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Modelling the dynamics of the innovation process : a data-driven agent-based approach

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Stellingen

behorende bij het proefschrift

Modelling the dynamics of the innovation process

A data-driven agent-based approach

door Yuanyuan Zhao

1. The fact that statistical methods usually leave aside outliers causes under-appreciation of the small and accidental events. (Chapter 2)
2. In contrast with Rosenberg (1994, p.139) who claims that “the linear model of innovation is dead”, the linear model of innovation still exists in pharmaceutical industry, but only on the macro level. (Chapter 3)
3. A linear model of innovation does not necessarily imply proportional relationship between innovation inputs and innovation outputs. (Chapter 3)
4. The success of a technological innovation relies more on linking system functions into self-reinforcing cycles than on investing in R&D activities or obtaining enough resources. (Chapter 4)
5. The emergence of innovations is not be properly captured by mainstream innovation theories. (Chapter 4)
6. The survival rate of entrepreneurial companies will improve with a good understanding of the positive feedback loops underlying innovation processes. (Chapter 4)
7. Keeping sensitive to the possible intervention points of positive feedback loops increases the effectiveness of decision making. (Chapter 4)
8. The emergent process of innovations can be properly captured by a dissipative self-organising model, which includes three key elements: *irregularity*, *positive feedback loops* and *behavioural regime*. (Chapter 4)
9. Breaking down innovation systems into different activities provides a significantly simpler and better way to simulate innovation processes than breaking down them into system components. (Chapter 5)
10. “*We are caught in an inescapable network of mutuality, tied in a single garment of destiny. Whatever affects one directly, affects all indirectly*” – Martin Luther King in “Letter From a Birmingham Jail”.