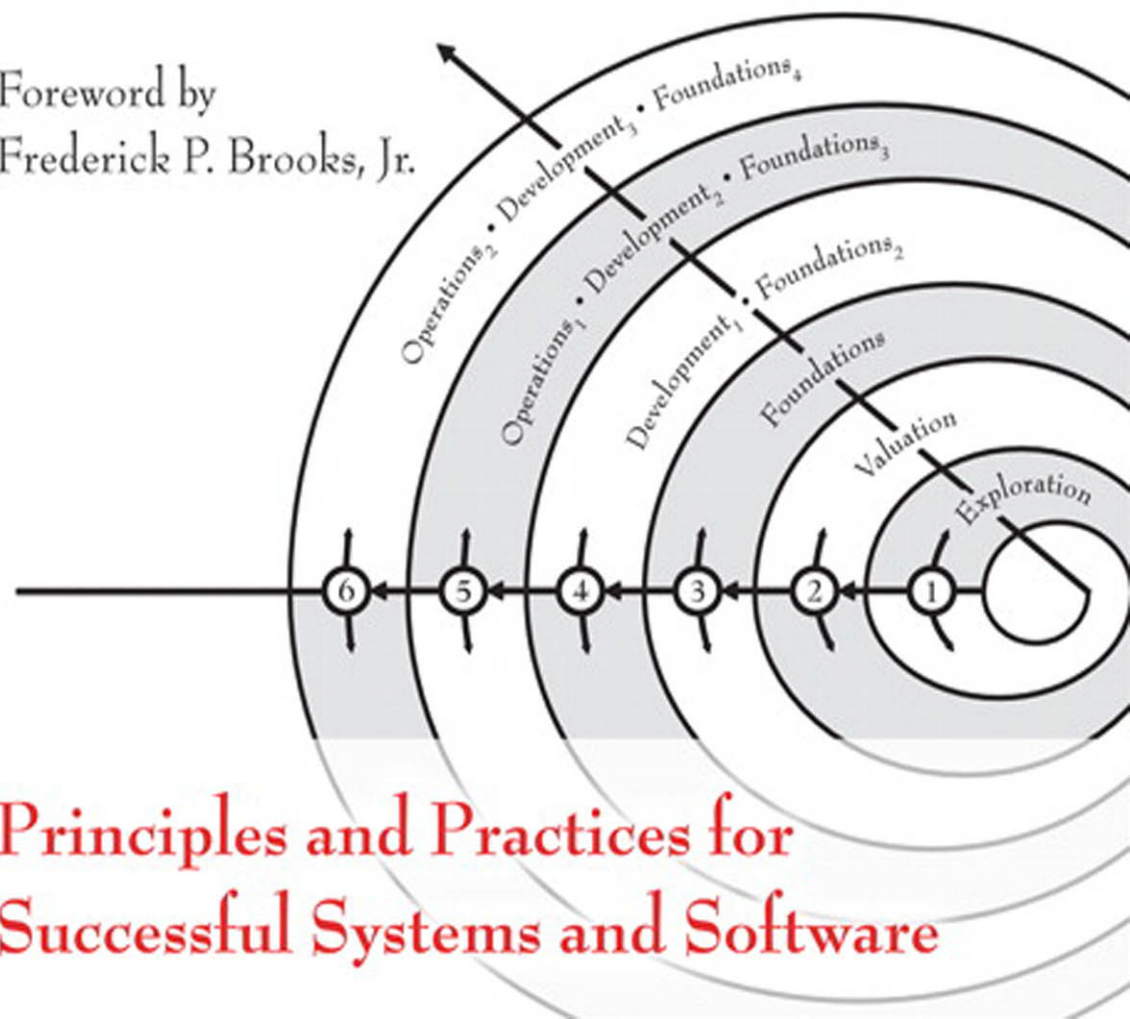Barry Boehm · Jo Ann Lane
Supannika Koolmanojwong · Richard Turner
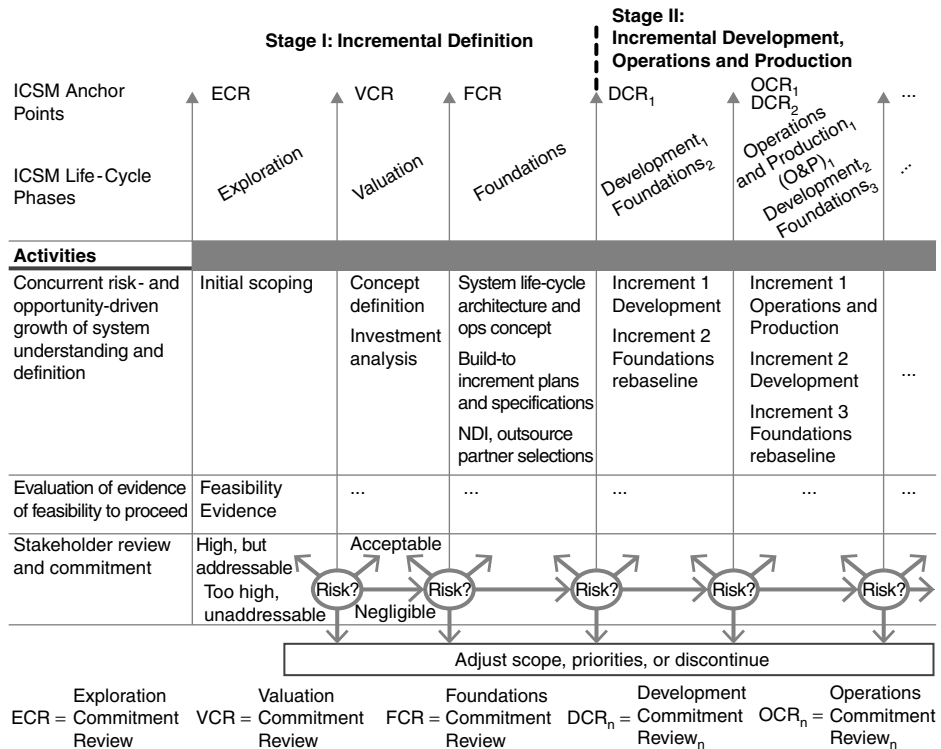
The Incremental Commitment
Spiral Model

Foreword by
Frederick P. Brooks, Jr.

Operations₂ · Development₃ · Foundations₄

Operations₁ · Development₂ · Foundations₃

Development₁ · Foundations₂

Foundations

Valuation

Exploration

6   5   4   3   2   1

Principles and Practices for
Successful Systems and Software

The Incremental Commitment Spiral Model: Phased View

		Stage I: Incremental Definition		Stage II: Incremental Development, Operations and Production		
ICSM Anchor Points	ECR	VCR	FCR	DCR_1	OCR_1 DCR_2	...
ICSM Life-Cycle Phases	Exploration	Valuation	Foundations	$Development_1$ $Foundations_2$	Operations and $Production_1$ $(O\&P)_1$ $Development_2$ $Foundations_3$	...
Activities						
Concurrent risk- and opportunity-driven growth of system understanding and definition	Initial scoping	Concept definition Investment analysis	System life-cycle architecture and ops concept Build-to increment plans and specifications NDI, outsource partner selections	Increment 1 Development Increment 2 Foundations rebaseline	Increment 1 Operations and Production Increment 2 Development Increment 3 Foundations rebaseline	...
Evaluation of evidence of feasibility to proceed	Feasibility Evidence	...	...	...	...	...
Stakeholder review and commitment	High, but addressable Too high, unaddressable	Acceptable Negligible				

Risk? → Risk? → Risk? → Risk? → Risk? →

Adjust scope, priorities, or discontinue

ECR = Exploration Commitment Review   VCR = Valuation Commitment Review   FCR = Foundations Commitment Review DCR_n = Development Commitment $Review_n$ OCR_n = Operations Commitment $Review_n$

Feasibility Evidence Description Content

Evidence *provided by the developer* and *validated by independent experts* that, if the system is built to the specified architecture, it will:

- Satisfy the requirements: capability, interface, level of service, and evolution
- Support the operational concept
- Be buildable within the budgets and schedules in the plan
- Generate a viable return on investment
- Generate satisfactory outcomes for all of the success-critical stakeholders
- Resolve all major risks by treating shortfalls in evidence as risks and covering them by risk management plans
- Serve as a basis for stakeholders' commitment to proceed

Incremental Commitment Spiral Model, The: Principles and Practices for Successful Systems and Software

Table of Contents

Contents

Pearson

Table of Contents

Table of Contents

Table of Contents

Table of Contents

Table of Contents