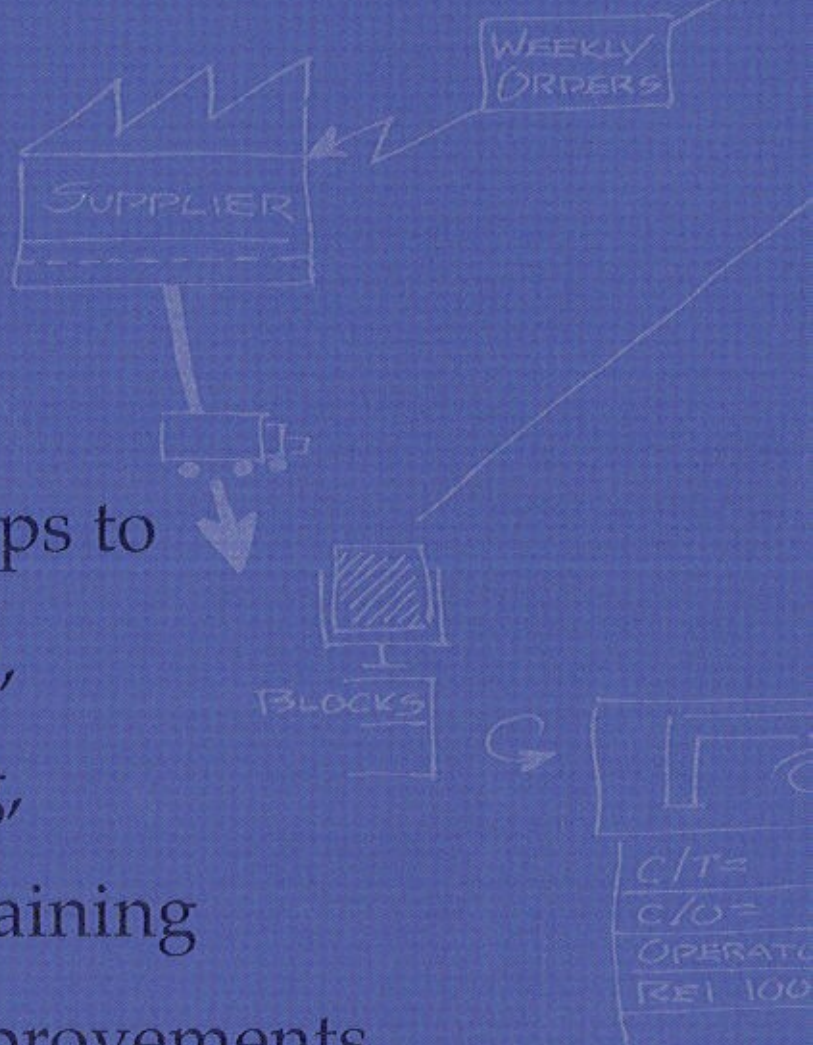


Value Stream Management

Eight Steps to
Planning,
Mapping,
and Sustaining
Lean Improvements

Don Tapping, Tom Luyster
and Tom Shuker



Contents

Overview: Value Stream Management	1
The Purpose of This Book	2
The Origins of Value Stream Management	2
Who Should Read this Book?	2
Learning Features	3
 Introduction: The Value Stream Management Process	5
The Value Stream Management Storyboard	5
Why Use Value Stream Management?	6
Make a True Commitment	7
Understand Customer Demand Thoroughly	7
Depict the Current State Accurately	8
Communicate, Communicate, Communicate!	8
Attributes of Value Stream Management	8
What Value Stream Management Is—and Is Not	9
Put People First	10
Key Lean Principles	10
 Step 1: Commit to Lean	11
Management Push or Worker Pull?	13
Catchball	14
Key Management Activities	15
1. Identify the Value Stream Manager/Champion and Core Implementation Team Members	15
2. Kick Off the Value Stream Management Project	17
3. Go to the Floor!	18
4. Review All Value Stream Kaizen Proposals	18
Invest in Your People	19
Short-Term Pains and Long-Term Gains	20
Implementing Lean Transforms a Business Culture	21
Commitment Checklist	22
Is Management Committed to Lean?	23

Step 2: Choose the Value Stream	25
What Is a Value Stream?	27
Selecting Value Streams for Improvement	27
Using PQ Analysis	28
Using Product-Routing Analysis	30
Additional Considerations for Value Stream Selection	31
 Step 3: Learn about Lean	 35
Training and Doing—The Balancing Act	37
The Training Plan	38
Key Concepts of Lean	40
The Cost Reduction Principle	40
The Seven Deadly Wastes	41
The Two Pillars of the Toyota Production System	42
The 5S System—A Key Prerequisite for Lean	45
Visual Workplace	46
Three Stages of Lean Application: Demand, Flow, and Leveling	46
Demand Stage	47
Understand Customer Ordering Patterns	48
Takt Time	48
Pitch	50
Takt Image: One-Piece Flow	51
Buffer and Safety Inventories	51
Finished Goods Supermarket	52
Lights-Out Manufacturing	53
Flow Stage	54
Continuous Flow	54
Work Cells	56
Line Balancing	57
Standardized Work	60
Quick Changeover	62
Autonomous Maintenance	63
In-Process Supermarkets	63
Kanban Systems	64
FIFO Lanes	65
Production Scheduling	66
Review of the Various Levels of Flow	66
Leveling Stage	67
Paced Withdrawal	68
Heijunka (Load Leveling)	68

Heijunka Box	69
The Runner	71
Identify Non-Lean Conditions	72
Premiere Manufacturing Case Study, Step 3	72
Step 4: Map the Current State	75
Value Stream Mapping	77
Map Material and Information Flow	78
How to Map the Current State	80
Getting Ready	80
Premiere Manufacturing Case Study: Step 4	81
Creating the Current-State Map	84
Step 4 Wrap-Up	89
Common Problems to Avoid	90
Step 5: Identify Lean Metrics	93
Lean Metrics: the Fundamentals	96
Steps for Identifying Lean Metrics	97
Premiere Manufacturing Case Study, Step 5	98
Discussion Topics to Help Identify Wastes	101
Lean Manufacturing Assessment	102
Step 6: Map the Future State	105
Begin the Future-State Map	107
Premier Manufacturing Case Study—Step 6, Begin the Future-State Map	108
Stage One: Focus on Demand	109
The Customer Comes First	109
Steps to Designing a Future State that Includes Customer Demand Elements ..	110
Premier Manufacturing Case Study—Step 6, Demand Stage: Determining	
Takt Time and Pitch	111
Premiere Manufacturing Case Study—Step 6, Demand Stage: Determining	
Ability to Meet Customer Demand	113
Premiere Manufacturing Case Study—Step 6, Demand Stage: Establishing	
Buffer and Safety Inventories	114
Premiere Manufacturing Case Study—Step 6, Demand Stage: Establishing	
Finished-Goods Supermarket	115
Premiere Manufacturing Case Study—Step 6, Demand Stage: Determining	
Which Improvement Methods to Use	116
Stage Two: Focus on Flow	117
Continuous Flow	117

Steps to Designing a Future State that Includes Continuous Flow Elements . . .	118
Premiere Manufacturing Case Study—Step 6, Flow Stage: Line Balancing	119
Premiere Manufacturing Case Study—Step 6, Flow Stage: Cell Design	121
Premiere Manufacturing Case Study—Step 6, Flow Stage: Controlling Upstream Production	122
Premiere Manufacturing Case Study—Step 6, Flow Stage: Determining Which Improvement Methods to Use	123
Stage Three: Focus on Leveling	124
Leveling Production	124
How to Level Production	125
Premiere Manufacturing Case Study—Step 6, Leveling Stage: Decide on Paced Withdrawal or a Heijunka System	126
Premiere Manufacturing Case Study—Step 6, Leveling Stage: Determine the Route of the Runner and Map Material and Information Flow	129
Why Maintaining Takt Image Matters	132
Step 6 Wrap-Up	132
Step 7: Create Kaizen Plans	135
Value Stream “Kaizen” Events	138
The Monthly Kaizen Plan	138
Milestones: Break the Plan into Manageable Pieces	138
Complete the Value Stream Management Storyboard	139
Catchball	140
Planning Recap	141
Prepare for Implementation	141
Step 8: Implement Kaizen Plans	145
Recommendations for Coping with Change	147
Keep the Big Picture in Mind	148
Wrap-Up	148
Glossary	149
References	153
Index	159