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AGENT-BASED STRATEGIZING

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Agent-Based Strategizing

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Abstract: Strategic management is a system of continual disequilibrium, with firms in a continual struggle for competitive advantage and relative fitness. Models that are dynamic in nature are required if we are to really understand the complex notion of sustainable competitive advantage. And new tools are required to tackle challenges of how firms should compete in environments characterized by both exogenous shocks and intense endogenous competition.

A rich history of alternative dynamic models exist in other social and natural sciences, some of which have been incorporated into the strategic management literature, notably the *NK* series of models. Yet there is a whole history of models from systems models, organizational ecology and general fitness landscape models that can be converted to agent-based models and used for the study of strategic management.

Agent-based modelling of firms' strategies offers an alternative analytical approach, where individual firm or component parts of a firm are modelled, each with its own strategy. Where traditional models can assume homogeneity of actors, agent-based models simulate each firm individually. This allows experimentation of strategic moves, which is particularly important where reactions to strategic moves are nontrivial.

This Element introduces agent-based models and their use within management, reviews the influential *NK* suite of models and offers an agenda for the development of agent-based models in strategic management.

Keywords: agent-based modelling, strategic management

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