

Qualitative Knowledge Acquisition Using Fuzzy Logic and System Dynamics

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Abstract

Research results are exposed on policy representation based on Fuzzy Logic and System Dynamics. It is pretended to find a method for representing qualitative knowledge on dynamics of complex systems. Qualitative knowledge is considered the softest part in human organizations and the hardest part to manage. The set of fuzzy policies represented in the model pretends to carry out a hotel business administration. This research sustains an effort to integrate some of the benefits that Fuzzy Logic has brought to the area of control systems by representing qualitative knowledge of human operators to the discipline of System Dynamics by representing policies of decision-makers. The set of policies and the hotel models have been implemented using the “ithing” software. Results show the useful of the method in the learning process of managers when the attention is explicitly paid on the rules that transforms information into action.

Key words: policy representation, fuzzy logic, system dynamics, qualitative knowledge.