Abstract

Reengineering of operational legacy system is a novel technique for software rejuvenation. Reengineering is used specifically to satisfy and even delight modern customers and market with the value of our software products and services to gain their loyalty and repeat business. However, it incurs some overhead in terms of risk. The basic necessity for the successful
implementation of reengineering strategy is to measure the overall impact of different reengineering risk components that arises from system, managerial and technical domain of legacy system. Quantifiable risk measures are necessary for the measurement of reengineering risk to take decision about when the evolution of legacy system through reengineering is successful. We present a quantifiable measurement model to measure comprehensive impact of different reengineering risk arises from quality perspective of legacy system. The model consists of five reengineering risk component, including Maintainability risk, Project complexity risk, Software architecture risk, Training Risk and Security risk component. Proposed measurement model offers better performance in terms of risk measurement to support the decision-making process.

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**Index Terms**

Computer Science               Artificial Intelligence

**Key words**

Reengineering                   Risk Engineering

Measurement
An Impact-based Analysis of Software Reengineering Risk in Quality Perspective of legacy System