 2000; Pinsonneault, Barki, Gallupe, & Hopper, 1999). Since existing creativity models have not generally considered the possibility of using asynchronous e-collaboration for creative tasks, a more inclusive model was developed by DeLuca (2006). It is an integrative, three-dimensional model which adapts and synthesizes Paulus’ (2000) constructs of social and cognitive influences on creativity and integrates them with characteristics of various media from FTF to asynchronous e-collaboration as discovered in the author’s applied research on virtual team innovation (DeLuca, Gasson, & Kock, 2006; Kock & DeLuca, 2006), and other research on group innovation (Kock, 2006) and media synchronicity (DeLuca & Valacich, 2006; Dennis & Valacich, 1999).

Research on e-collaboration and creativity together is primarily focused on brainstorming benefits gained through *synchronous* electronic media (Dennis & Valacich, 1993; Dennis & Williams, 2005; Grise & Gallupe, 2000; Pinsonneault et al., 1999).

Several existing theories explain part of the influences observed by the author. Media richness theory (Daft & Lengel, 1986) suggests that FTF communications

would be necessary and richest for creative tasks but does not explain higher creativity using asynchronous e-collaboration. Media Synchronicity Theory (Dennis & Valacich, 1999) delves into media characteristics but with only partial examination of the psychological and sociological literature. Compensatory adaptation theory (Kock, 2005a) partly explains virtual teams' creative successes by demonstrating that users of convenient asynchronous e-collaboration adapt their communication behavior and effectuate some of the richness found in FTF (DeLuca et al., 2006), but the theory does not account for weaknesses of FTF media and strengths and desirability of asynchronous e-collaboration or adaptations made when communicating FTF.

The media-cognitive-social (MCS) model of creativity and related asynchronous creativity theory (ACT) were proposed by the author (DeLuca, 2006) and are summarized in this article. The propositions provide a more complete framework for researchers in information systems, psychology, and sociology to perform formal testing of a theory for creative tasks performed in a relatively novel way—asynchronously. The results may apply to a variety of organizational situations. ACT has the potential to change practice, by providing a basis for breaking down the walls of reluctance

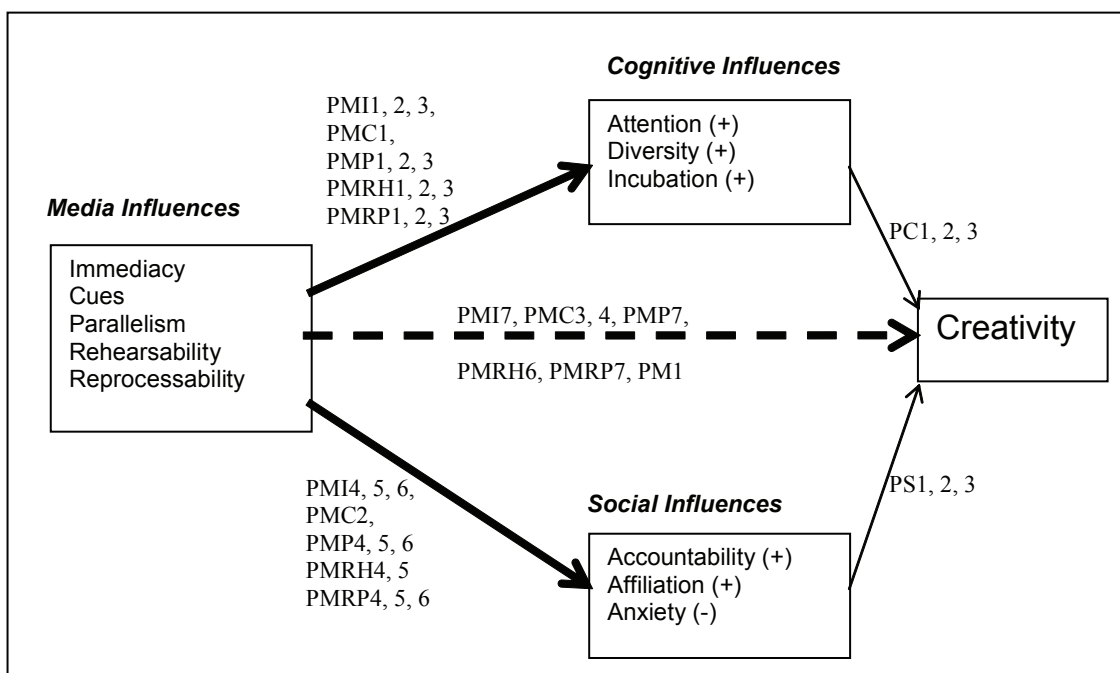
of managers to use asynchronous e-collaboration for creative and/or innovation tasks by showing that there are built-in advantages.

The next section of this article presents the MCS model of creativity and the propositions for ACT, using the constructs in the model.

### MEDIA-COGNITIVE-SOCIAL MODEL OF CREATIVITY AND ASYNCHRONOUS CREATIVITY THEORY

The essential constructs of ACT are shaped by the dimensions of the MCS model of creativity: media influences, cognitive influences, and social influences, all of which contribute to the generation of creative associations as shown in Figure 1. The model and theory are explained in greater detail in DeLuca (2006). Cognitive and social influences are adapted from Paulus' (2000) summary of existing creativity research, which is largely based on FTF, synchronous experiments. These relationships are shown in normal text. Media characteristics are adapted from media synchronicity theory (DeLuca & Valacich, 2006; Dennis & Valacich, 1999). Media influences and their relationship to cog-

Figure 1. Media-cognitive-social model of creativity (Adapted from DeLuca, 2006)



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