

Chapter XLVI

The Impact of Personality on Virtual Team Creativity and Quality

Rosalie J. Ocker

The Pennsylvania State University, USA

INTRODUCTION

A series of experiments investigated creativity and quality of work-product solutions in virtual teams (Ocker, 2007, 2005; Ocker & Fjermestad, 1998; Ocker, Hiltz, & Johnson, 1998; Ocker, Hiltz, Turoff, & Fjermestad, 1996). Across experiments, small teams with about five graduate students interacted for approximately two weeks to determine the high-level requirements and design for a computerized post office (Goel, 1989; Olson, Olson, Storosten, & Carter, 1993). The means of interaction was manipulated in these experiments such that teams interacted via one of the following treatments: (1) asynchronous computer-mediated communication (CMC), (2) synchronous CMC, (3) asynchronous CMC interspersed with face-to-face (FtF) meetings, or (4) a series of traditional FtF meetings without any electronic communication.

A repeated finding across experiments was that teams interacting *only* using asynchronous CMC—that is, teams without any FtF or synchronous communication—produced significantly more creative results than teams in the other treatments. Additionally, asynchronous virtual

teams rated high in creativity were generally not the same teams that were judged high in terms of the quality of their deliverable.

To further examine these findings, this article presents results of an exploratory study designed to investigate the impact of individual personality facets on team outcomes. The objective of this study is to determine whether differences in team outcomes—in terms of the level of creativity versus the quality of the team deliverable—can be predicted by individual member personality. Specifically, two research questions are investigated:

Do individual member personalities predict virtual team creativity?

Do individual member personalities predict virtual team quality?

BACKGROUND

Personality traits, which are persistent across situations and time, distinguish an individual from others. In the domain of psychology, it is

Table 1. ACL personality facet scales

Negative Emotionalism	
Anxiety	anxious, fearful, worrying, tense, nervous, -confident, -optimistic
Depression	Worrying, -contented, -confident, -self-confident, pessimistic, moody, anxious
Self-Consciousness	shy, -self-confident, timid, -confident, defensive, inhibited, anxious
Vulnerability	-clear-thinking, -self-confident, -confident, anxious, -efficient, -alert, careless
Extraversion	
Warmth	friendly, warm, sociable, cheerful, -aloof, affectionate, outgoing
Gregariousness	sociable, outgoing, pleasure-seeking, -aloof, talkative, spontaneous, -withdrawn
Assertiveness	aggressive, -shy, assertive, self-confident, forceful, enthusiastic, confident
Activity	energetic, hurried, quick, determined, enthusiastic, aggressive, active
Excitement Seeking	pleasure-seeking, daring, adventurous, charming, handsome, spunky, clever
Positive Emotions	enthusiastic, humorous, praising, spontaneous, pleasure-seeking, optimistic, jolly
Openness	
Fantasy	dreamy, imaginative, humorous, mischievous, idealistic, artistic, complicated
Aesthetics	imaginative, artistic, original, enthusiastic, inventive, idealistic, versatile
Feelings	excitable, spontaneous, insightful, imaginative, affectionate, talkative, outgoing
Actions	interests wide, imaginative, adventurous, optimistic, -mild, talkative, versatile
Ideas	idealistic, interests wide, inventive, curious, original, imaginative, insightful
Values	-conservative, unconventional, -cautious, flirtatious
Agreeableness	
Trust	forgiving, trusting, -suspicious, -wary, -pessimistic, peaceable, -hard-hearted
Straightforwardness	-complicated, -demanding, -clever, -flirtatious, -charming, -shrewd, -autocratic
Compliance	-stubborn, -demanding, -headstrong, -impatient, -intolerant, -outspoken, -hard-hearted
Modesty	-show-off, -clever, -assertive, -argumentative, -self-confident, -aggressive, -idealistic
Conscientiousness	
Competence	efficient, self-confident, thorough, resourceful, confident, -confused, intelligent
Order	organized, thorough, efficient, precise, methodical, -absent-minded, -careless
Dutifulness	-defensive, -distractible, -careless, -lazy, thorough, -absent-minded, -fault-finding
Achievement Striving	thorough, ambitious, industrious, enterprising, determined, confident, persistent
Self-discipline	organized, -lazy, efficient, -absent-minded, energetic, thorough, industrious
Deliberation	-hasty, -impulsive, -careless, -impatient, -immature, thorough, -moody

readily accepted that there are five broad factors or dimensions of personality traits (Costa & McCrae, 1992; Goldberg, 1993). An individual falls somewhere along the continuum of a given dimension.

Extraversion, openness, agreeableness, conscientiousness, and negative emotionalism (also

known as neuroticism) comprise the five dimensions. Extraversion encompasses an individual's tendency for sociability and interactivity as opposed to solitude and seclusion. Openness encompasses an individual's tendency for abstract or original ideas versus tangible facts. Agreeableness encompasses an individual's tendency for coop-

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