

Name: Software Macro-Risk Model Prototype

Presenter(s): Dan Ingold

Objective: This basic version of the Software Macro-Risk Model is used to evaluate the overall programmatic risk factors of a software project, primarily from a process-model perspective.

Rationale: Evidence suggests that the attention to and quality of certain artifacts is a strong indicator of software project performance and outcome. This model proposes a set of Critical Success Factors that support Software Project Goals, which a reviewer can evaluate to determine project risk.

Target Users: This tool is designed for Project Managers looking to evaluate the potential risk factors affecting their project.

Scope: Project Management; Risk Analysis.

Project Type: Multi-year USC-CSE research project

Runs On:

- Windows 95, 98, NT, 2000, XP
- Microsoft Excel (Enabled Macros)

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Technical Approach: The Software Macro-Risk Prototype is an Excel-based tool patterned after an on-line risk factor analysis program developed by [Toth 1995], and based on the System-Software Milestone/ Review Decision Support Framework [SISAIG 2004]. This framework identifies five high-level project goals and the critical success factors (CSF) supporting them. The model poses questions that evaluate artifacts/attributes of each CSF, and asks the reviewer to rate his/ her confidence in the quality of those artifacts/attributes. The reviewer's answers to these questions are mapped to a probability of failure, then weighted by the impact such a failure might have on the project, to determine the potential risk.

Developers: Model Principle: Dr. Barry Boehm; Tool Development: Dan Ingold

Future Directions: The question lists will be supplemented with specific risk factors identified for the target project, and evaluated through a series of Delphi consensus surveys conducted with expert evaluators and current project performers.