

**REEXAMINATION OF ROGERS' THEORY OF DIFFUSION OF INNOVATION:
A COMPUTER SIMULATION**

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ABSTRACT

Competing models have made important contributions to understanding the manner in which new products are adopted. Existing research related to the diffusion of innovation generally takes a macro-view and examines adopter categories that are largely driven by the passage of time. Existing research related to consumer innovativeness generally takes a micro-view and examines factors such as characteristics of products and consumers related to the propensity to adopt a product. Using a simulation model, this research takes a step toward integrating individual consumer factors of the micro-view with the time-driven process of the macro-view in an effort increase understanding of the diffusion of innovation process. Specifically, the simulation tests the extent to which the diffusion of innovation process, as outlined by Rogers, represents the manner in which the adopter categories sequentially acquire a product. Rogers' model describes the individuals from various adopter categories in various terms including level of risk perceived and the extent to which they are likely to receive and/or provide information. It is assumed that perceived risk can curtail the diffusion of innovation process and that information can help to overcome perceived risk.

The simulation was run assuming a community consisting of Innovators (2.5%), Early Adopters (13.5%), Early Majority (34%), Late Majority (34%), and Laggards (16%). Perceived risk and information transmission characteristics were mathematically operationalized, consistent with Rogers' description. Simulation results show that the points in time at which the various adopter categories first begin to adopt a product generally follow Rogers' sequence. The same is true for the points at which the various categories complete adoption. Contrary to Rogers' conceptualization, however, the simulation shows that the adopter categories do not adopt in neatly segregated, mutually exclusive spans of time delineated by vertical lines; rather the categories overlap. The results also show that, contrary to the original conceptualization, the overall diffusion of innovation curve is not symmetric. Relatively more adoption activity transpires on the early, left-hand side of the diffusion curve. Thus, the results demonstrate a need to modify Rogers' model. The results also suggest that further understanding may accrue by simulating additional descriptors that have been used by Rogers and other researchers to characterize the adopter categories.