
Project Objectives:
• Teams fail to acquire & share all relevant information for decision making, yielding sub-optimal decisions
• Research program to develop:
  ➢ Generalizable metrics - emergence of team knowledge
  ➢ Diagnostic of team learning & information sharing
  ➢ Research-based principles, tools, & decision aids
  ➢ Agent interventions; agent design principles

Theory driven, research based, application relevant

Technical Approach:
• Measurement Typology linked to theory to capture the acquisition & emergence of team knowledge
• Computational Process Model linked to the measurement typology to simulate the dynamics of team knowledge emergence
• Agent-Based Simulation to instantiate the process model, validate the typology, & identify leverage points to enhance team knowledge emergence
• Human Research Task Simulation to evaluate simulation-based / embedded interventions designed to enhance team learning & problem solving

Accomplishments/Impact/Transitions:
• Measurement Typology [Developed; Validated]
• Computational Process Model [Developed; Validated]
• Agent-Based Simulation [Ver. 1 (data); Ver. 2 (information); Developed; Validated; Diagnostics]
• Human Research Task Simulation [Designed; Developed; Piloted; Implemented]
• Human Research – Embedded Interventions
  ➢ Learning Agents – guide knowledge acquisition
  ➢ Sharing Agents – guide collaborative knowledge building
  ➢ Decision Agents – guide solutions & consensus

Approach measures, tracks, targets, & enhances the emergence of team knowledge for decision making
Theory and Research


  Awarded Best Paper of 2013 by the Editorial Board of *Organizational Research Methods*.

  Awarded the *William A. Owens Scholarly Achievement Award* in recognition of the best publication (appearing in a refereed journal) in the field of industrial and organizational psychology during the past full year (2013) by the Society for Industrial and Organizational Psychology.

  Awarded an *Emerald Citation of Excellence for 2016* (based on 2013 publications).


A METHODOLOGICAL FRAMEWORK FOR STUDYING MULTILEVEL EMERGENT DYNAMICS

29th Annual Conference of the Society for Industrial & Organizational Psychology
May 16, 2014

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