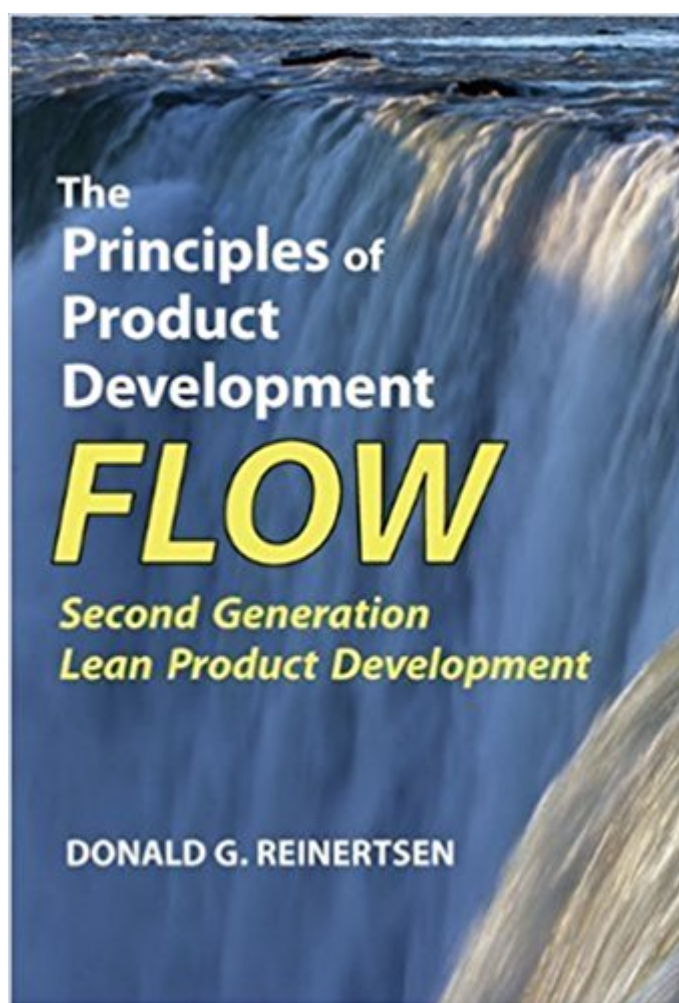


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# The Principles Of Product Development Flow: Second Generation Lean Product Development



## Synopsis

"...the dominant paradigm for managing product development is wrong. Not just a little wrong, but wrong to its very core." So begins Reinertsen in his meticulous examination of today's product development practices. He carefully explains why invisible and unmanaged queues are the underlying root cause of poor product development performance. He shows why these queues form and how they undermine the speed, quality, and efficiency in product development. Then, he provides a roadmap for changing this. The book provides a well-organized set of 175 underlying principles in eight major areas. He shows you practical methods to: Improve economic decisions Manage queues Reduce batch size Apply WIP constraints Accelerate feedback Manage flows in the presence of variability Decentralize control The Principles of Product Development Flow will forever change the way you think about product development. Reinertsen starts with the ideas of lean manufacturing but goes far beyond them, drawing upon ideas from telecommunications networks, transportation systems, computer operating systems and military doctrine. He combines a lucid explanation of the science behind flow with a rich set of practical approaches. This is another landmark book by one of the foremost experts on product development.

## Book Information

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## Customer Reviews

At Accuer, our business depends on helping successful product developers become even better. We need to provide real results, quickly, in lots of different areas. Because we need to stay at the leading edge, I've studied and read almost every book on lean product development; this one is

better than the rest of them combined! Why? It's a unique combination of practical methods and clear explanations of the science that makes them work. If you've enjoyed Don's previous books as much as I have, you're guaranteed like this one. ----David W. Paulson, President Accuer, Inc. This book challenges an awful lot of fashionable ideas on improving product development processes. It provides a vast number of very solid principles that could make a big difference for almost any product development organization, from beginners to the most advanced. It offers a fundamentally different way of thinking about product development processes. Don't read it if you are content with business as usual! ----Andrew Flint, Microsoft Hardware

For 30 years, Don Reinertsen has been a thought leader in the field of product development. In 1983, while a consultant at McKinsey & Co., he wrote the landmark article in Electronic Business magazine that first quantified the financial value of development speed. In 1985, he coined the term Fuzzy Front End to describe the earliest stage of product development. In 1991, he wrote the first article showing how queueing theory could be practically applied to product development. His 1991 book, Developing Products in Half the Time, coauthored with Preston Smith, is a product development classic. His 1997 book, Managing the Design Factory, was the first book to describe how the principles of Just-in-Time manufacturing could be applied to product development. In the 12 years since this book appeared, this approach has become known as lean product development. For 15 years, Don taught executive courses on product development at California Institute of Technology. He currently teaches public seminars throughout the world.

I won't repeat what others have said except that this new standard on lean product and software development challenges orthodox thinking on every side and is required reading. It's fairly technical and not an easy read but well worth the effort. For the traditionalist, add to cart if you want to learn:- Why prioritizing work "on the basis of project profitability measures like return on investment (ROI)" is a mistake- Why we should manage queues instead of timelines- Why "trying to estimate the amount of work in queue" is a waste of time- Why our focus on efficiency, capacity utilization, and preventing and correcting deviations from the plan "are fundamentally wrong"- Why "systematic top-down design of the entire system" is risky- Why bottom-up estimating is flawed- Why reducing defects may be costing us money- Why we should "watch the work product, not the worker"- Why rewarding specialization is a bad idea- Why centralizing control in project management offices and information systems is dangerous- Why a bad decision made rapidly "is far better" than the right decision made late and "one of the biggest mistakes a leader could make is to stifle initiative"- Why

communicating failures is more important than communicating successes For the Agilist, add to cart if you want to learn:- Why command-and-control is essential to prevent misalignment, local optimization, chaos, even disaster- Why traditional conformance to a plan and strong change control and risk management is sometimes preferable to adaptive management- Why the economies of scale from centralized, shared resources are sometimes preferable to dedicated teams- Why clear roles and boundaries are sometimes preferable to swarming "the way five-year-olds approach soccer"- Why predictable behavior is more important than shared values for building trust and teamwork- Why even professionals should have synchronized coffee breaks And the list goes on and on and on. My favorite sections are Reducing Batch Size, which I use in my Agile courses, The Human Side of Feedback, and Achieving Decentralized Control, on "what we can learn from military doctrine." Mind-expanding! Bonus: the author includes his email address and promptly responds to inquiries.

This book is a refreshing read. Product developers have normalized and internalized bad practices for so long that it's often impossible to see why we so often fail. Too many fundamentally bad ideas have become so ingrained that we often forget to examine them. Things like phase gated project management and 'full utilization of resources' are taken for granted as much as the air we breath. When things do go wrong managers usually try and "fix" things by doing the same things but with more intensity Reinertsen clears this away and looks at the product development cycle from holistic perspective. When you approach the problem from a Total Lifecycle Profits perspective some forms of apparent 'waste' are really not. Implementing two options in parallel knowing you will throwing one away may very well be less wasteful then implementing just your preferred option - only to discover too late that it won't work. His focus on queues and queuing theory is critically important. All processes and business have queues but too often we don't think of them that way. It's just the pile of work we need to get done - which is completely different from a queue right? Looking for hidden queues and treating them properly is the key to improving many processes. I particularly enjoyed his discussion of efficient 'resource utilization'. A road network that is 100% utilized is gridlocked. A computer server with a pinned CPU and full memory is clogged and overloaded. A FedEx truck packed with every cubic inch of space is impossible to unload efficiently. Why then do managers assume that an employee with 'only' 90% of their 'capacity' spoken for is in desperate need of another project? Reinertsen cuts through this nonsense. This is a new form of Scientific Management. Most previous attempts have treated people like clockwork parts in a machine. Differences were seen as a problem to be eliminated. If everything and everyone were the same

then Efficiency would be achieved! All re-work was seen as inherently bad and a sign of a flawed process. Instead, by focusing on flow Reinertsen shows that in many cases variability is the key to adding value. With small batch sizes, parallel queues and fast feedback re-work can actually result in much better products and higher profits. This book doesn't not provide a capital P Process that a business can implement as a magic wand. Instead it provides a set of tools and a way of thinking that can guide each organization to discover how to achieve flow in their own domain. I highly recommend this book to executives, managers, product developers and "in the weed" workers. It's applicable across a wide variety of industries. While the details of developing new furniture or the next great cloud application are going to be very different the principles and tools are the same.

Reinertsen is not afraid to be rigorous and intellectual, and the result stands head-and-shoulders above most other books on product development. I wish more authors had the courage to tackle "difficult" concepts. There were some helpful, concrete insights, but more important, this book will help you develop a mental framework for analyzing product development process. This understanding will set you free from the Agile vs. Waterfall cargo-cultism that permeates the tech industry.

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