# FOREWORD

*John Farnbach provides an outside expert's view of the topic
and the book's coverage of the topic*

from

## *Flexible Product Development*

by

## Preston G. Smith

# Foreword

Development of hardware products today faces a growing crisis: ongoing pressure to improve financial returns on new product investments conflicts directly with the increasing speed of innovation and change in the global market. When technologies, requirements, and competition change before developers can launch their product, they face the choice of making midproject changes with their associated costs or soldiering on with the original plan and launching a product that nobody wants.

If your product development frequently experiences midproject changes, or if your company is becoming increasingly shy of innovative projects because they are impossible to forecast reliably, you are experiencing this conflict, and flexible product development provides a new approach to resolve it. Flexible development methods build an environment to accommodate change as a necessary part of innovation, rather than trying to prevent it with rigid project plans.

The methods described in this book accommodate innovation and change and at the same time control the budget and schedule disruptions that you'd experience when using traditional methods such as Stage-Gate® and Six Sigma®.

A common reaction to these ideas about change and cost is one of disbelief: "it sounds too good to be true." But this response is rooted in traditional thinking about product development, which holds that change is wasteful and must be prevented by planning a project in detail and freezing the plan at project kickoff. In today's dynamic business environment, trying to plan away change creates

the significant waste of missing an innovation opportunity or ignoring fast-changing customer requirements.

Flexible product development takes a new approach to change, based on the idea that midproject learning and change are essential to innovation and market agility. Rather than avoiding change, developers identify uncertainties, keep design options open, and then resolve them later, based on better information and frequent customer feedback.

But what about cost? Flexible developers first structure the project to reduce the cost of change and then set deadlines to resolve uncertainties before the cost of keeping options open becomes prohibitive. In this way, change and learning can be accommodated without budget and schedule impacts.

Developers who learn to embrace the need for change rather than trying to prevent it provide their companies with the ability to profit from uncertainty, a powerful advantage over less agile competitors.

In order to realize the power of flexible development methods, new-product stakeholders across the organization must be prepared to examine traditional and long-held tenets about project development processes and methods. Financially, it is often more wasteful to cling to a frozen plan than to embrace the need for change and adapt the development quickly. Ideas about planning and project structure must be set aside to understand flexible development and build an environment to accommodate and even embrace the need for change, agility, and innovation.

The tools and methods that Preston presents in this book are based on experience gained over the past decade or two in the agile software development movement. Although software development methods can't be translated verbatim to developing hardware products, Preston explains with clear language and straightforward examples how you can use agile software principles to achieve agile hardware development that liberates your innovation.

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