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A Model of Enterprise Systems Engineering Contributions to Acquisition Success

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Abstract

This presentation describes our conceptual causal model for the contributions of enterprise systems engineering (ESE) to systems acquisition success when the systems under development are complex and include direct interaction between users and the finished product (versus an embedded effort). The model takes the form of a directed acyclic graph and its major components consist of collaboration support, ESE technique application, system characteristics, and organizational characteristics. As initial validation, we converted this conceptual model to a computational model using our Descriptive to Executable SIMulation (DESIM) modeling method. By using the executable model, we obtained unbiased data based on subject matter experts' (SMEs') mental models so that we could determine the degree to which the SMEs in the aggregate agreed with the model's components and relationships.

Author Biography

Dr. Jill Drury holds a BA in Physics from Macalester College, an MS in Business Administration from Boston University Overseas Program, an MS in Computer Science from Boston University, and a Doctor of Science (Sc.D) in Computer Science from the University of Massachusetts Lowell. Drury has been at The MITRE Corporation since 1980 and has taught as an Adjunct Assistant Professor at the University of Massachusetts Lowell since 2002. Currently Drury is a department head, systems engineer, and researcher in designing and evaluating technologies that support interactions with humans for collaboration and decision making in safety-critical applications. She has published over 100 journal papers, conference papers, book chapters, and magazine articles.