The goal of this research is to develop a new paradigm integrating the practices of business process modeling and use case modeling. These two modeling approaches describe the behavior of organizations and systems, and their interactions, but rest on different paradigms and serve different needs. The base of knowledge and information required for each approach is largely common, however, so an integrated approach has advantages in efficiency, consistency and completeness of the overall behavioral model.

Stakeholders find the two-pass process of business process modeling followed by use case modeling redundant and wasteful of time and money since the input they provide to both modeling teams is largely identical, with each team capturing only the aspects relevant to their form of modeling. Developing a new paradigm and modeling approach that achieves the objectives of both business process modeling and use case modeling in an integrated form, in one analysis pass, will result in time savings, increased accuracy and improved communication among all participants in the systems development process.

The two main innovations developed for the new paradigm are the usage process and the timebox. The combination of usage processes and timeboxes allows any level of complex behavior to be modeled in one pass, without the redundancy and waste of separate business process and use case modeling work. Several pilot projects are conducted to test the new modeling paradigm in differing modeling situations with participants and subject matter experts asked to compare the traditional models with the new paradigm formulations.

Major: Industrial Engineering

Educational Career:
Bachelor's of Electrical Engineering, BS, 1981, Virginia Tech
Master's of Psychology, MA, 1993, State University of West Georgia
Master's of Business, MBA, 1996, Kennesaw State University

Committee in Charge:
Waldemar Karwowski, Chair, IEMS
Thomas O'Neal, Associate VP for Research and Communication
Gene Lee, Associate Professor, UCF
William Thompson, Associate Professor, UCF

Approved for distribution by Waldemar Karwowski, Committee Chair, on August 11, 2015.

The public is welcome to attend.