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# ORGANIZATIONAL DISTRIBUTION OF INFORMATION TECHNOLOGY: EFFECTS OF SOCIAL CONTEXT AND POWER DIFFERENCES ON DIFFUSION

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All information technology projects involve politics. Although the degree to which power issues affect the introduction of new technology may differ from case to case, few practitioners would deny their impact. However, although previous research on implementation, diffusion, and use of information technology has generally acknowledged organizational power as a concern, explicit modeling of the role of power structures in technology diffusion has been limited. This work examines the implications of resource dependence theory, a model of organizational power, for innovation diffusion and develops specific propositions about the role of organizational power in the spread of new information technologies within complex organizations.

Nonlinear effects of local conditions and events on global phenomena are often difficult to investigate empirically because of the cross-level longitudinal datasets that are required. These difficulties are compounded when considering power and politics due to the sensitivity of the topic in most organizations. However, given empirical evidence of relevant individual behavior, computational models can be used to develop theoretical statements regarding the organizational implications of the lower level processes. Adopting this approach, a series of simulations based on dyadic models of passive versus politically-motivated technology diffusion are developed. As a baseline, a threshold model of social contagion is applied to determine the organizational level outcomes of network-based diffusion within various organizational settings. Then, drawing on the previously proposed socio-political diffusion (SPD) model and empirical studies on individual diffusion and adoption behavior in organizations, power concerns are integrated into the simulation. Thus, the SPD simulation operates in accordance with empirical observations and prior theory regarding the individual behaviors which underlie the diffusion of innovations at the micro level within existing organizations. By applying principles of micro diffusion behavior within dynamic systems, the project will generate a series of organization level propositions that address the following question: How do social structures and resource dependencies surrounding individuals impact technology diffusion at the organization level?