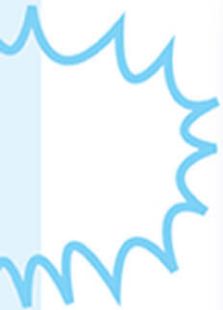
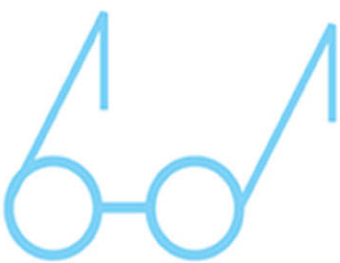
"The new bible for value stream mapping and improving organizational performance."
—Art Byrne, former CEO, The Wiremold Company, and author, *The Lean Turnaround*

VALUE STREAM MAPPING





How to Visualize Work and Align Leadership for Organizational Transformation

Karen Martin

Author of the Shingo Research Award–winning *The Outstanding Organization*

AND Mike Osterling

Praise for *Value Stream Mapping*

"Value stream mapping is often misunderstood and underutilized. Strategically, it can be a Rosetta stone to help bring disparate organizational silos together and a catalyst for stimulating and prioritizing enterprise-wide transformation. Karen and Mike have produced another terrific guide. Read it, practice it, share it, teach it."

—Steve Bell, author, *Run Grow Transform*

"*Value Stream Mapping* is a 'must read' that should be immediately followed by a 'must do.' It's a straightforward approach to achieve a truly Lean supply chain."

—Ed Brekke, Vice President,
Schneider Production System, Schneider Electric

"One of the most important tools in the Lean toolbox is value stream mapping. Done correctly—especially in non-manufacturing environments—it can serve as the foundation for a much broader Lean transformation. Martin and Osterling have created the new bible for value stream mapping. It is a must have for improving value streams in any industry. As they correctly point out 'very few things are unmanageable once they are distilled to their basic components.'"

—Art Byrne, former CEO, The Wiremold Company,
and author, *The Lean Turnaround*

"In *Value Stream Mapping*, Karen and Mike not only provide a great how-to book for transforming value streams, they also demonstrate the benefits that taking a holistic view can have on an organization's culture and commitment to customer value. There is something to learn for the novice and expert on every page."

—Jeff Chester, Chief Revenue Officer &
Senior Vice President, Availity

"Everyone in the office looks the same . . . a person in a cubicle facing a computer monitor. Value stream analysis helps a team learn to truly see the work and then to collaborate for improvement. This book brilliantly describes the process with good examples so you can get moving!"

—Jean Cunningham, author, *Real Numbers*

"Martin and Osterling describe why value stream mapping is necessary for *any* organization and how it can be used as the means to achieve strategic transformation. They've done a fabulous job at explaining the what, why, and how, as well as the pitfalls to avoid. Follow the guidelines in this book and watch your performance soar."

—Raju Deshpande, Senior Vice President,
East West Bank

"*Value Stream Mapping* is a wise and practical guide that will help you lead transformation efforts in your organization. While some think of value stream mapping as a 'Lean tool,' Martin and Osterling rightly emphasize the strategic value of looking at the big picture and improving your entire value stream from suppliers to the customer and all points in between. The book is full of tips and lessons learned to help you avoid mistakes and maximize the results that you get from the time invested into proper value stream mapping."

—Mark Graban, author, *Lean Hospitals*

"Value stream mapping has helped many organizations understand not only how to see, but to also improve and enhance the value they produce and deliver to their customers. But understanding how to accomplish this in information-intensive businesses has been a substantial gap in business and industry. Martin and Osterling unleash and deliver the principles, practices, and tools for organizations to not only fill this gap but, from their extensive hands-on experience, to understand, actuate, and extensively transform value streams to maximize enterprise-wide customer value."

—Jim Huntzinger, President & Founder,
Lean Frontiers, and author, *Lean Cost Management*

"Despite decades of viewing value stream mapping as the core tool of Lean transformations, there is still confusion. Karen and Mike put mapping in its proper perspective as a methodology for getting high-performing teams to see waste, share a future state vision, and build meaningful actions that are carried out with passion and purpose."

—Jeffrey Liker, author, *The Toyota Way*

"Value stream mapping stands as the best tool available to really grasp what's happening in your supply chain—allowing you to focus your improvement activities for maximum benefit. Nobody does a better job

than Martin and Osterling of laying out the nuts and bolts of engaging all levels in your organization in the application of value stream mapping to feed high impact continuous improvement. This is one of the best books available on the subject—buy it, teach it, use it—and your supply chain will become a competitive weapon!"

—Kevin Limbach, Vice President, U.S. Operations,
TaylorMade-adidas Golf Company

"Martin and Osterling have written an excellent book that shows you how to do value stream mapping and do it right. Follow their advice and your organization will get the profoundly radical change required to better serve your customers and create unprecedented profits and agility."

—Brian Maskell, author, *Practical Lean Accounting*

"Building on past works, *Value Stream Mapping* goes beyond the tool itself and effectively describes the leadership practices required to identify, improve, and manage value streams. Of particular note is the discussion on sustaining improvements, which is often difficult or even ignored. Karen and Mike describe how appropriate leadership systems can make it surprisingly easy. Wide-ranging examples make this book valuable to any industry or function."

—Kevin Meyer, former President, Specialty Silicone
Fabricators, Inc., and author, *Evolving Excellence*

"Value stream mapping has evolved from its roots as a tool used by geeks to reimagine and reconfigure manufacturing operations to a process to enable deep organizational intervention and transformation. With *Value Stream Mapping*, Karen Martin and Mike Osterling provide an outstanding guide for practitioners engaged in the challenging work of improving the horizontal flow of value across organizations."

—John Shook, Chairman and CEO, Lean Enterprise
Institute, and coauthor, *Learning to See*

"This is more than a primer on value stream mapping. Martin and Osterling hone in on the key conditions that should be set in place to ensure a successful outcome, and how value stream mapping can better align the leadership team. These pearls of wisdom and insight come from their many years facilitating and deploying Lean in a wide range of organizations, companies, and institutions."

—Rick Sunamoto, Vice President, Manufacturing,
HM Electronics, Inc.

"No complex journey should start without a map. Karen and Mike use a clear writing style and strong examples to drive this point home and to provide the tools needed to improve planning and performance in any organization. Their book is an important addition to the leadership arsenal."

—Daryl Tol, President & CEO,
Florida Hospital Volusia Flagler Market,
Adventist Health System

"Value stream mapping is a powerful tool in the hands of smart organizations. Martin and Osterling's latest book is a practical guide that will lead you through the important steps to creating value for your customers. Whether you work in healthcare or any other service industry, value stream mapping can improve your organization as it has mine."

—Daniel Wolcott, President & CEO,
Takoma Regional Hospital,
a member of the Adventist Health System

"Karen Martin and Mike Osterling have done it again! *Value Stream Mapping* provides the clarity and step-by-step guidance that is sorely needed to help Lean practitioners and leaders in the office. The experience and relevance they provide will make this the latest well-thumbed and often-referenced guide to enterprise value stream mapping."

—Jerry Wright, President, LEANwRIGHT, Inc.
and former Senior Vice President, Lean and
Enterprise Excellence, DJO Global, Inc.

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VALUE STREAM MAPPING

How to Visualize Work and Align Leadership for Organizational Transformation

Karen Martin AND Mike Osterling

New York Chicago San Francisco Athens London Madrid
Mexico City Milan New Delhi Singapore Sydney Toronto

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From Mike

To my wife, Dianne, and our sons, Ryan and Sean,
for their sacrifices and support on this journey.

Without their inspiration and patience this undertaking
would not have been possible.

From Karen

To Jenna Martin, a natural Lean thinker and
a bundle of talent.

I appreciate deeply all that I continuously learn from this
inspiring and kindhearted young lady.

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Acknowledgments

Very few people know how many times—and for how many years—we considered writing this book and then decided against it. We felt that the value stream mapping ship had sailed. But the more we talked with improvement professionals and leaders from a wide range of industries and learned of the struggles they encountered on their journey toward operational excellence, the more we realized that there was indeed a gap in the business book marketplace that needed to be filled. The true catalyst for writing this book, and sharing our perspective on value stream mapping, resulted from repeated requests from our peers, readers of our previous books, workshop and webinar participants, social media connections, and our own clients. Many people who had heard of or experimented with value stream mapping wanted to gain a deeper understanding than was available on the subject. So our first batch of thank yous (yes, we're batching) is for all of those people who asked, graciously accepted our reasons for not wanting to write this book, and then asked again. Without your encouragement and persistence, this book would likely not exist.

Our second batch of thank yous goes to Dan Jones, Beau Keyte, John Krafcik, Jeff Liker, Drew Locher, Daniel Roos, Mike Rother, John Shook, and Jim Womack. Each of these gentlemen is a trail-

blazer who has contributed to the transformation of businesses and industries around the world. Without their profound knowledge and thought leadership, we would likely still be wrestling with how best to help organizations design effective and efficient operations, connect more deeply with their customers, learn to see the truth about their performance, and ease the process of improvement and organizational transformation. Without these great minds and their insights, we would have neither the client experiences nor the knowledge required to attempt an undertaking such as this book.

Thank you, too, to the crackerjack team at iGrafx—especially Kim Scott and Gretchen Burthey—who generously gave their time, expertise, and development skills to find the best way to present the value stream maps in a format that works for both print and e-books. Your responsiveness and patience was a godsend.

Heartfelt thank yous go to our friends and colleagues who gave their time to read the book, give constructive feedback, and offer kind words when they were warranted: Steve Bell, Ed Brekke, Art Byrne, Jeff Chester, Jean Cunningham, Raju Deshpande, Mark Graban, Jim Huntzinger, Kevin Limbach, Brian Maskell, Rick Sunamoto, Daryl Tol, Daniel Wolcott, and Jerry Wright. And a very special thank you goes to Ed Gwozda who generously read the manuscript twice and provided spot-on feedback.

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Finally, a deep thank you to publishing maestro John Willig for his unwavering support and his exceptional ability to walk the talk. "Ever onward, Mr. Willig!"

Introduction

We view value stream thinking as a fundamental mindset for business success. Without it, organizations fail to develop customer-centric processes and fail to organize in a way that best serves the very reason they exist.

Value stream mapping is a practical and highly effective way to learn to see and resolve disconnects, redundancies, and gaps in how work gets done. It is not merely a tool. It's a team-based methodology that we believe is the foundation of a proven management practice. In our experience, organizations that don't use value stream mapping to understand and improve their operations are far less likely to experience outstanding performance. We believe it's been the missing link in business management and, used effectively, has the power to address many business woes. We realize that's a bold statement and a tall order to place on a single methodology. But we encourage you to suspend your disbelief until you reach the last page of this book and have experimented using value stream mapping as it was originally intended.

In 1999, the seminal work *Learning to See* was published and transformed the way many people viewed how work flows—or, more commonly, doesn't flow—through an enterprise. Authors Mike Rother and John Shook altered the course of operations design—

perhaps to an extent that even they had not anticipated. Value stream mapping presented a holistic and visual way to deeply understand how work gets done and to design an improved future state. Rother and Shook also introduced us to a more powerful process measurement framework than previous improvement methodologies had. As a result, countless organizations have changed how they deliver value to their customers, measure their performance, and design work to maximize their performance—in manufacturing.

In 2004, Beau Keyte and Drew Locher broke ground with the first book that addressed how to use value stream mapping to improve the administrative areas within manufacturing. *The Complete Lean Enterprise* not only addressed some of the nuances that need to be taken into account when analyzing, designing, and managing information-intensive settings, but it also introduced the most powerful metric we've seen for analyzing processes in office, service, and knowledge work environments: percent complete and accurate (%C&A). However, as groundbreaking as the book was in applying value stream mapping in office environments, it focused exclusively on office environments within the manufacturing sector.

The improvement community has come a long way since 2004. Owing to the continued study of and a growing body of work around what makes Toyota tick, our collective understanding about Lean management practices has deepened. Organizations in every sector are now adopting Lean principles and practices, and applying Lean tools to support those practices. We wrote this book primarily for organizations in information-intensive office, service, and knowledge work environments—communications, construction, education, energy, entertainment, financial services, food service, government, healthcare, hospitality, intelligence, law, law enforcement, military, nonprofits, publishing, real estate, research and development, retail, social services, technology, transportation, and travel and tourism sectors—and for manufacturers who wish to transform the way

their office areas operate to better support the delivery of value to customers. We set out to address three significant disconnects we frequently see in organizations:

1. Many organizations remain unfamiliar with value stream mapping as a methodology, a foundation for Lean business management, and a means to build outstanding organizations. As a result, they are slower to achieve measurable improvement and to adopt customer-centric thinking.
2. Many of those organizations that have adopted value stream mapping are underutilizing the methodology because they don't fully understand the why, what, and how of the approach—especially in office, service, and knowledge work environments. Failure to involve leadership, employ cross-functional teams, and include relevant metrics, for example, often results in subpar future state designs that collect dust.
3. Many organizations are misusing value stream mapping and, as a result, not reaping the full set of benefits the approach offers. For example, using value stream mapping to map at a process level misses the entire point of value stream mapping: viewing work systems from macro-level perspectives in order to create organization-wide alignment.

It is our hope that you'll use this book to begin using value stream mapping as a means to manage your business or, for organizations with value stream mapping experience, as a resource to reflect and see how you can improve the effectiveness of your value stream mapping efforts. There are too many business problems to be solved and too many opportunities to be leveraged to operate without a highly effective means for accomplishing the important work to be done.

Some notes about this book:

1. While we wrote this book to specifically address value stream mapping in office, service, and knowledge work environments, much of the content also applies to production value streams within manufacturing. Since we've included detailed content about who should map, how mapping should be planned and conducted, and what steps need to be taken after mapping, those in manufacturing will also benefit from these considerations.
2. This book focuses on the benefits of value stream mapping, how to plan for and conduct value stream mapping activities, and how to manage value streams to sustain the gains and drive ongoing improvement. It's beyond the scope of this book to address ways for solving specific value stream problems and leveraging opportunities that may exist. While we refer to potential tools and countermeasures, they are not explained in detail. There are volumes of books written about nearly every type of Lean tool. Value stream mapping facilitators need to possess proficiency in using the full spectrum of potential countermeasures.
3. It's a challenge to write a book that every reader sees as meeting his or her very specific needs. All too often, people have difficulty applying concepts to their own environment and become overly concerned with the specifics of examples given rather than focusing on the concept itself. When we began writing this book, we planned on including value stream maps from various industries and settings in the body of the book to illustrate the how-to elements of mapping. Midway through the writing process we decided to, instead, teach the step-by-step process for creating

maps by using a generic map that could apply to any environment. We made this decision to assure the highest degree of learning and to minimize the distraction that could result if a reader has difficulty seeing the conceptual similarities, for example, between patient flow and software development, or between litigation and designing a commercial structure. We use the generic map throughout the book to illustrate the progressive nature of building a value stream map.

Recognizing the benefits of integrating actual (sanitized) maps, we've included five sets of industry-specific value stream maps in Appendices B–F to enable the reader to see not only how work and information are depicted on a map, but also the varying degrees of complexity that actual value stream maps often have. Each Appendix includes a current state and future state value stream map, and a table that shows the summary metrics for the current state and projected metrics for the future state design.

These examples represent three types of maps (full value streams, support value streams, and value stream segments) and illustrate the similarities and differences in maps from different environments. Between the two of us, we've facilitated team-based value stream mapping activities (or have advised those creating value stream maps) in nearly every industry and environment. We believe these five examples provide a solid foundation for you to envision how completed value stream maps in your environment could look.

While we've included an explanation for each map, we've limited the details to those that are most relevant for understanding "the big picture." Our intention is to highlight the specific learning points that we feel are most relevant. Each of the mapping activities we facilitate offers

enough fodder for detailed case studies, but that is not the intent of the Appendices.

4. For clarity, expediency, and publishing ease, we've relied on iGrafx Flowcharter to create electronic versions of the value stream maps we've included in this book. *Please don't assume that value stream maps must be put into some sort of electronic form*. On the contrary, we first create maps using paper and Post-its on a wall and recommend that you do as well. That said, digitizing a manually produced value stream map provides an easier way to share and store the maps. If your value stream map is fairly simple, taking a picture of it may be sufficient for creating an electronic means to share and store your maps. But if the map is more complex than what a photo can adequately capture or you would like the means to auto-calculate the summary metrics that are key for measuring improvement, software becomes your friend. There are several other software options available for documenting value stream maps electronically. We prefer iGrafx.

This book offers a series of guidelines (versus hard-and-fast rules) that we've found to deepen results and accelerate improvement. Some of these guidelines relate to actual mapping conventions, whereas others relate to leadership engagement, the sequence of events, mapping execution, and deploying the future state design. As with any methodology, you may need to adapt our perspective to suit your environment. That said, make sure that your reasons for adaptation are sound and that you aren't rejecting new mindsets and behaviors that would allow you to reap the greatest benefits that value stream mapping offers.

One final note—and it's a caution: Please keep in mind that, while tools are necessary for performance improvement, they are not suf-

ficient. Rather than viewing value stream mapping as just a tool to reduce operational waste, the broader use of value stream mapping as a methodology to transform leadership thinking, define strategy and priorities, and assure that customers are receiving high levels of value (versus focusing merely on reducing operational waste) is where value stream mapping earns its brightest stripes.

Now let's dig in. There's much to learn.