Work *ON* Your Engineering Business, Not *IN* It!

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Improving Software Economics

What Is Your Competitive Advantage?

- Technology?
- People?
- Quality?
- Cost?

HOW you develop your products strongly determines ***WHAT*** competitive advantages you are able to obtain and maintain

How Is Your Company Run?

- Day-to-Day?
- Quarter-to-Quarter?
- Year-to-Year?
- Multi-Year?

What activities does management engage in that overlay the activities overwhelming employees on a day-to-day basis? *Or, is management consumed by the day-to-day as well?*

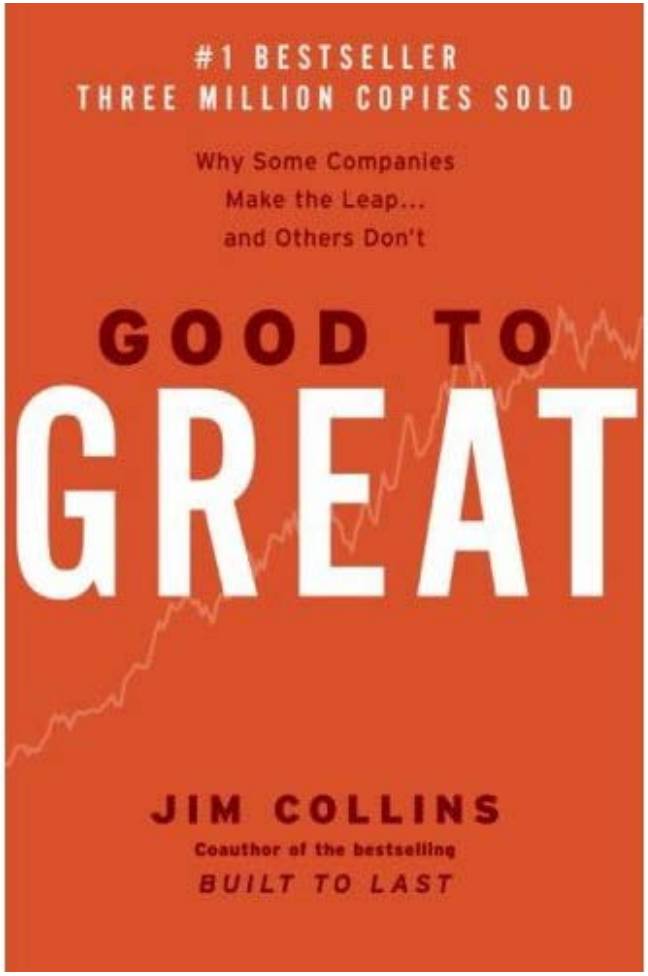
What insight does management have into the ***business model*** that's being employed, and how to improve and refine it?

Successful Businesses...

- Run operations as if they were a franchise
  - Every business process is standardized
  - Average employees can easily be successful by following the processes as outlined
  - Well executed processes are scaled and leveraged across the organization
- For software organizations, “franchising” processes can result in a 50% or more increase in productivity

Jim Collins' *Good to Great*

- Good-to-great companies focus equally on ***what*** to do, ***what not*** to do, and ***what to stop*** doing
- Technology-driven change had virtually nothing to do with igniting a transformation. ***Technology can help accelerate, but doesn't cause change***. Technology influences typically come last, not first.



Key Concept From *Good to Great*

"Good-to-great companies built a ***consistent system*** with clear constraints, but they also gave people the freedom and responsibility within the framework of that system. They hired self-disciplined people who didn't need to be managed, and then ***managed the system***, not the people."

Other *Good to Great* Thoughts

- "What are the brutal facts? We've got to get a grip on the facts, what are the trends, what are the trendlines, how bad is it? Get a grip on the facts.“
- "How does a culture of mediocrity take hold? The signature of mediocrity is chronic inconsistency”
- "What you can measure you can target. And what you can target you can accomplish.”
- "Don't look for silver bullets. Pick a lead bullet and polish it so it becomes silver"

Key Franchising Concepts

- Great businesses are not built by extraordinary people, but by ordinary people doing extraordinary things
- To achieve this, a system is absolutely essential – it becomes the tools people use to increase productivity, to get the job done in a way that differentiates
- A franchise is simply ***your unique way of doing business – your system***
- If you haven't orchestrated your business, you don't own it!

Source: *The e-Myth Revisited,* Michael E. Gerber, HarperCollins Publishers, 1995

Management's Role

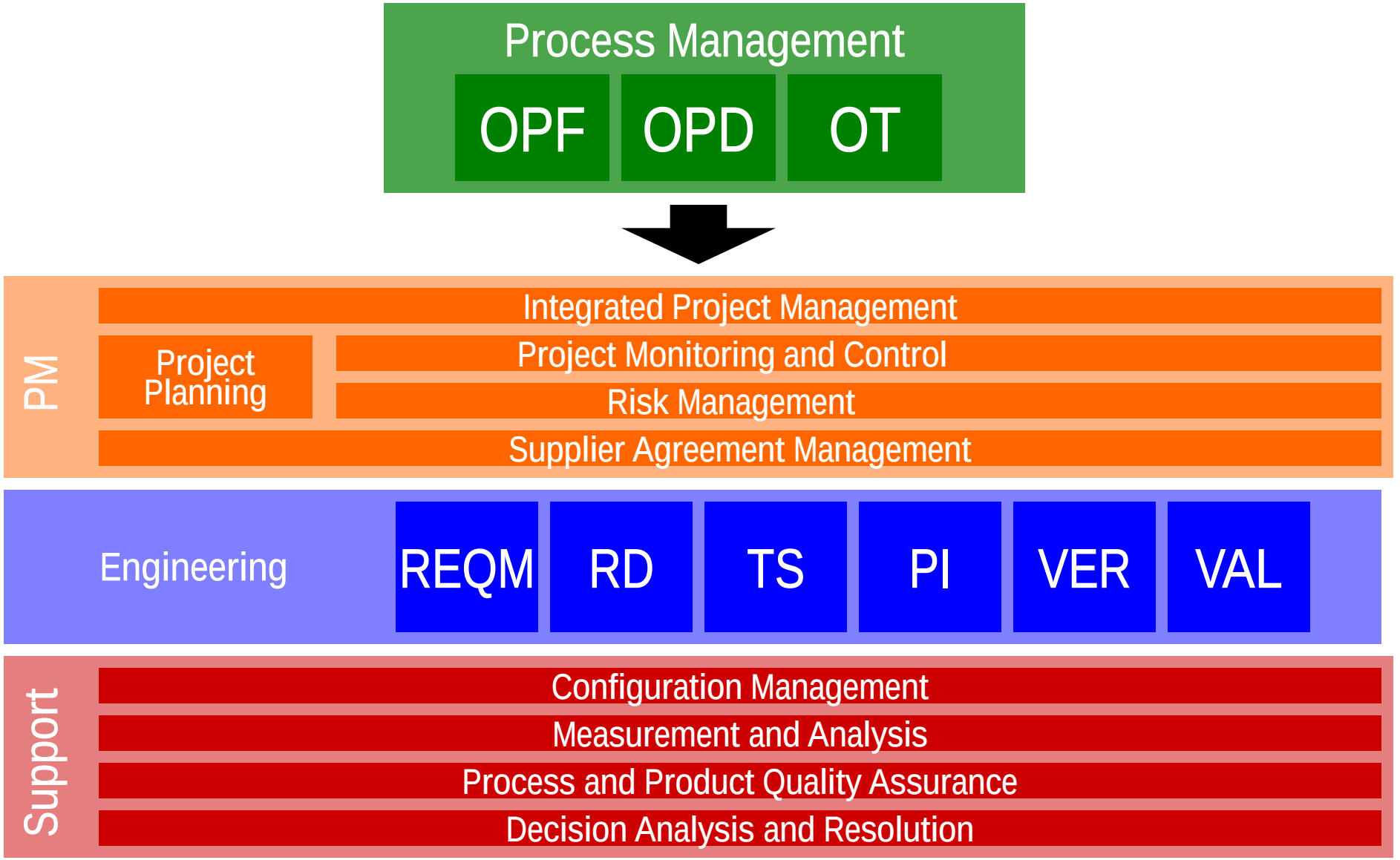
- It's management's job to develop systems and tools and teach employees how to use them
- Its the employee's job to use the systems and tools and to recommend improvements based on their experience with them
- Management makes sure employees understand the idea behind the work they are being asked to do
- Avoid "Management by Abdication"!

Source: *The e-Myth Revisited,* Michael E. Gerber, HarperCollins Publishers, 1995

The Capability Maturity Model Integration

- The CMMI is a framework that describes the key elements of an effective systems and software process, and provides for an evolutionary improvement path from an ad hoc, immature process to a mature, disciplined one.
- The CMMI guides engineering organizations that want to gain control of their processes for developing and maintaining systems and software and to evolve toward a culture of software engineering and management excellence.
- The intent of the CMMI is to install a process infrastructure that supports standardization, scalability, continuous re-evaluation, and improvement – *in other words, an engineering system*

CMMI Engineering Business Model Philosophy



Generic Practices

2.1 Establish an Organizational Policy
2.2 Plan the Process
2.3 Provide Resources
2.4 Assign Responsibility
2.5 Train People
2.6 Manage Configurations
2.7 Identify and Involve Relevant Stakeholders
2.8 Monitor and Control the Process
2.9 Objectively Evaluate Adherence
2.10 Review Status with Higher Level Management

3.1 Establish a Defined Process
3.2 Collect Improvement Information

Examples of Working IN versus ON Your Business - 1

IN

Reacting to project problems after they occur

Becoming good at *responding to customer complaints*, instead of eliminating them

ON

Instituting a *cross-project measurement and periodic review program* that illuminates and addresses potential issues *before* they occur

Reviewing *how* projects are accomplishing their work, and that they are following the organization's expectations

Examples of Working IN versus ON Your Business - 2

IN

Letting teams approach projects however they'd like, and bringing in whatever tools they want

ON

Instituting a ***consistent engineering process***, and constantly measuring and refining it based on facts

Quantitatively evaluating and implementing new technologies/tools in a disciplined fashion

Examples of Working IN versus ON Your Business - 3

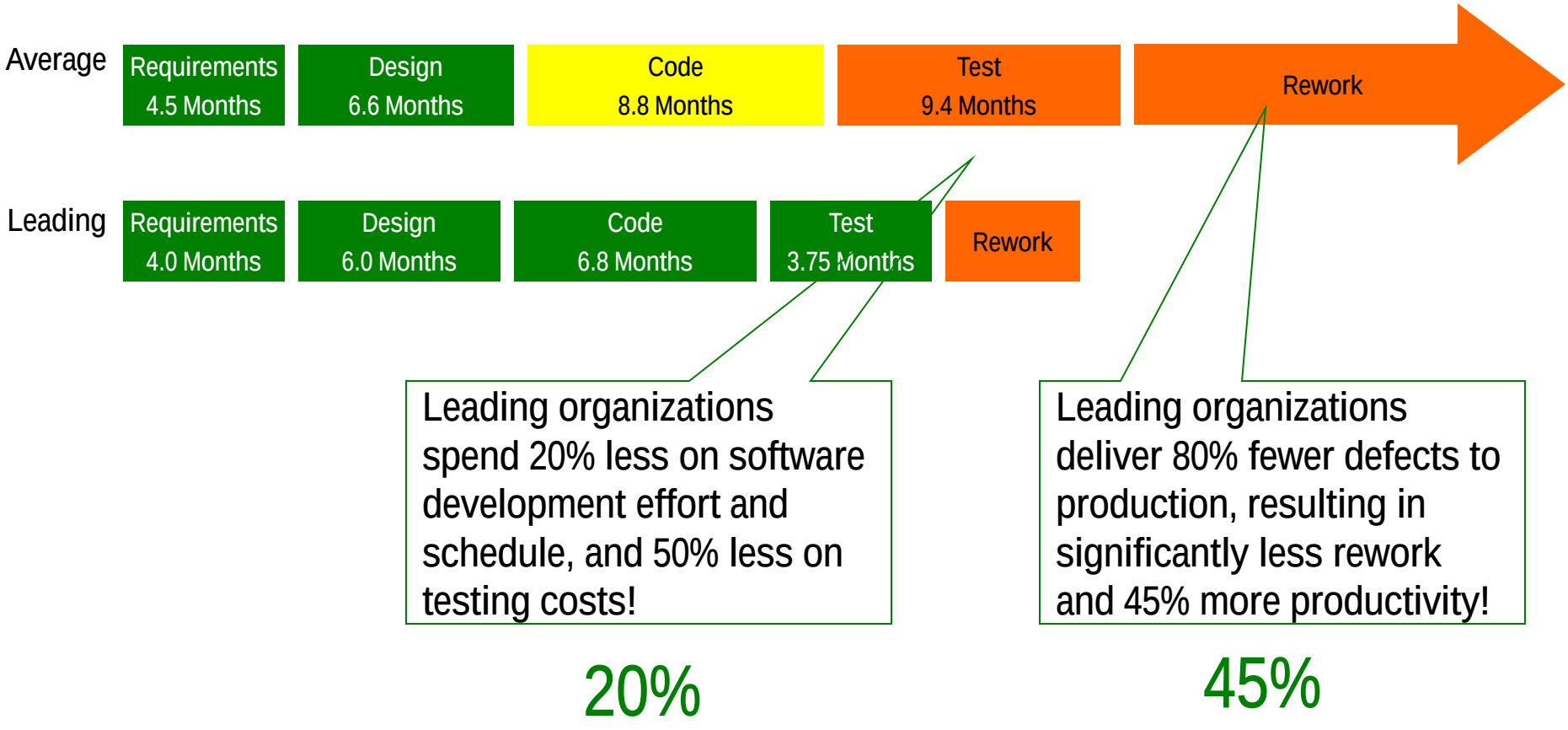
IN

Allowing key project decisions to be made by the political/ influential power of certain project team members

ON

Requiring DAR to be used in a light-weight, but quantitative fashion to remove individual and political influence out of the process

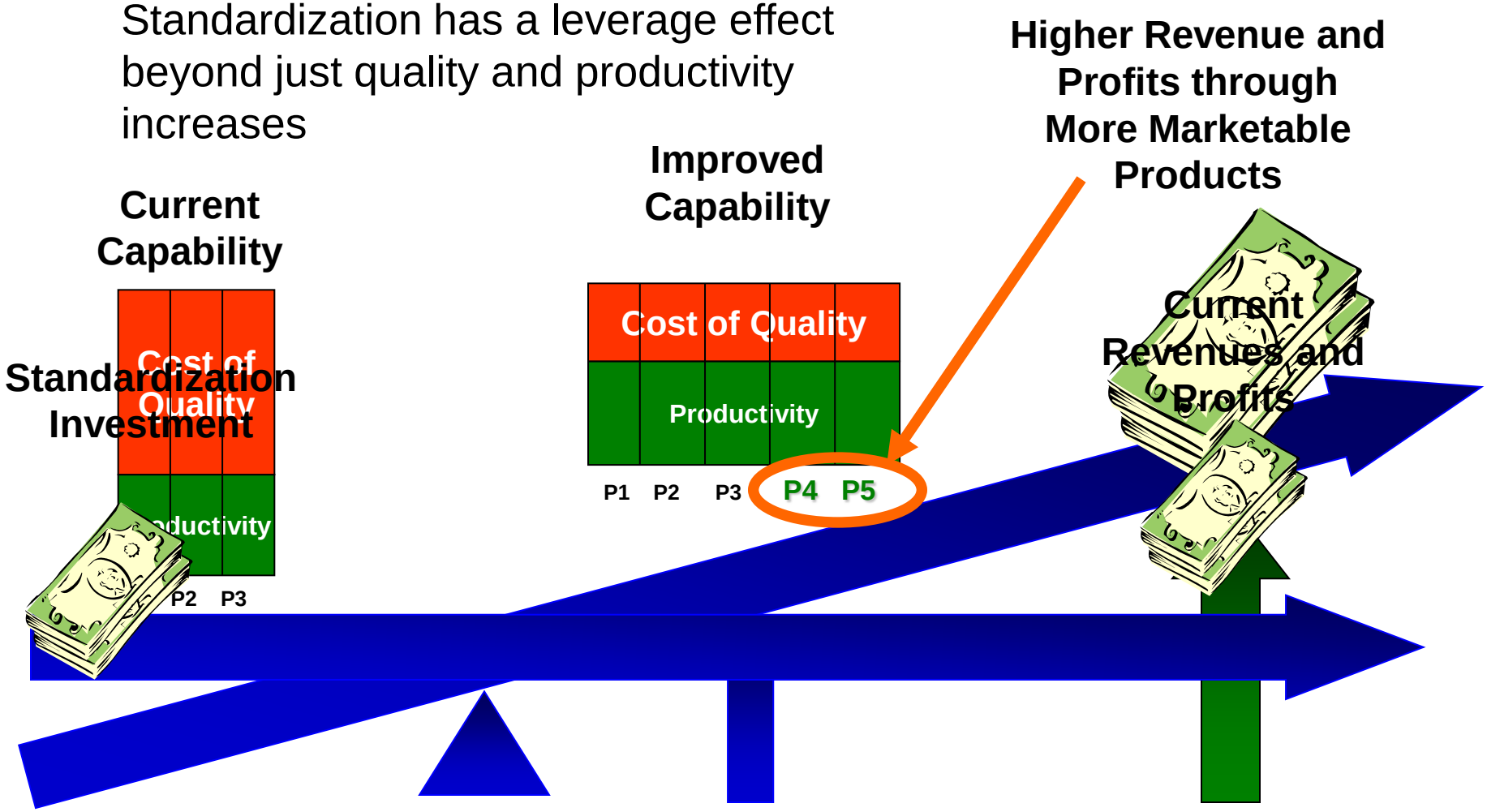
Example: 65% More Productivity



COMPARE: Trailing organizations spend 30% of project resources on testing, leading organizations spend 15%

Leverage

Standardization has a leverage effect beyond just quality and productivity increases



Thank You!

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