



An agent-based market simulation for enriching innovation management education

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Abstract

It is not easy for students or junior managers to obtain first-hand experience in innovation and technology management. Business gaming simulations can remedy this, as they provide an opportunity to acquire practical skills. We developed such a business gaming simulation that enables teams of participants—each managing a virtual company that competes with other companies in several markets—to implement technology strategies, make resource allocation decisions, and test marketing strategies for introducing its new products. The salient feature of this simulation is its agent-based market model, which accounts for consumers' heterogeneity and social factors like word-of-mouth communication. In this paper, we describe the elements and dynamics of the market model, outline the didactic framework, and synthesize our experiences from using the simulation in classroom settings for several years. Overall, we find that using an agent-based model as the core of a business gaming simulation can facilitate experiential learning in management, particularly in fields that involve complex social system dynamics, as is the case in the diffusion of innovations.

Keywords Agent-based modeling · Business gaming simulation · Innovation management · Product diffusion · Pricing and timing strategies · Education

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