

Symptoms to Requirement Defect & Diagnostic Approach

Requirements Development and Management Service

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Rational. software

Yet the wrong metrics can incent negative behavior



Discussion: Is this a Quality Problem or a Requirement Management Problem?

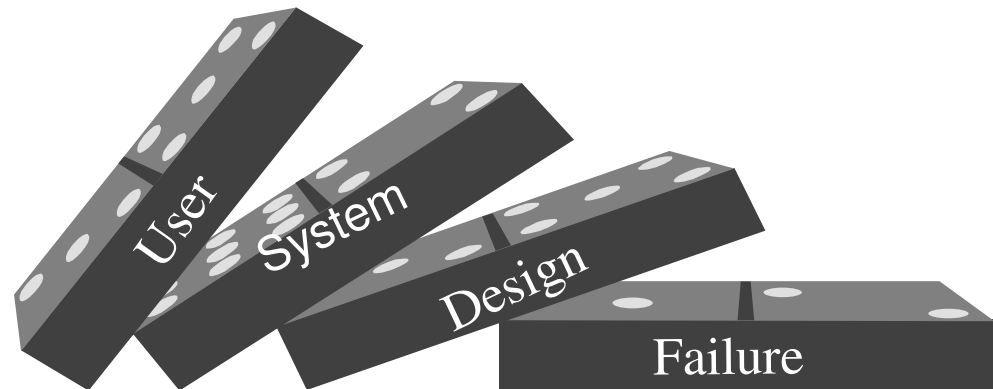
Requirements Management (RM) - The Driver

“Analysts report that as many as 71 percent of software projects that fail do so because of poor requirements management, making it the single biggest reason for project failure”

CIO Magazine, 15 November 2005

What you know (about RM problem)

- **Development team is disconnected from the business and the business requirements**
- **Customer satisfaction with the product/application is low**
- **Hint - Symptoms of RM usually reveal themselves in:**
 - Low Quality, Cost Overrun, Schedule, Rework, Low Morale, Loss of Market Share/Opportunity



Challenge – What You Don't know

- **What are the Root Causes?**
- **What are the symptoms?**
- **How the Symptoms help me find the Root Cause(s)?**
- **What Metrics, Structure, Process lead to improvements?**
- **Can IBM Help?**

Sample Symptoms Analysis

Effectively Manage Requirements and Monitor Scope

Symptom	Score
We have problems with requirements management and scope management.	1
We are unclear on which requirements are the highest priority.	4
We are unclear on what development activities trace to what requirements.	5
We are unclear on which requirements have been properly tested.	5
We experience frequent scope creep.	5
We have no central repository for requirements.	2
We do not capture non-functional requirements and do not effectively negotiate those requirements with concerned parties,	3
Stakeholders are not actively involved throughout the project in defining the requirements and reviewing the solution.	4
We have ineffective communication of the architecture and design.	4

Rate the following symptoms on a scale of 1 - 5

- 1: Yes, and this definitely negatively impact our development effectiveness.
- 3: Partially, or this somewhat negatively impacts our development effectiveness.
- 5: No, or this does not negatively impact our development effectiveness.

Other Symptoms

- **Unplanned Requirement Creeps and Churns**
- **Communications Problems – No Common Language**
- **Testing Wrong Product**
- **Building the Wrong Product**
- **Investing “Blind”**

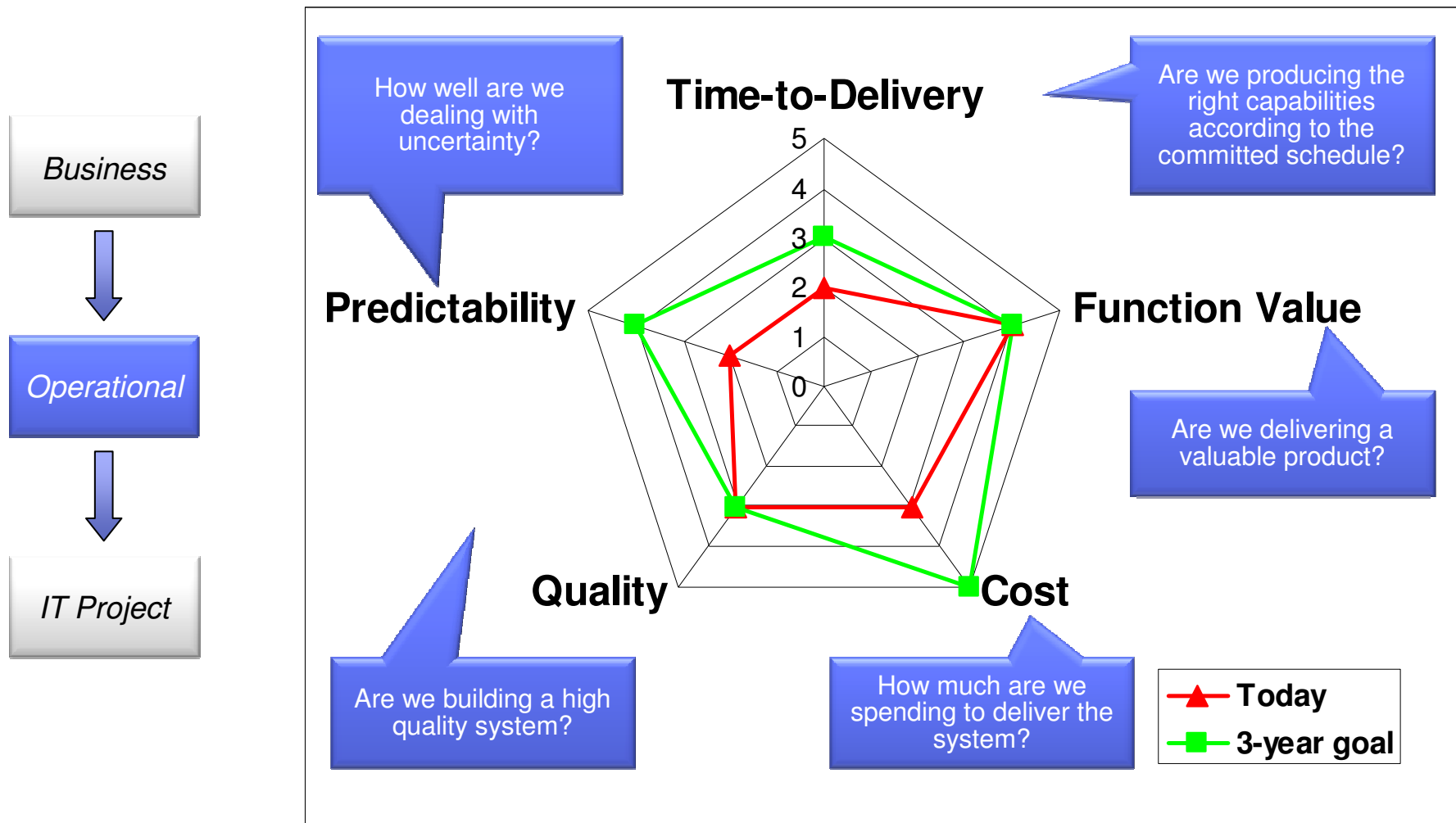
- **Hints:**
 - Iterative Development, Configuration and Change Management, Release Management, Modeling, Requirements-Driven Testing, Continuous Integration, End-to-End Traceability, No Ability to Prioritize and Communicate

Measurement is key to transforming a business process



– No work without process
– No process without metrics
– No metrics without measurement
– No measurement without analysis
– No analysis without improvement

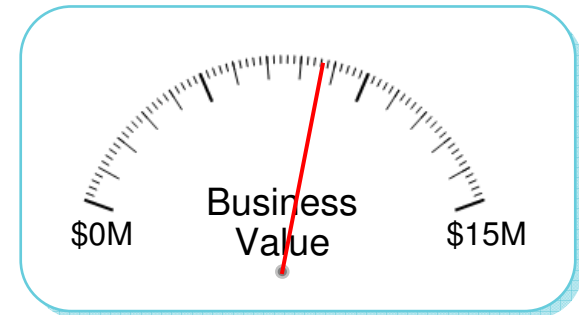
Improve Along 5 Operational Objectives



Meters for software and systems delivery improvement

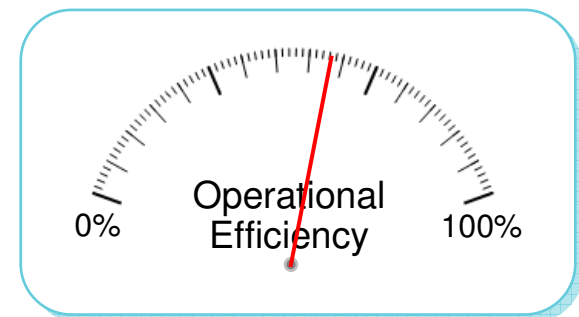
- **Business value**

- Return on Investment (ROI)
- Return on Assets (ROA)
- Profit
- ...



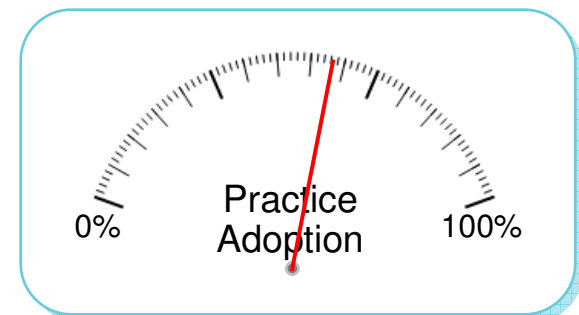
- **Operational objectives**

- Productivity
- Time to market
- Quality
- Predictability
- ...

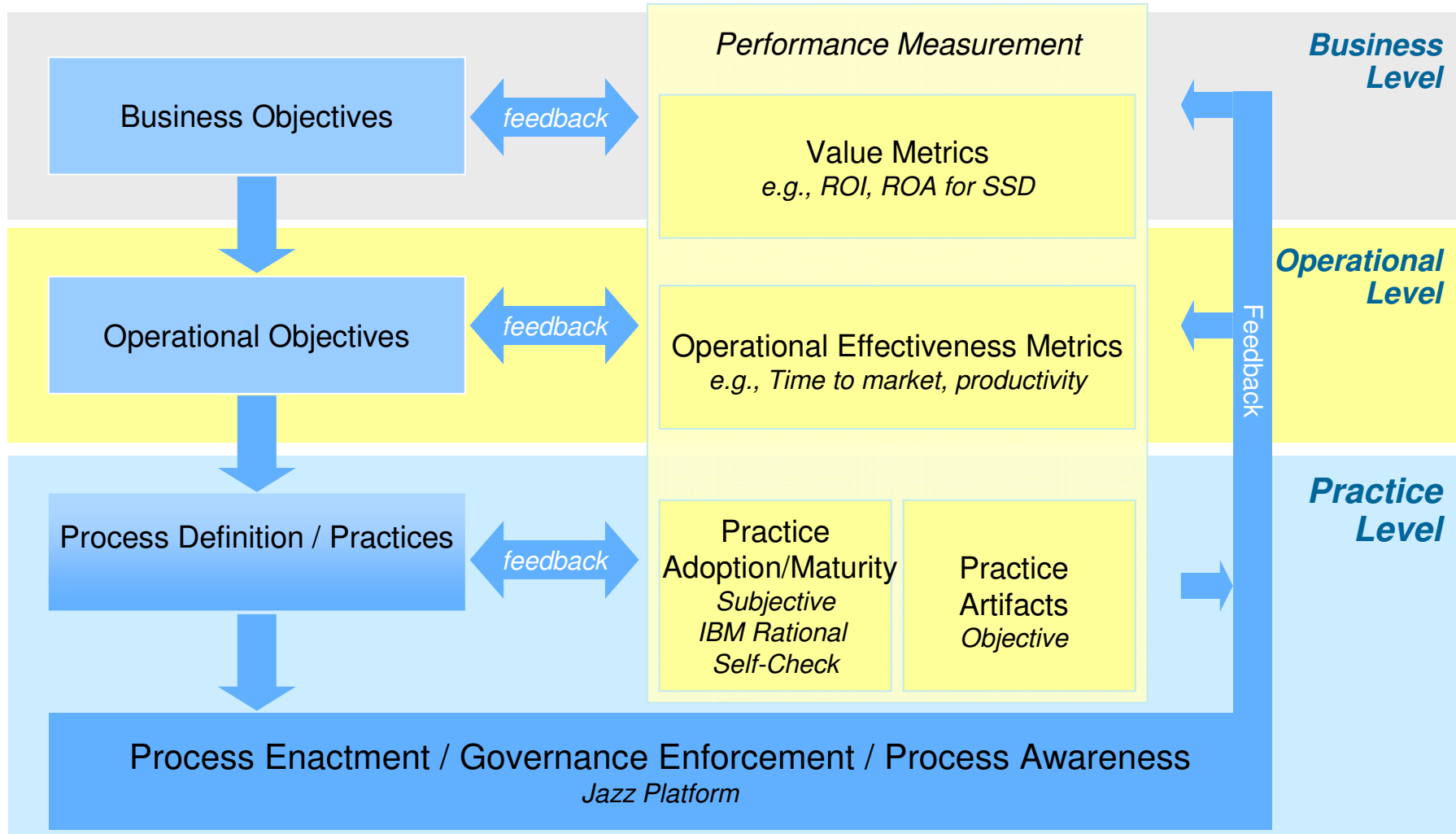


- **Practice-based control measures**

- Requirement Management: Requirement Traceability Coverage, Requirement Status trend, etc.
- ...

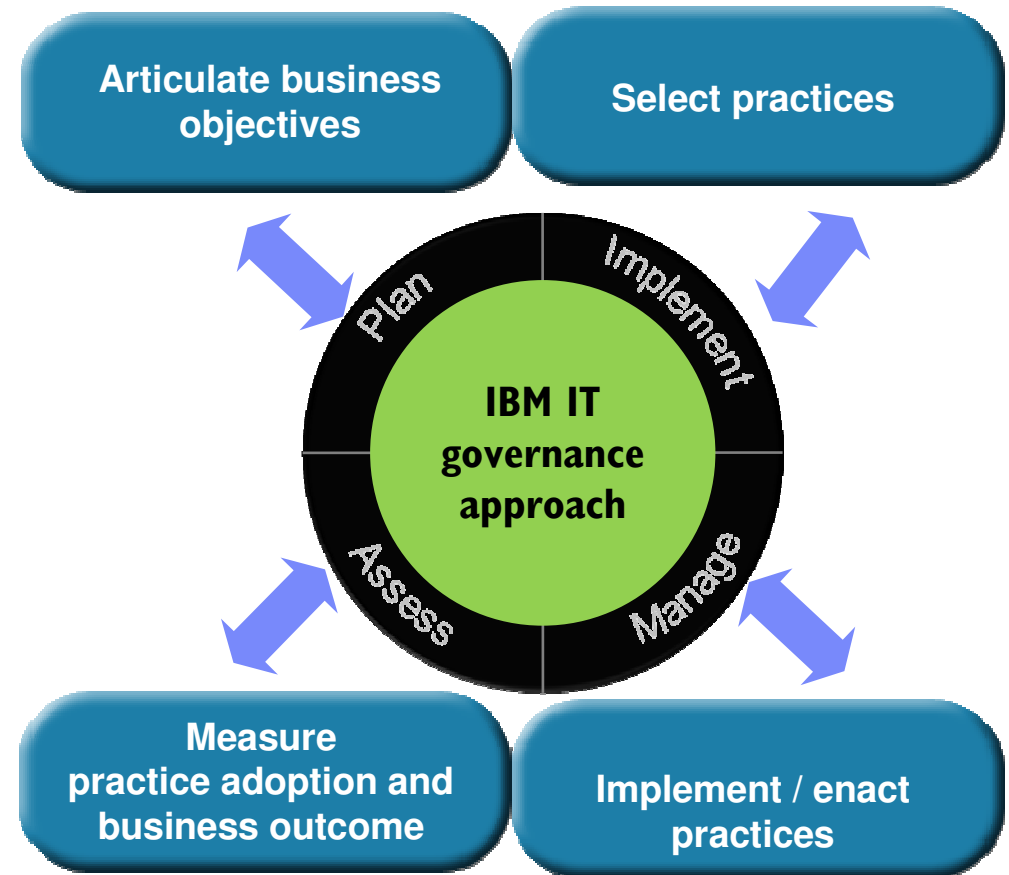


Leverage a control framework to manage to expected business results



Measured Capability Improvement Framework (MCIF)

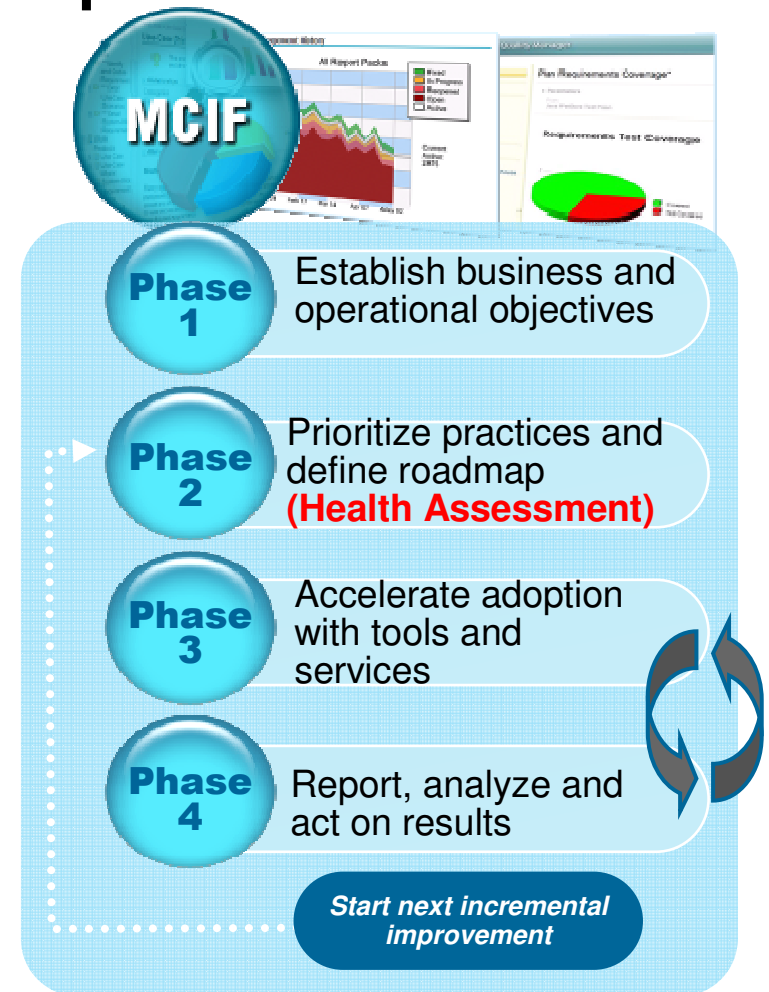
- **Identify desired business objectives**
 - Reduce time to market
 - Improve quality
 - Increase innovation
- **Select target practices and tooling to drive desired business objectives**
- **Effectively deploy well-governed practices**
 - Process guidance, training courses, enablement material...
 - Manage tool deployment to



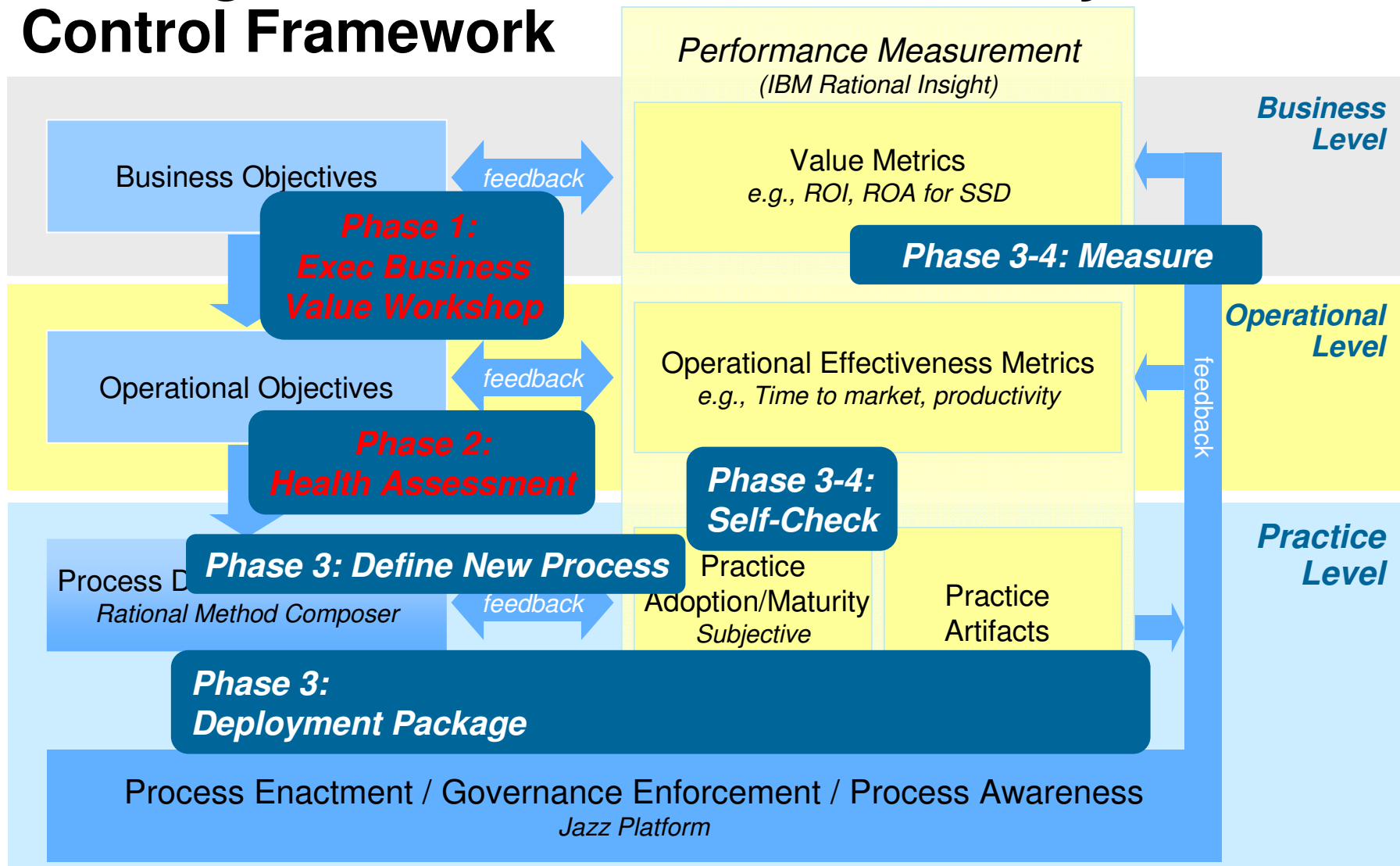
Drive business innovation and reduce costs through measured and continuous process improvement

Empower teams to measure, manage, and incrementally improve their software delivery capability

- **MCIF is a phased approach that helps teams**
 - Adopt an incremental, measured approach to transformation
 - Focus on the core practices that matter most
 - Accelerate adoption through out-of-the-box assets
 - Articulate capability improvements in terms of business value
 - Support any method optimized for Agile practices



Leverage MCIF Assets to Incrementally Define the Control Framework



Health Assessment : Prioritize Practices and Define Roadmap

- **Questions to ask**
 - Which practices should I adopt to get the biggest return?
 - In what order should I roll out the practices?
 - What are my outcome and control metrics to determine success
- **Factors impact practice choice**
 - Context
 - Business and operational objectives
 - Chosen IT delivery strategies
 - As-is state

Value of conducting a Health Assessment

- **Rapidly articulates a more complete view of business needs and drivers**
 - High-level business motivators, as well as lower-level problems
 - Required changes to organization environment
- **Establishes a roadmap focusing on business value in weeks rather than waiting for months**
 - Incremental, measurable, and based on industry best practices
- **Provides an independent view of software development capabilities and a path forward**
 - Aids internal selling of the change initiative
- **Establishes a reliable partner for your change plan**
 - IBM has the experience and ability to address your diverse IT needs
- **Provides a structured approach to incremental business improvement (for example ,productivity and time-to-value)**

What is a health assessment and why use us?

- **A software capability assessment**

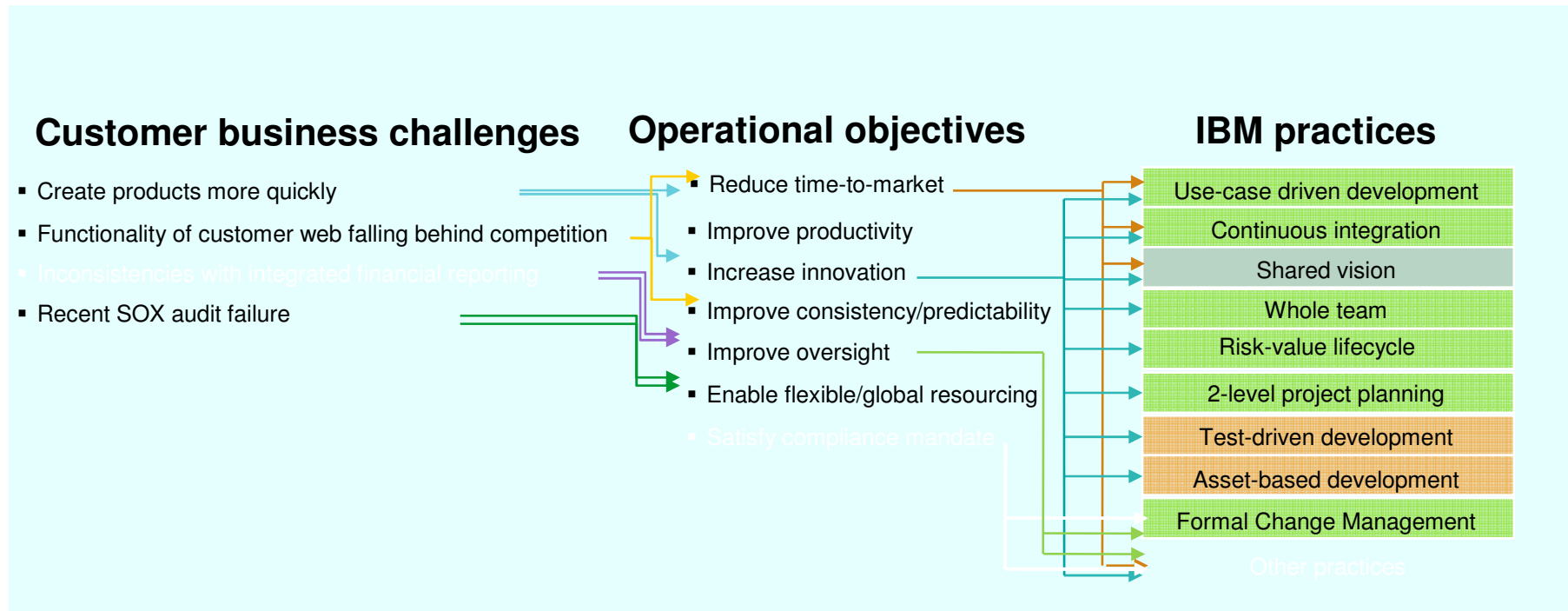
- Is an independent evaluation of your project's or organization's software development practices, measured against modern software development best practices
- Is performed by experienced IBM® Rational® software engineering consultants with experience on numerous software development projects

- **Why use IBM Rational software to do the assessment**

- IBM Rational software has 25 years of experience and research in software development
- We are leading providers of software best practice guidance
- We have helped clients all over the world evaluate their teams' or organizations' practices and adopt best practices to achieve **real, useful business results**

Trace symptoms to root causes

Identify practices to adopt or improve

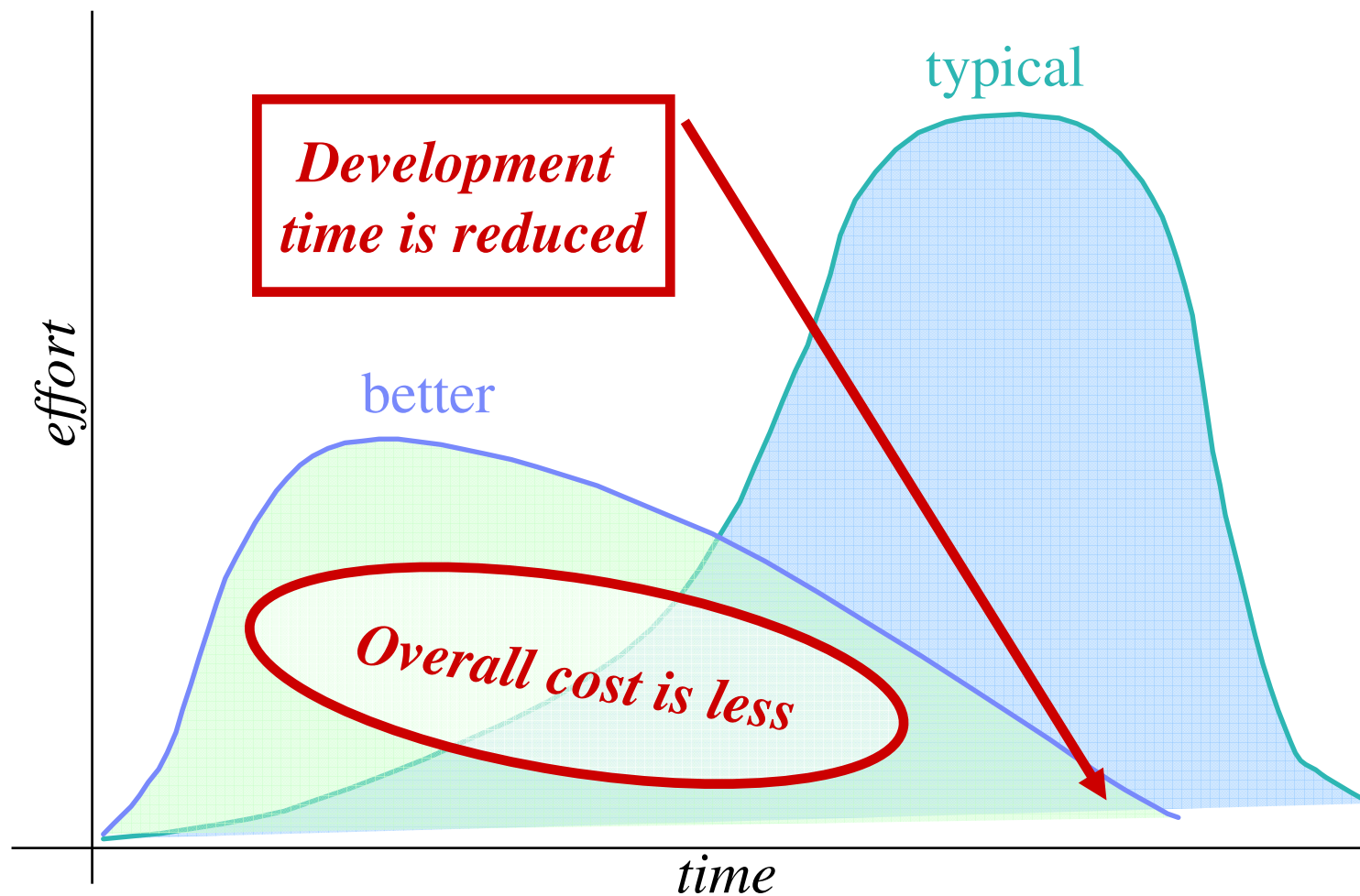


Target: Phase 1
Already implemented
Outside scope

Results: Example Proposed Roadmap

Priority	Phase 1 0-3 months	Phase 2 3-9 months	Phase 3 9-18 months
Practices	<ul style="list-style-type: none"> Shared Vision 	<ul style="list-style-type: none"> Requirements Traceability Requirements Management 	<ul style="list-style-type: none"> Use Case Driven Dev
Services	<ul style="list-style-type: none"> Tool deployment Self-Check 	<ul style="list-style-type: none"> Establish CoPs Self-Check 	<ul style="list-style-type: none"> Rapid Deployment Package Self-Check
Expected Benefits	<ul style="list-style-type: none"> 30% reduction in meetings 	<ul style="list-style-type: none"> 5-10 % improved developer productivity 5 % reduced time-to-delivery 	<ul style="list-style-type: none"> 10% reduced defect count

Acting early reduces cost and time



The Benefits of Requirements Management

- **Satisfaction:** real stakeholder needs met
- **Risk Management:** reducing operating risk
- **Integration:** the pieces work together
- **Testability:** know what to test the product against
- **Communication:** developers know what the product is for
- **Visibility:** managers can take a global view
- **Change control:** the impact of change can be assessed
- **Quality:** build once and get it right
- **Optimization:** build right solution
- **Re-use:** understand what you've got and improve on it
- **Corporate Knowledge Asset:** significant inherent value

THANK
YOU