

Computational Experiment on Evolution of E-Business Service Ecosystem

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Abstract : E-commerce is experiencing rapid development and evolution, but traditional research methods are difficult to fully demonstrate the relationship between micro factors and macro evolution in the development process of e-commerce, which cannot provide accurate assessment for the existing strategies and predict the future evolution trends. To solve these problems, this paper presents the concept of e-commerce service ecosystem based on the characteristics of e-commerce and business ecosystem theory, describes e-commerce environment as a complex adaptive system from the perspective of ecology, constructs a e-commerce service ecosystem model by using Agent-based modeling method and Java language in RePast simulation platform and conduct experiment through the way of computational experiment, attempt to provide a suitable and effective researching method for the research on e-commerce evolution. By two experiments, it can be found that system model built in this paper is able to show the evolution process of e-commerce service ecosystem and the relationship between micro factors and macro emergence. Therefore, the system model constructed by Agent-based method and computational experiment provides proper means to study the evolution of e-commerce ecosystem.

Keywords : e-commerce service ecosystem, complex system, agent-based modeling, computational experiment

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