Leading Lean Software Development
Results Are Not the Point

Introduction
Framing

Weathering the Perfect Storm[1]

Sweden's Handelsbanken has placed a large sum of money in an account at the Riksbank in a bid to help the central bank safeguard the financial system. —Stockholm, June 17, 2009 (Reuters)

> Svenska Handelsbanken is one of the top 25 banks in Europe. It was not just the only bank that survived the Swedish banking crisis in the 1990s without asking for government support—it has also done very well in the 2008/2009 crisis. Handelsbanken did not have to raise capital or ask for government support and its shares have been the best performing European bank stock by a wide margin. Despite its large size Handelsbanken has, in many ways, acted as a shock absorber, not a shock amplifier, to the financial system.[2]

In 1970, Svenska Handelsbanken was 100 years old and deeply troubled. It was trying mightily to become the largest bank in Sweden, and costs had gotten out of control. To make a bad situation worse, a small provincial bank in northern Sweden was eating into its market share. When the Handelsbanken management team abruptly resigned, its board decided to recruit the head of the upstart competitor as

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[1] Information in this section is from Wallander 1999. "Budgeting—An Unnecessary Evil."

[2] Jacket text for Kroner 2009. *Svenska Handelsbanken: A Blueprint for Better Banking*

Handelsbanken's new managing director. Dr. Jan Wallander was a professional economist turned banker who had his own ideas about how to run a bank.

The first thing Wallander did was to make it clear that growth is not the point; profitability is what matters. He insisted that everyone in the bank stop trying to bring in as much revenue as possible and start focusing on generating profitable revenue instead. To accomplish this goal, he had information systems publish a few key metrics for each branch immediately after the end of each month, numbers such as the cost-to-income ratio (the inverse of profitability) and income per employee (productivity). Then he gave branch managers the freedom to manage their affairs locally. They could decide which products to sell, how much money to spend, how many employees to hire, and so on. Wallander felt that central control got in the way of the people closest to customers, slowed down their reaction time, and stifled their creativity. So decision-making authority devolved to branch managers; staff groups were dramatically reduced in number and size, and those that remained had to sell their services to the branches.

Each month branch managers could see how they stood relative to their peers on the key measures. Wallander believed that this kind of competition among branches provided a continuing challenge that drove each branch to constantly improve the things that really mattered. To keep this competition friendly, there were no bonuses based on the relative internal standings. Instead, Wallander established one of the earliest profit-sharing programs in Sweden, with payouts to a pension fund based on the overall profitability of the company relative to its external competitors.

The bank's goal was to be more profitable than comparable banks. From 1972 onward, Handelsbanken has been more profitable than the mean of all of its competitors, and generally it has been the most profitable bank in Sweden, although occasionally it was in second or third place. Shortly after Wallander took over, two Swedish banks merged to form a bank much larger than Handelsbanken; it took 23 years for Handelsbanken to grow back into the largest bank in Sweden—this time without explicitly trying.

The results of Wallander's approach were both immediate and long-lasting. Svenska Handelsbanken is among the most cost-efficient banks *in the world*. Moody ranks its financial strength among the top ten European banks, something that comes in handy during the periodic financial crises that plague the banking industry. It has continued to grow, expanding to other Nordic countries as well as the UK. Frequently ranked as a top place to work, Handelsbanken has the most satisfied customers, the lowest employee turnover, and the highest investor return of any Swedish bank.

Jan Wallander understood that the most effective, responsive organization is one where small unit leaders make local decisions. He devised an organizational structure, governance approach, and culture that reliably engaged the creativity and dedication of knowledge workers at hundreds of local branches. Four decades later, his vision is credited with helping Handelsbanken weather one of the worst financial storms in a century.

The Leadership Frame of Great Companies

What does Handelsbanken have in common with Nucor Steel, SAS Institute, W. L. Gore, Southwest Airlines, Semco, and Toyota? Each of these companies has developed a *culture of high involvement*, each thrives in *an industry of high change*, and each has sustained *best-in-industry performance* over time. And each company credits its unique culture for its success. Interestingly, the cultures of these companies are not all that unique; in fact, they are remarkably similar. Consider these descriptions of company culture, direct from each company's Web site:

Nucor Steel[3]

> *Our Culture:*
> Safety First
> Eliminating Hierarchy

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[3]   www.nucor.com/story/chapter3/.

Granting Trust and Freedom
Giving All Workers a Stake in the Company
Turning Everyone into a Decision Maker
Inspiring a Work Ethic

SAS Institute[4]

If you treat employees as if they make a difference to the company, they will make a difference to the company. That has been the employee-focused philosophy behind SAS' corporate culture since our founding in 1976. At the heart of this unique business model is a simple idea: satisfied employees create satisfied customers.

"We've worked hard to create a corporate culture that is based on trust between our employees and the company," explains SAS President and CEO Jim Goodnight, "a culture that rewards innovation, encourages employees to try new things and yet doesn't penalize them for taking chances, and a culture that cares about employees' personal and professional growth."

W. L. Gore & Associates[5]

How we work at Gore sets us apart. Since Bill Gore founded the company in 1958, Gore has been a team-based, flat lattice organization that fosters personal initiative. There are no traditional organizational charts, no chains of command, nor predetermined channels of communication.

Instead, we communicate directly with each other and are accountable to fellow members of our multi-disciplined teams. We encourage hands-on innovation, involving those closest to a project in decision making. Teams organize around opportunities and leaders emerge.

Southwest Airlines[6]

The mission of Southwest Airlines is dedication to the highest quality of Customer Service delivered with a sense of warmth, friendliness, individual pride, and Company Spirit.

We are committed to provide our Employees a stable work environment with equal opportunity for learning and personal growth. Creativity and innovation are encouraged for improving the effectiveness of Southwest Airlines. Above all, Employees will be provided the same concern, respect, and caring attitude within the organization that they are expected to share externally with every Southwest Customer.

Southwest Airlines is famous for its remarkable management philosophy: employees first, customers second, shareholders a distant third. When we look at other truly successful companies, we notice that they have a similar philosophy. In these companies, front-line people are highly valued, are expected to make local decisions, and are effectively engaged in delivering superior customer outcomes. As a result, the companies gain two significant advantages: (1) Workers routinely dedicate their intelligence and creativity to help the company be successful, and (2) the company is adaptive; it can detect and quickly respond to changing market conditions and opportunities.

The purpose of this book is to explore how we might adapt the way these great companies frame the role of leadership to organizations involved in developing software-intensive systems.

Frames

Deep frames pervade TPS that fundamentally alter how the system is understood and therefore how to proceed with implementation. If managers and program leaders fail to understand the frameworks underlying TPS, they miss the point and therefore fail to achieve the expected results.[7]

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[4] www.sas.com/jobs/corporate/index.html.

[5] www.gore.com/en_xx/aboutus/culture/index.html.

[6] www.southwest.com/about_swa/mission.html.

[7] We thank Michael Ballé, Godefroy Beauvallet, Art Smalley, and Durward Sobek for their paper "The Thinking Production System" (Ballé et al. 2006), which inspired the theme of this book. This quote is from that paper. TPS is an abbreviation for the Toyota Production System, and also the Thinking People System.

When coauthor Tom isn't thinking about software development, he pursues his passion, which is photography. He captures stunning scenic views and creates dynamic photo journals of conferences. When you look at his photographs, you see the world through his eyes; he has carefully framed each photograph to guide your attention to the subject and purpose of the image, whether it is an engaged conversation, a sweeping view of a spectacular sunrise, or a tightly framed view of an incongruous detail. The first thing Tom does when he creates a photograph is to decide on the perspective and framing that will lead to an effective composition. Sometimes he creates a frame with his hands to help him concentrate both on how the elements inside the photograph flow together and on which things to leave out of the frame because they would detract from the subject. Only after Tom has framed a picture does he consider the details of focus, depth of field, exposure, improving the lighting, and so on. In the end, each of Tom's photographs tells a story about the subject from his chosen perspective.

According to cognitive scientists, we all interpret our surroundings through frames—mental constructs that shape our perspective of the world. Frames are sets of beliefs about what elements to pay attention to and how these elements interact with each other. Frames place significant limits on our perspective; we can see only what our frames tell us is meaningful, and we usually ignore what lies outside the boundaries. Most of us are unaware of the way our background and experience shape the way we frame our decisions and actions; only a few of us consciously adjust our frames as if we were photographers. In fact, we seldom even think about the direction in which we are pointing our cameras.

Everyone shapes his or her view of the world through framing, and people with different backgrounds are likely to see their surroundings through vastly different frames. By themselves, frames are not inherently good or bad; they just are. However, evidence has shown that certain frames are more likely than others to lead to long-term business success. For example, as we will see later, Southwest Airlines frames its business in a strikingly different manner from most other airlines. And over its almost 40-year life span, Southwest has been more successful than airlines employing different frames, including airlines that have copied many of Southwest's practices. Similarly, Toyota frames its business differently from the Big Three automakers in Detroit, and although most automakers have adopted lean practices, their thinking frames have not really changed. Like Southwest, Toyota is a major player in the automotive business, and not coincidentally, Toyota, Southwest Airlines, and Svenska Handelsbanken all see the world through similar frames.

Whatever frame you use limits the questions you think to ask, the decision alternatives you consider, and the consequences you anticipate from those decisions. Sometimes you may be surprised and perhaps disappointed when things don't work out as expected. It is possible that the execution of the decision was at fault, or that events conspired to change the results. But it is more likely that your frame of reference, your thinking system, is the culprit. If you are not seeing the results you expect from your current direction, consider moving to a different place, re-aim your camera, and look at the problem through a different frame.

Framing the System Development Process

This book is divided into six chapters. Each chapter contains four frames, so over the course of the book we will look through 24 different frames to get a good picture of how a lean development process should work. Taken as a whole, the 24 frames present a coherent leadership framework for system development. We conclude each chapter with a portrait of the leader who is responsible for creating focus through its four frames. (See Figure I-1.)

Systems Thinking		Technical Excellence	
Customer Focus	System Capability	Essential Complexity	Quality By Construction
End-to-End Flow	Policy-Driven Waste	Evolutionary Development	Deep Expertise
Product Champion: Take 1		Competency Leader	
Reliable Delivery		**Relentless Improvement**	
Proven Experience	Level Workflow	Visualize Perfection	Establish a Baseline
Pull Scheduling	Adaptive Control	Expose Problems	Learn to Improve
Product Champion: Take 2		Manager as Mentor	
Great People		**Aligned Leaders**	
Knowledge Workers	The Norm of Reciprocity	From Theory to Practice	Governance
Mutual Respect	Pride of Workmanship	Alignment	Sustainability
Front Line Leader		Leaders at all Levels	

Figure I-1

The big picture

Chapter 1, Systems Thinking, starts, appropriately enough, by focusing on customers. It examines the nature of customer demand, distinguishing between value demand and failure demand. It investigates how our work systems can predictably and effectively anticipate and deal with demand, and how our policies often interfere and create waste. The chapter concludes with a portrait of a leader who creates a vision of how to delight customers.

Chapter 2, Technical Excellence, covers the basics of excellent software development—low-dependency architecture, a test-driven development process, an evolutionary development approach, and the importance of deep expertise among developers. The highlighted leader in this chapter is the competency leader.

Chapter 3, Reliable Delivery, starts by finding the biggest constraint in the system and learning how to manage the risk posed by that constraint. It discusses workflow and schedule, and the essential contribution of feedback. The highlighted leader is the product champion—the same leader we met in Chapter 1, but this time in the role of leading implementation.

Chapter 4, Relentless Improvement, discusses the essential characteristic of any lean organization: constant, ongoing, never-be-satisfied improvement. It shows how improvement works, suggests some tools, and features the manager as mentor of improvement.

Chapter 5, Great People, starts with the assumption that great results come from great people, so the essential question is how to create great people. It starts with the basic tenet that people treat others the way they are treated, then walks through the four Ps: Purpose, Passion, Persistence, and Pride. The chapter highlights the front-line leader, who has the most influence on the way people think about their work.

Chapter 6, Aligned Leaders, discusses and gives examples of developing alignment on the leadership team. It has several lists of ideas for your leadership team to ponder as you turn theory into practice.

Chapter Bibliography

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