

## Dissertation Defense

# **A Multi-Method Study of Iterative Processes in Creative Project Teams**

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The broad objective of this dissertation is to deepen our understanding of how creative project teams can perform more effectively. Creative project teams are teams engaged in innovative efforts. Common examples of such teams in organizations include those engaged in product development, research and development, entrepreneurship, and producing scientific knowledge or cultural products such as entertainment.

Scholarship related to the performance of creative project teams has typically conceptualized processes in these teams as static rather than dynamic phenomena. Given the chaotic nature of innovation processes, static conceptualizations of process do not adequately capture this phenomenon. Consequently, the lack of research on dynamic innovation processes in these teams limits our ability as scholars to offer prescriptive guidance on how teams can navigate the chaotic journey of innovation more effectively.

The broad objective of this dissertation was accomplished through two studies which examined the iterative processes adopted by creative teams in greater depth. Study 1 is a longitudinal case study of team innovation processes in two project teams in an interactive media development studio. To gain a more accurate map of iterative processes in these teams, cycles of planning, enacting, and reviewing activities were tracked as they unfolded over the course of these projects.

Two distinct cycles of planning, enacting, and reviewing activities are identified: experimentation cycles and validation cycles. Experimentation cycles are discovery-oriented processes where teams gather insights into project requirements, constraints, and design specifications through trial-and-error. Validation cycles are correction-oriented processes where teams align their output with project requirements through incremental modifications. These findings are then built upon to develop testable propositions about the relationship between the duration of planning, enacting, and reviewing activities and the innovativeness and quality of team outcomes.

Some of the propositions developed in Study 1 are tested in Study 2. Specifically, Study 2 examines the relationship between the duration of transition phases and team performance on a creative task. The proposed model relates the duration of transition phases in experimentation cycles to the rate of improvement in prototype performance, group atmosphere, and the quality of team outputs. To investigate these effects, a lab experiment was conducted where groups of participants performed a creative, open-ended task in which they were to build a floating vessel from Lego pieces according to certain specifications. Participants were instructed to iterate on their designs before collaborating to design and build their group's vessel. The results showed support for the proposed model.

The findings from this dissertation have broader implications on theories of performance in creative project teams and team innovation. In particular, it suggests that researchers should pay attention to psychosocial effects when considering models of iterative processes rather than just on the costs and benefits of obtaining information. A more significant implication is that the proposed framework of dynamic group processes can potentially trigger novel questions and uncover new phenomena that are crucial to the performance of creative project teams. Examples of these are discussed using the temporal characteristic of rhythm.