Research Article

Systems dynamics model for decision support in risk assessment in software projects

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Abstract

Project management is widely studied and has several tools that aid in the efficiency and effectiveness of software production. However, in project management, numerous risk factors are involved in the development of software. These risk factors interact in a dynamic and non-linear way, hindering decision-making. The objective of this paper is to present a model of systems dynamics, which is a descriptive technique used for modeling and simulating systems, involving risk factors that strongly influence the development of software. The model generated is a tool that aims to assist project managers in their decision-making. The relationships between variables were extracted from actual or empirical experiments available in the literature, thus bringing the model results closer to the real world. The model enables reproducing scenarios in which real-world tests would be costly or dangerous to be carried out, allowing the impacts of risks in software development process to be analyzed. Copyright © 2015 John Wiley & Sons, Ltd.

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