

DESIGNING THE BEST TEAM FOR THE TASK: A METHOD THAT COMBINES ALGORITHMS, HEURISTICS, AND EXPERT JUDGMENT

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This paper describes a systematic, formal, quantitative approach for designing teams. The method develops a quantitative hierarchical mission or goal structure that specifies the parallelism, sequence, and structure of the tasks that must be accomplished in order to complete the team's mission. Using that quantitative task structure, we apply a systems engineering approach that describes organizational performance criteria as a multi-variable objective function to be optimized. We work closely with subject matter experts to develop the task structure and to specify the criteria to be optimized for the team (e.g., the distribution of workload among team members or the time needed to complete the mission). This process is iterative, with team designs produced, reviewed by domain experts, and modified. The method is currently being applied to two organizational design problems for Navy teams, and shows promise as a tool for human factors practitioners dealing with team design and organizational redesign issues.