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MARC Seminar Series

"IMPLEMENTING SERVICE-ORIENTED ARCHITECTURE IN ORGANIZATIONS: A SYSTEMS DYNAMICS APPROACH"
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Abstract

Service-Oriented Architecture (SOA) has been promoted as a technology that can enhance IS agility as well as serve as an enabler for IT integration. As with any new information technology, the decision to adopt cannot be taken lightly, given the non-trivial investment of economic and personnel resources it entails. The complexity associated with industry-wide diffusion, coupled with organization, industry, and environment factors, contributes to a lack of clear strategy for evaluating the business value of technology. This research attempts to shed light on this process, through the use of a systems dynamics approach. A detailed model of the industry diffusion and the organization adoption process is presented. After suitable calibration and validation, the model is used to evaluate the efficacy of SOA under a variety of diverse conditions. The results of the simulations indicate clear benefits of SOA over monolithic information technologies, when employed appropriately. Situations where SOA fails to live up to expectations are also identified. The model and accompanying simulation can serve as a practical decision support system for the strategic decisions of adopting and implementing SOA.

Jae Choi is a Ph.D candidate in the Sheldon B. Lubar School of Business at University of Wisconsin, Milwaukee. He teaches courses on Object-Oriented Programming, Systems analysis, telecommunications, and e-commerce related topics. His recent research spans from IT infrastructure and web services to the simulation / modeling of IT impact and supply chain management. The overview of his dissertation has been featured in the flagship consortium on Service Computing sponsored by IBM. He has presented his researches in the premier IS conferences including WITS, HICSS, and AMCIS. He is a recipient of Eric Schenker dissertation scholarship for his exceptional research activities.