Software Engineering Economics

> Boehm, B. 1981. *Software Engineering Economics*. Upper Saddle River, NJ, USA: Prentice Hall.

Usage

This source is considered a primary reference for the Risk Management article.

Annotation

Chapters 19 and 20 of Software Engineering Economics deal with risk and decision making under uncertainty in the context of software-intensive systems. Chapter 19 presents data on asymmetric utility functions between gains and losses, and shows that these need to be considered when balancing risk and opportunity management. Chapter 20 uses statistical decision theory to show how to determine "how much is enough?" when investing in buying information to reduce risk (via prototypes, formal methods, models and simulations, etc.) in terms of the reduced probabilities of false positives and false negatives as a function of the level of investment. Since these probabilities are difficult to determine, the chapter also provides English translations of the formulas as applied to the use of prototypes, formal methods, models and simulations, etc. in risk management practice.

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