

Table of Contents

Preface	7
Motivation	7
How to use the booklet	8
Chapter 1: Introduction	11
Sec. 1: What is process simulation?	12
Sec. 2: What does SimQuick do?	13
Sec. 3: How does SimQuick incorporate uncertainty?	14
Sec. 4: System requirements and “installation”	16
Chapter 2: Waiting Lines	18
Sec. 1: Solving a problem with SimQuick	19
Example 1: A Bank	19
Modeling the process (with a process flow map)	20
Entering the model into SimQuick	20
Interpreting SimQuick results	26
Improving the process, Variation 1	29
Improving the process, Variation 2	31
Sec. 2: Additional waiting line processes	33
Example 2: A grocery store checkout	33
Example 3: A call center	34
Example 4: A fast-food restaurant drive-thru	35
Sec. 3: Decision Points.....	35
Example 5: An airport security system	36
Example 6: A department of motor vehicles	39
Example 7: A hospital emergency room	41
Sec. 4: Advanced SimQuick features	42
Example 8: Buffer Tracking	43
Example 9: “Unavailable” elements	44
Example 10: Changing Distributions	45
Example 11: Discrete Distributions	48

Example 12: Resources and Priorities	50
Chapter 3: Inventory in Supply Chains	54
Sec. 1: A periodic review inventory policy	56
Example 13: Grocery store inventory	56
Sec. 2: Reorder point inventory policies	59
Example 14: An electronics superstore	59
Example 15: A warehouse	63
Example 16: Two stores and a warehouse	64
Sec. 3: More complex inventory policies	66
Example 17: An appliance store	67
Example 18: A department store	72
Chapter 4: Manufacturing	78
Sec. 1: Linear flow processes	79
Example 19: A generic linear flow process	80
Example 20: A manufacturing cell	82
Sec. 2: Assembly/disassembly processes	84
Example 21: Box manufacturing	84
Sec. 3: Batch and job shop processes	87
Example 22: Pharmaceutical manufacturing	88
Example 23: A single machine job shop	91
Sec. 4: Quality and reliability in processes	94
Example 24: A quality control station	94
Example 25: A machine with breakdowns	97
Chapter 5: Project Management	98
Example 26: A software development project	99
Example 27: A house addition project	103

Appendix 1: The Steps in a Simulation Project	105
Appendix 2: Enhancing SimQuick with Excel Features	106
Appendix 3: Scenarios	108
Appendix 4: Custom Schedules	113
Appendix 5: SimQuick Reference Manual	116