

# Table of Contents

PREFACE .....	8
Acknowledgements .....	9
Credits .....	10
CHAPTER 1. THE SUPPLY CHAIN COSTING JOURNEY—WHY YOU NEED TO TAKE IT .....	11
Supporting Research .....	12
The Journey to Implementing Supply Chain Costing .....	13
<i>Develop a Foundation for Effective Supply Chain Costing</i> .....	14
<i>Create an Appropriate Structure for Capturing Costs and Supporting Management Decision Making</i> .....	14
<i>Select the Appropriate Tools to Support Information Requirements</i> .....	15
<i>Link Cost Information to Performance Measurement and Value Creation</i> .....	15
<i>Strategies for Overcoming the Challenges Posed by Supply Chain Costing</i> .....	16
Summary .....	17
Chapter Endnotes .....	17
List of Figures	
<i>Figure 1-1. Key Findings from Supply Chain Costing Research</i> .....	12
<i>Figure 1-2. The Process, or Journey, for Implementing Supply Chain Costing</i> .....	13
<i>Figure 1-3. A Typical Supply Chain</i> .....	14
<i>Figure 1-4. Supply Chain Costing Tools Employed by Researched Firms</i> .....	15
<i>Figure 1-5. Integrating Supply Chain Costing with Strategy, Value, and Performance Measurement</i> .....	16
<i>Figure 1-6. Challenges to Implementing Supply Chain Costing</i> .....	17
<i>Figure 1-7. Strategies for Overcoming the Challenges Confronting Firms Implementing Supply Chain Costing</i> .....	17
CHAPTER 2. RESEARCH AND KEY RESULTS SUPPORTING THIS HANDBOOK .....	18
Key Research Findings .....	18
<i>Firms at Multiple Stages in the Supply Chain Costing Journey</i> .....	19
<i>Common Supply Chain Definitions are Missing</i> .....	19
<i>Costing is an Essential Supply Chain Competency</i> .....	20
<i>There is Limited Two-Way Sharing of Cost Information</i> .....	20
<i>Trust Issues Influence Cost Information Exchange</i> .....	21
<i>Supply Chain Costing Increases the Complexity of Cost Systems</i> .....	21
<i>Cost Transparency is Essential, But Unlikely for Supply Chain Costing</i> .....	22
<i>Other Findings</i> .....	24
Moving Forward .....	25
Chapter Endnotes .....	25
List of Figures	
<i>Figure 2-1. Inhibitors to Cost Transparency</i> .....	23

CHAPTER 3. THE NATURE OF SUPPLY CHAIN COSTING.....	<b>26</b>
Nature of Supply Chain Management .....	26
Supply Chain Costing Framework.....	28
Supply Chain Costing Definition .....	33
Summary.....	35
Chapter Endnotes .....	36
List of Figures	
<i>Figure 3-1. The Supply Chain Processes.....</i>	27
<i>Figure 3-2. Internal and External Supply Chain.....</i>	29
<i>Figure 3-3. Intra-Firm Costs Largely Driven by Trading Partners' Business Practices .....</i>	30
<i>Figure 3-4. Complexity Driven by Participation in Multiple Supply Chains .....</i>	31
<i>Figure 3-5. Dimensions of Supply Chain Cost Information .....</i>	32
<i>Figure 3-6. Visibility of Cost Information Provided by Supply Chain Costing .....</i>	34
<i>Figure 3-7. Process View of Cost Information in a Supply Chain.....</i>	35
 CHAPTER 4. DEVELOPING A FOUNDATIONAL UNDERSTANDING OF STRATEGIC SUPPLY CHAIN COST MANAGEMENT .....	<b>37</b>
Importance of Supply Chain Costing .....	37
Identifying the Determinates of Supply Chain Cost Systems .....	39
<i>Structure of the Supply Chain .....</i>	39
<i>The Operating Environment .....</i>	40
<i>Strategic Positioning.....</i>	41
<i>Production Methods.....</i>	41
Documenting Supply Chain Decisions and Production Processes .....	43
Summary.....	43
Chapter Endnotes .....	44
List of Figures	
<i>Figure 4-1. How Large are the Elements of Supply Chain Costs?.....</i>	38
<i>Figure 4-2. The Organization and Its Environment.....</i>	40
<i>Figure 4-3. Characteristics of Mass and Lean Production Methods.....</i>	42
 CHAPTER 5. WHY SUPPLY CHAIN COSTS SYSTEMS DIFFER FROM TRADITIONAL COST SYSTEMS.....	<b>45</b>
Cost Data Needs.....	45
Management Perception of Costs.....	46
Supply Chain Costing Increases the Complexity of Cost Systems .....	47
Reasons Supply Chain Costing Must Differ from Traditional Costing .....	48
Differences Between Traditional and Supply Chain Costing .....	50
Summary.....	53
Chapter Endnotes .....	53
List of Figures	
<i>Figure 5-1. Committed Versus Actual Supply Chain Costs.....</i>	49
<i>Figure 5-2. Comparison of Traditional and Supply Chain Costing .....</i>	50
<i>Figure 5-3. How Costs are Consumed Within the Supply Chain.....</i>	52
 CHAPTER 6. AN OVERVIEW OF COST TOOLS AND COST CLASSIFICATION.....	<b>54</b>
Ways to Think about Supply Chain Costing Tools .....	54
Cost Classification for Many Purposes .....	56
Supply Chain Costing as a Combination of Costing Techniques .....	58
Summary.....	59
Chapter Endnotes .....	63

List of Figures	
<i>Figure 6-1. Accounting Domains</i> .....	55
<i>Figure 6-2. Accounting Treatments and Behavior of Capacity (Expenses)</i> .....	58
<i>Figure 6-3. Supply Chain Costing Techniques</i> .....	59
<i>Figure 6-4. Summary of Supply Chain Costing Tools</i> .....	60
CHAPTER 7. INDIRECT COSTS, THE INFLUENCE OF COST ALLOCATION, AND THE NEED TO UNDERSTAND ACTIVITIES .....	<b>64</b>
Indirect Costs and Allocation .....	64
Influence of Cost Allocation .....	65
Activity-Based Management (ABM) Fundamentals .....	67
Summary .....	69
Chapter Endnotes .....	69
List of Figures	
<i>Figure 7-1. Effect of Volume on Average Fixed and Unit Costs</i> .....	66
<i>Figure 7-2. Relationship Between Process, Activities, and Tasks</i> .....	67
<i>Figure 7-3. ABM Analysis Steps</i> .....	68
CHAPTER 8. THE NEED FOR VALUE CHAIN ANALYSIS	
Value Chain Analysis .....	<b>70</b>
Basics of Value Chain Analysis .....	72
Using Value Chain Analysis Results .....	74
The Value of Cooperative Costing Across the Supply Chain .....	75
Using Cost Estimation Capability Across the Supply Chain .....	77
Summary .....	80
Chapter Endnotes .....	80
List of Figures	
<i>Figure 8-1. A Simplified Value Chain for Gasoline</i> .....	70
<i>Figure 8-2. Selection of Corporations in the Gasoline Supply Chain</i> .....	72
<i>Figure 8-3. Midway Containers Internal Supply Chain</i> .....	73
<i>Figure 8-4. Value Chain Map of the Order Fulfillment Process Across a Single Dyad in the Supply Chain</i> .....	75
<i>Figure 8-5. Supplier's Activity Costs</i> .....	76
<i>Figure 8-6. Customer's Activity Costs</i> .....	76
<i>Figure 8-7. Supply Chain Flow Chart</i> .....	78
<i>Figure 8-8. Using Supply Chain Costing to Simulate Change</i> .....	79
CHAPTER 9. CUSTOMER AND CHANNEL PROFITABILITY ANALYSIS .....	<b>81</b>
An Approach to Customer Profitability Analysis .....	82
Value of Customer Profitability Analysis .....	84
Summary .....	87
Chapter Endnotes .....	87
List of Figures	
<i>Figure 9-1. Questions Information Managers Need Answered</i> .....	82
<i>Figure 9-2. Customer-Related Sub-Processes and Activities</i> .....	82
<i>Figure 9-3. Developing Activities to Capture Differences in Customer Requirements or Behavior</i> .....	84
<i>Figure 9-4. Comparison of Customer Profitability Computed Using Traditional Versus Activity-Based Approaches</i> .....	85
<i>Figure 9-5. Cumulative Plot of Customer Profitability</i> .....	86
<i>Figure 9-6. Possible Shapes of Customer Profitability Distributions</i> .....	87

CHAPTER 10. TOOLS FOR REDUCING SUPPLY CHAIN COSTS .....	<b>88</b>
Standard Costing .....	88
Activity-Based Costing.....	90
<i>ABC Fundamentals</i> .....	91
Landed Costing.....	95
Kaizen Costing .....	98
Summary.....	100
Chapter Endnotes .....	100
List of Figures	
<i>Figure 10-1. Essentials of Standard Costing</i> .....	89
<i>Figure 10-2. Activity-Based Costing Assignment Process</i> .....	91
<i>Figure 10-3. ABC/M Cost Assignment Network</i> .....	93
<i>Figure 10-4. Activity-Based Costing Captures Cost Differences Driven by         Products, Customers, or Supply Chains</i> .....	94
<i>Figure 10-5. Cross-Dock Facility Activities, Cost Drivers, and Activity Costs</i> .....	95
<i>Figure 10-6. Distribution Center Activities, Cost Drivers, and Activity Costs</i> .....	96
<i>Figure 10-7. Retail Activities, Cost Drivers, and Activity Costs</i> .....	97
<i>Figure 10-8. Cost Reduction Opportunities</i> .....	99
<i>Figure 10-9. Documented Cost Savings Generated Through Kaizen Event         and Costing</i> .....	99
 CHAPTER 11. SUPPLY CHAIN COST PLANNING TOOLS .....	<b>101</b>
Budgeting—Using Activities .....	101
Target Costing.....	103
Life-Cycle Costing.....	107
Capital Investment Analysis.....	109
<i>Make versus Buy—General Outsourcing Decisions</i> .....	110
Capacity Analysis.....	111
Summary.....	112
Chapter Endnotes .....	112
List of Figures	
<i>Figure 11-1. Steps in Preparing a Support Budget</i> .....	102
<i>Figure 11-2. Activities to Establish Target Costs</i> .....	103
<i>Figure 11-3. Activities for Attaining Target Costs</i> .....	104
<i>Figure 11-4. Approach Used for Determining Target Cost</i> .....	105
<i>Figure 11-5. Product Level Costing Approach Employed by Participating Firms</i> ....	106
<i>Figure 11-6. Component Level Target Costing Approach Used by Participating         Firms</i> .....	107
<i>Figure 11-7. Key Steps in an Life-Cycle Cost Analysis</i> .....	108
<i>Figure 11-8. Steps in the Capital Budgeting Process</i> .....	109
 CHAPTER 12. ALIGN PERFORMANCE MEASURES .....	<b>113</b>
Linking Cost and Performance.....	113
Linking Supply Chain Costing to Performance Measurement.....	115
Using the Supply Chain Costing Framework to Translate Supply Chain Performance into Financial Performance .....	116
Integrating Supply Chain Costing into a Balanced Scorecard .....	119
Adding Value Through Linkages .....	122
Chapter Endnotes .....	123
List of Figures	
<i>Figure 12-1. Disconnect Between Performance Measures and Supply Chain         Management Objectives</i> .....	114

<i>Figure 12-2. Supply Chain Costing—Cost Assignment and Identification of Activity Cost Drivers</i> .....	115
<i>Figure 12-3. Using Cost Drivers to Develop Supply Chain Process Performance Measures</i> .....	116
<i>Figure 12-4. Developing and Aligning Corporate Performance Measures with Supplier Value Drivers and Supply Chain Objectives.</i> .....	117
<i>Figure 12-5. Developing and Aligning Corporate Performance Measures with Customer Value Drivers and Supply Chain Objectives</i> .....	118
<i>Figure 12-6. Integrating Information from Supply Chain Costing and EVA into a Balanced Scorecard</i> .....	120
<i>Figure 12-7. Integrating Shareholder Value, Activity-Based Costing, and the Balanced Scorecard</i> .....	121
<b>CHAPTER 13. ACCEPT THE CHALLENGE OF IMPROVING SUPPLY CHAIN COSTING</b> .....	<b>124</b>
Behavioral Challenges .....	125
<i>Lack of Trust</i> .....	125
<i>Limited Two-Way Sharing of Cost Information</i> .....	125
<i>Inequitable Allocation of Resulting Benefits and Burdens</i> .....	126
Technical Challenges .....	127
<i>Limited Cost Knowledge</i> .....	127
<i>Lack of Cost Estimation Capability</i> .....	127
<i>Inconsistent Definition and Calculation of Cost across the Supply Chain</i> .....	128
Strategies Supply Chain Cost Leaders Use for Overcoming Challenges .....	128
<i>Cost Estimation</i> .....	129
<i>Leveraging Information Sharing Requirements</i> .....	129
<i>Pilot Projects</i> .....	131
<i>New Trading Partners</i> .....	132
<i>Value-Based Strategy</i> .....	133
What Still Needs to Be Done as the Supply Chain Costing Journey Continues .....	133
Summary and Overall Conclusions .....	134
Chapter Endnotes .....	135
List of Figures	
<i>Figure 13-1. Selecting Pilot Projects and Partners</i> .....	131
<b>APPENDIX A. SUPPLY CHAIN PROCESSES</b> .....	<b>136</b>
Process Summary .....	138
Appendix A Endnotes .....	138
List of Figures	
<i>Figure A-1. Using the CRM and SRM Processes to Structure Relationships in the Supply Chain</i> .....	87
<b>APPENDIX B. ADDITIONAL PROCESS AND PRODUCTIVITY TOOLS FOR SUPPLY CHAIN COSTING</b> .....	<b>139</b>
Unit Costs of Outputs and Benchmarking .....	139
Cost of Quality (COQ).....	139
Time-Driven Activity Based Costing (TDABC) .....	140
Resource Consumption Accounting (RCA) and German Cost Accounting's GPK.....	141
Accounting for Lean Management .....	141
Theory of Constraints Throughput Accounting .....	142
Appendix B Endnotes .....	142
List of Figures .....	
<i>Figure B-1. Cost of Quality Work Activities</i> .....	140