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Book Review

Return on Software: Maximizing the Return on Your Software Investment

by Steve Tockey, Addison-Wesley, Boston, MA, 2005. 621 pp, $49.99 (hardbound). ISBN 0-321-22875-8.

Reviewed by Charles Ashbacher

Even though there is not a single line of code in this book, it is one that all people who are involved in the process of managing software development should read. In most cases, investment professionals will have an easier time understanding it than software developers will. The decision to invest organization resources in a software development project is treated as an investment and the point of the analysis is to determine if it is a sound one.

Part one starts with the fundamental concepts of how business decisions are made. Cash flow diagrams are used to illustrate how the flow of money relative to your organization can be visually modeled. Entire chapters are devoted to the various ways interest can be computed, the formulas used to compare the net worth of two different proposals and how to develop mutually exclusive alternatives. A large number of formulas are used, so if you are unfamiliar with the mathematics of finance, you will probably have a difficult time understanding them.

Parts two and three deal with how to make decisions in for-profit companies. Decision analysis, economic life, replacement decisions, salvage value, factoring in inflation/deflation, depreciation, cost accounting, and the impact of income taxes on business decisions are all examined using formulas, charts and diagrams. At times it gets very technical. To give you some idea, here are the titles of some sections:

- Calculating after-tax cash-flow streams.
- Inflation and after-tax cash-flow streams.
- Gain or loss when selling or scrapping depreciable assets.
- Comparing financing methods in after-tax cash-flow terms.

Part four deals with making decisions in government and nonprofit organizations. This is a very short section, less than twenty pages in length. Since these organizations generally

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cannot lose money either, the main focus is on the different ways government and nonprofit organizations finance their expenditures. Part five covers present economy, how to do break-even and optimization analysis. The primary focus is on how to perform various types of break-even analysis.

Part six examines estimation, risk and uncertainty. How to recognize and model the level of uncertainty and how to make decisions in situations with a great deal of uncertainty. This requires some knowledge of the fundamentals of probability and expectation. The last section covers the situation where there is more decision criteria than just the basic cost. This of course can be rather difficult, as it can enter the area of personal opinions. It is often due to the ordinal form of the data, where the range of assignments can be something like, {very poor, poor, average, good, very good}. While all can agree that poor comes before average, what one person will consider average, another would categorize as good. Fortunately, it is fairly easy to assign numeric values to the categories for standard numerical analysis of the data.

This is probably the hardest “computer” book I have ever read. I know a reasonable amount of financial mathematics, but it was still difficult to wade through all the equations, charts and diagrams. Despite this difficulty that you will most likely also face, I strongly encourage all managers to thoroughly study the contents. There is a set of self-study questions at the end of each section and solutions to most of them are included in an appendix. The software development industry has a (largely deserved) reputation for lax financial planning and the person who reads and comprehends the material in this book will have an enormous competitive advantage in the battle for jobs, revenue and profits.