



Choosing the Right Measures - Prerequisite for Changing the Game

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Report Documentation Page

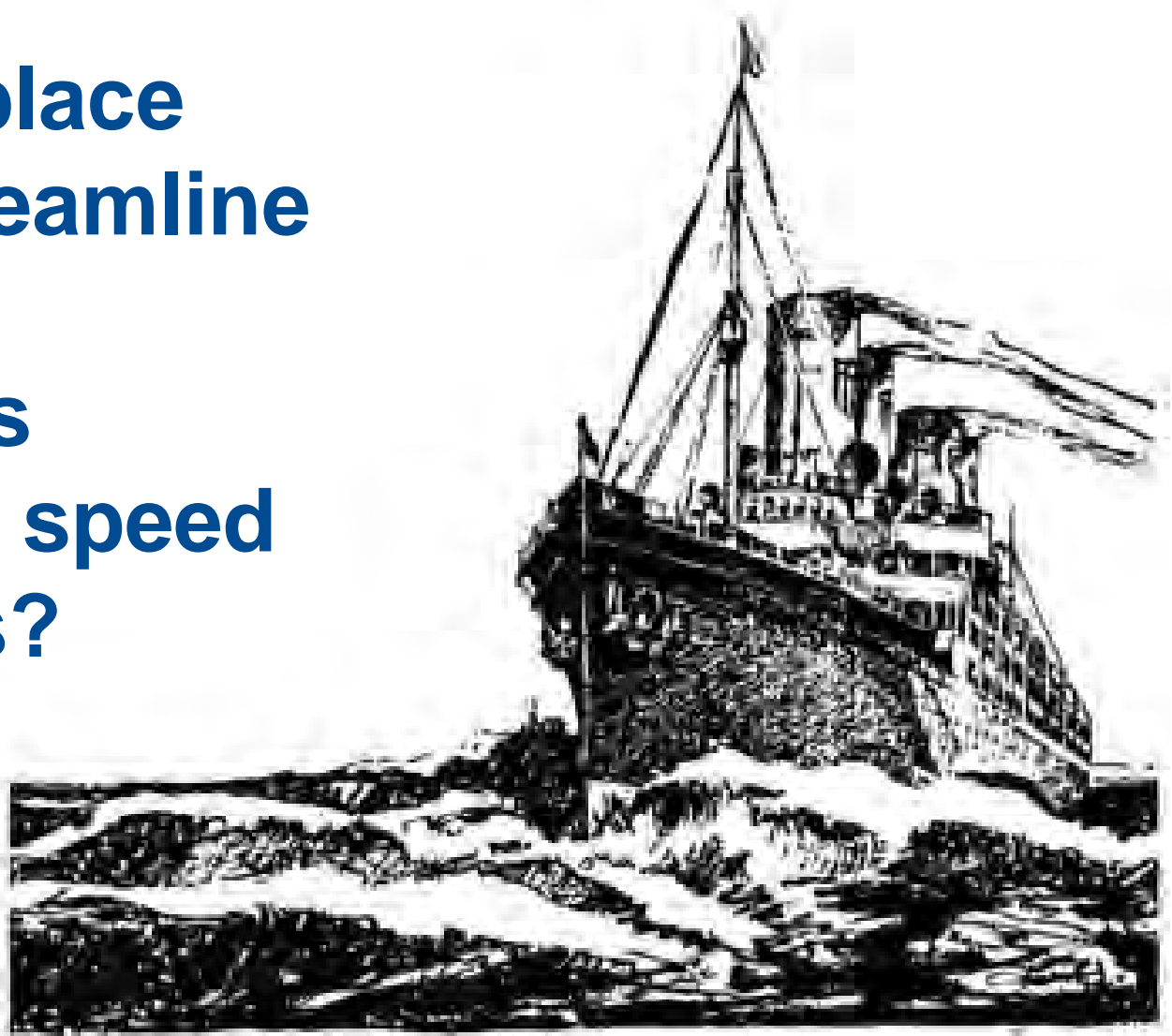
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The Challenge

**How do you replace
the hull and streamline
the structure
while the ship is
steaming at full speed
in rough waters?**



Value, Architecture, and Performance



Value Recognition

Value engineering involves understanding business value and making informed IT decisions that maximize value.

- ◆ **Enterprise architecture puts adaptive frameworks in place that enable rapid response at the speed of today's business.**



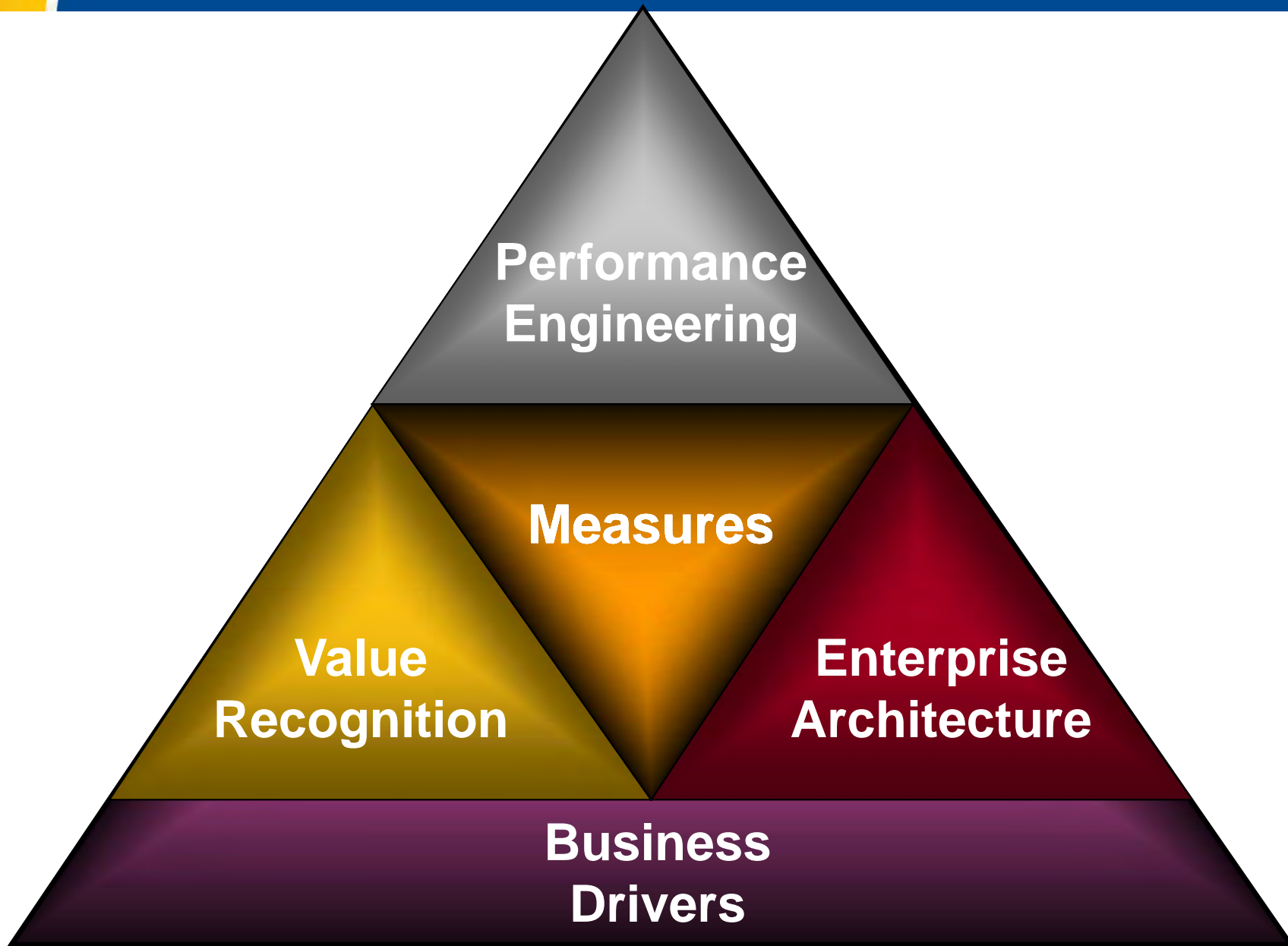
Enterprise Architecture



Performance Engineering

- ◆ **Performance engineering means measuring position, speed, and rate of change and being ready and able to act on those measures.**

Value, Architecture, and Performance



What Should We Measure?

“Would you tell me, please, which way I ought to go from here?”

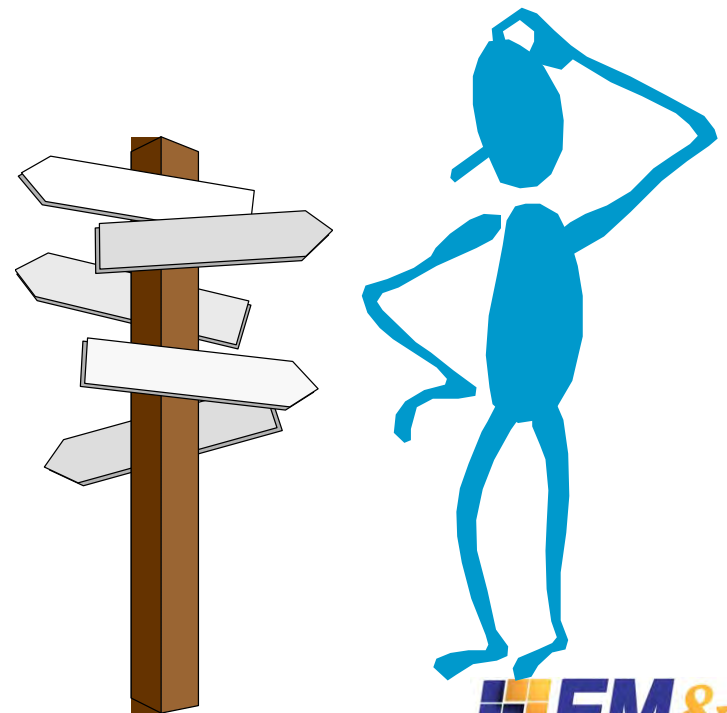
“That depends a good deal on where you want to get to,” said the Cat.

“I don’t much care where--” said Alice.

“Then it doesn’t matter which way you go,” said the Cat.

“--so long as I get somewhere,” Alice added as an explanation.

“Oh, you’re sure to do that,” said the Cat, “if you only walk long enough.”



Metrics Purpose

Provide a “moving snapshot” of key performance indicators

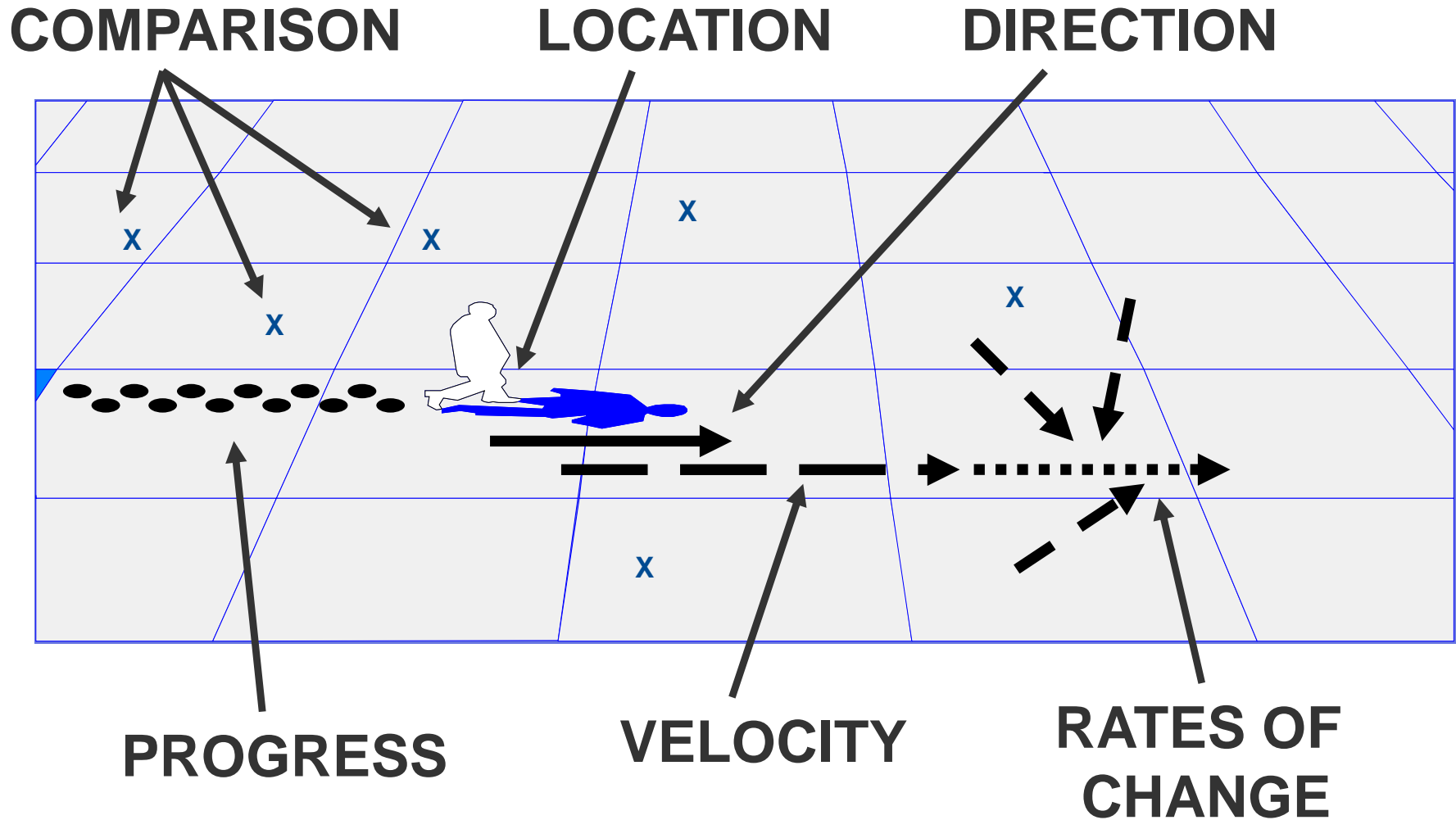
- Current status
- Position relative to targets
- Movement toward targets

Provide “alerts” to identify critical action areas

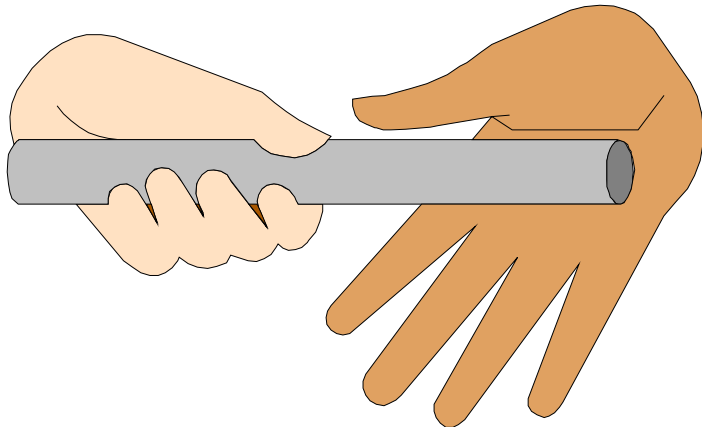
- Focus on leading, not lagging indicators
- Identification of expected bands of acceptable performance

Communicate quantitative aspects of organizational goals in terms of targets and performance improvement

Why Measure?

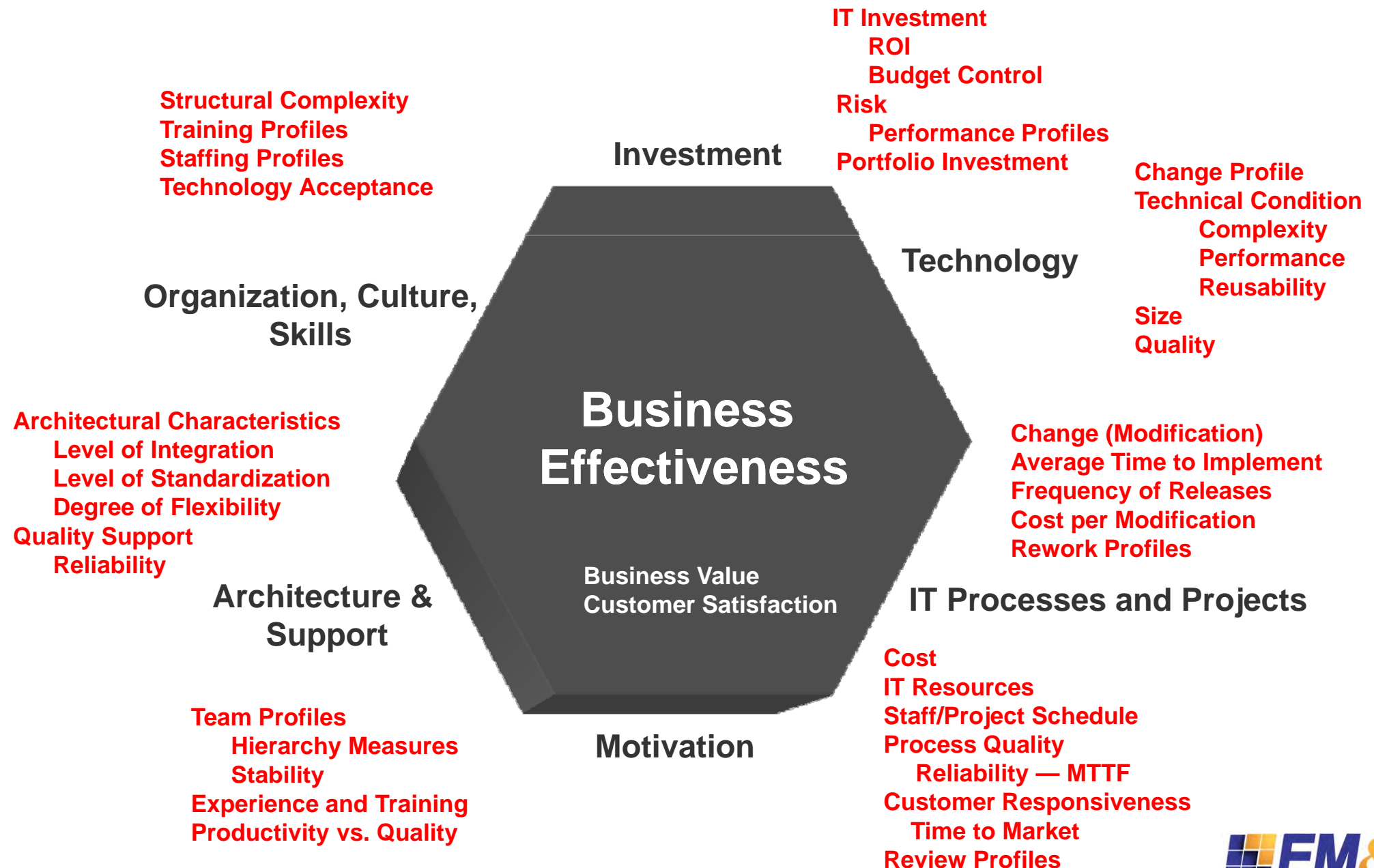


IT / Business Alignment



- The product of IT is NOT source code. It is improved business performance.
- Understanding and coordinating IT goals and measures with Business goals and measures is essential.
- IT processes are being managed as business processes that require cost / benefit analysis.

Measures Must Be Clearly Mapped



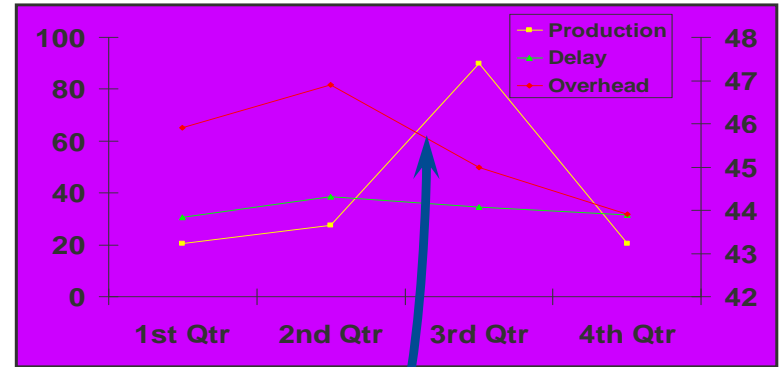
Meaningful Levels of Measurement



Executive

Decision View

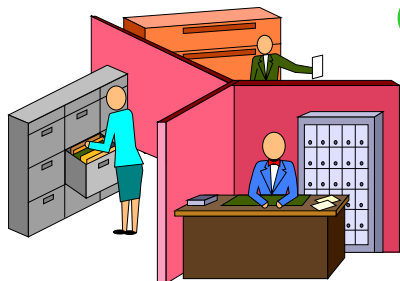
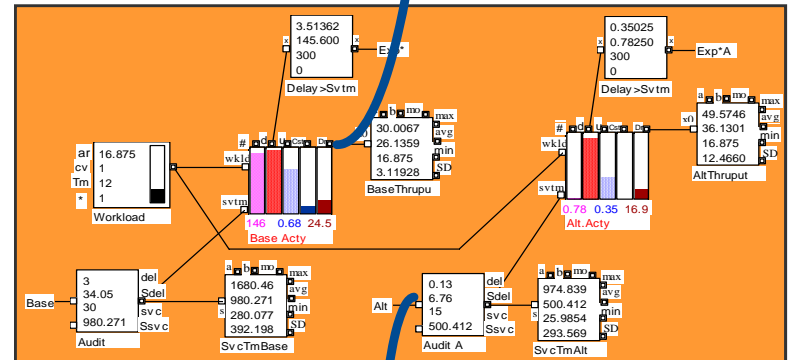
- ROI
- Business Impact
- Price-performance
- Risk/Opportunity...



Manager

Management View

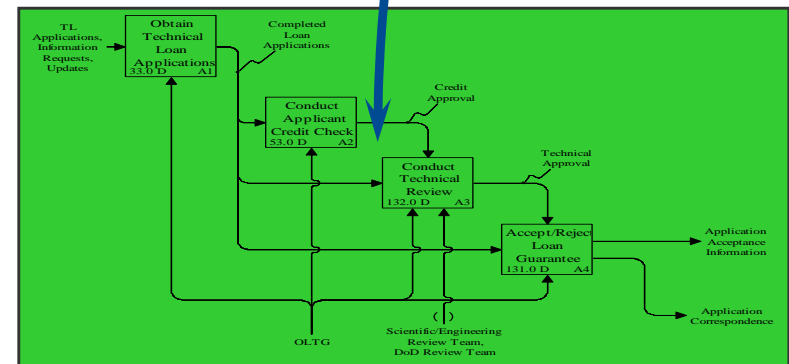
- Costs/Budget
- Schedule/Effort/Delay
- Standards
- Resource Availability...



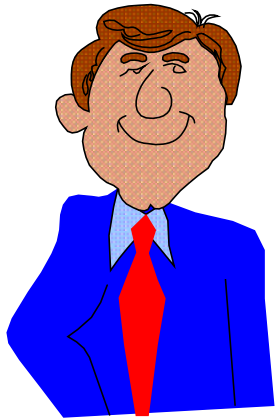
Operations

Operational View

- Process/Activities
- Products/Specs
- Policy/Procedures
- Constraints/Guides...



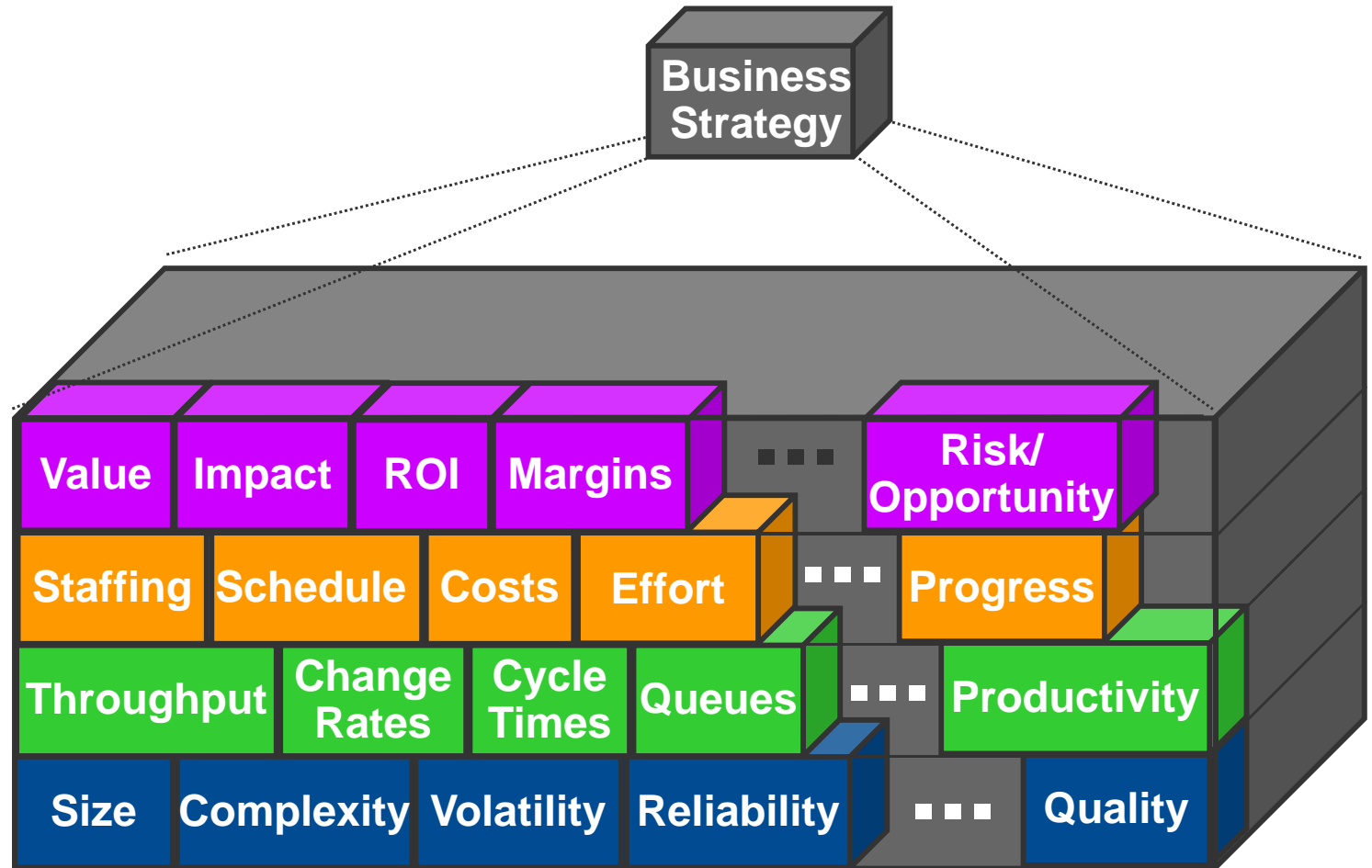
Measurement for Management Levels



*Project
Management*

*Process
Management*

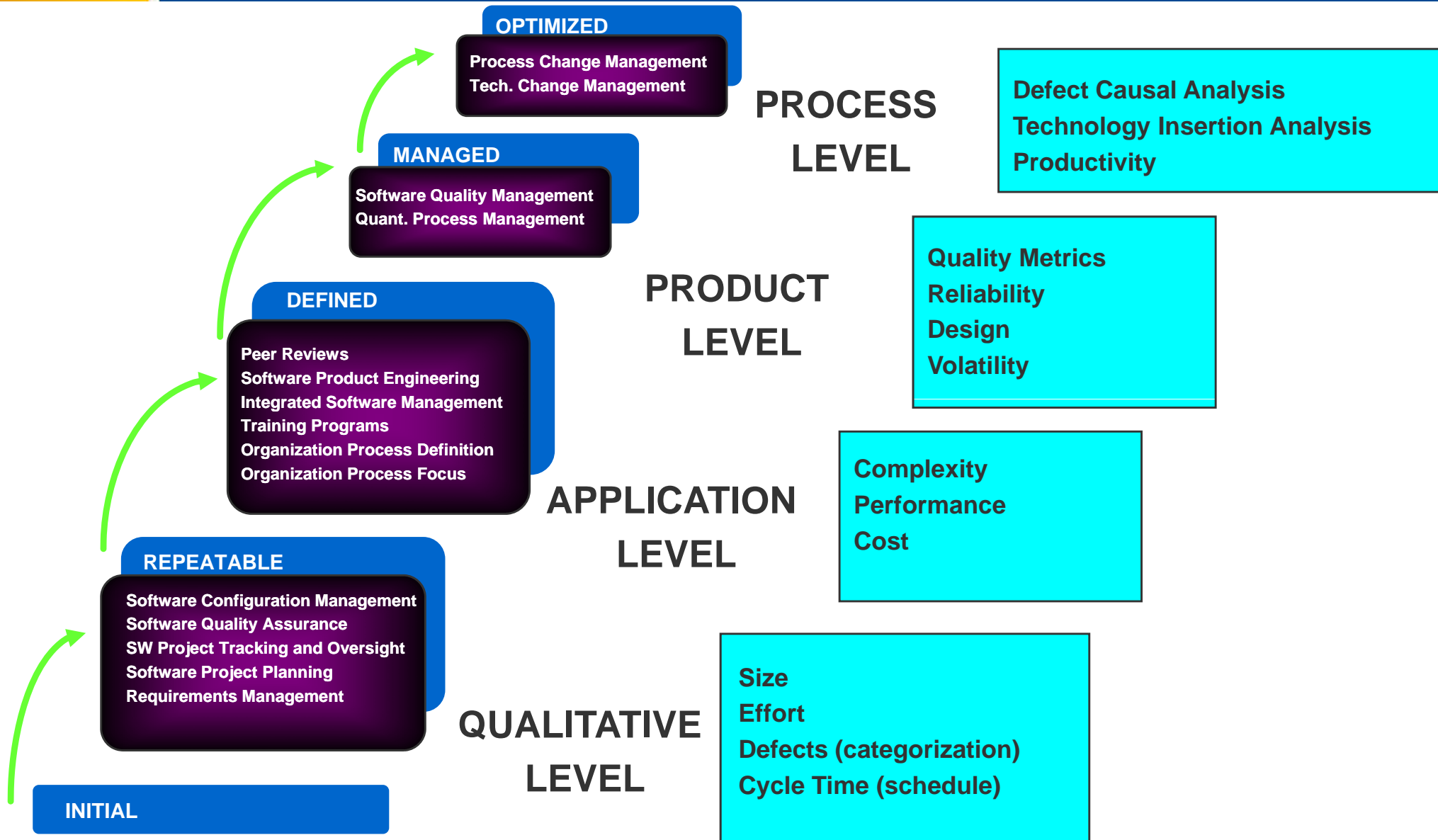
*Product
Management*



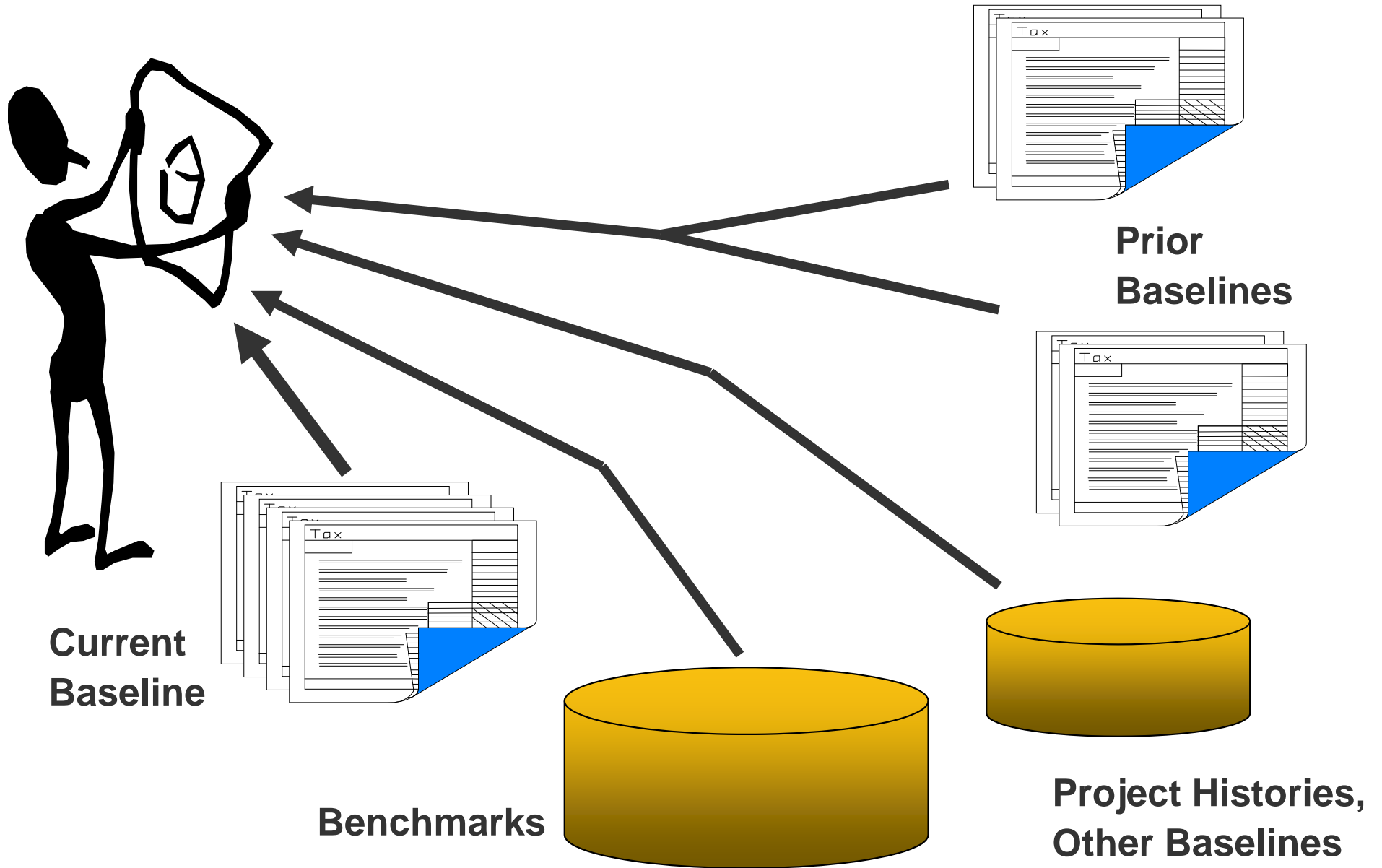
Metrics Warehouse: From Measures to Strategy

	People	Project	Process	Product
Size	Team size, # application users	Total hrs budgeted, Total \$ budgeted	# steps	KSLOC, (FP), Pages document
Effort	Labor rate	% effort completed, Cost variance (planned vs. actual)	cost by CAPP, effort by CAPP, Defect cost	\$/KSLOC, \$/page, \$/application
Schedule	Actual hours Available hours	% Time completed, Schedule variance (planned vs. actual)	steps completed, Reviews completed/ Total # reviews, Tests completed/ Total # tests, etc.	products completed, Programs coded/ Total # programs, Reqmts traced/ Total # reqmts, etc.
Quality Level 1	Defect correction rate, MTTR	# of requirement changes	# defects per process downtime, MTTF	# defects per product, complexity
Quality Level 2	Closed requests/ per report period (productivity)	Defects delivered (effectiveness)	Defects discovered by phase, Age of open defects	Customer satisfaction

Measures Change



Comparative Analysis

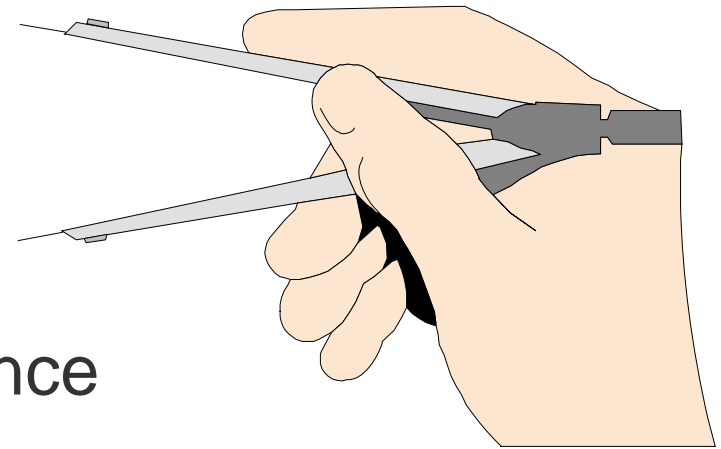


Choosing the Right Measures

- **Measures must be ACTIONABLE.**
- **Identifiable contribution to**
 - Business decisions
 - IT decisions
- **Measures must be practical to collect.**
- **Keep the number of metrics SMALL.**
- **Understand the roll-up of measures into measures at other management levels.**

Cautions about Metrics

- Indicators, not absolutes
- Only as good as the supporting data
- Must be understood to be of value
 - Business understanding
 - IT understanding
- Not for judging individual performance
- Cannot identify, explain, or predict everything
- Need iterative analysis from multiple viewpoints
- Avoid direct comparison of projects
- No single metric



Some Core Metrics – a starting point

• CHARACTERISTICS	UNIT OF MEASURE
<ul style="list-style-type: none"> Size Reuse Progress Rework 	Counts of physical code
<ul style="list-style-type: none"> Effort Rework Resource allocations Cost 	Counts of staff hours expended
<ul style="list-style-type: none"> Schedule 	Calendar dates tied to milestones, reviews and audits, deliverable products
<ul style="list-style-type: none"> Quality Readiness for delivery Improvement trends Rework 	Counts of software problems and defects

Getting Started / Making Progress

Priorities within a project:

- Understand the data you are getting now
- Standardize the content of future measurement reports
- Define and collect the additional information you need for project planning and tracking

Priorities within an organization:

- Understand historical data you already have
- Get consistent data from project to project
- Get consistent data over time

What should we measure, and why?

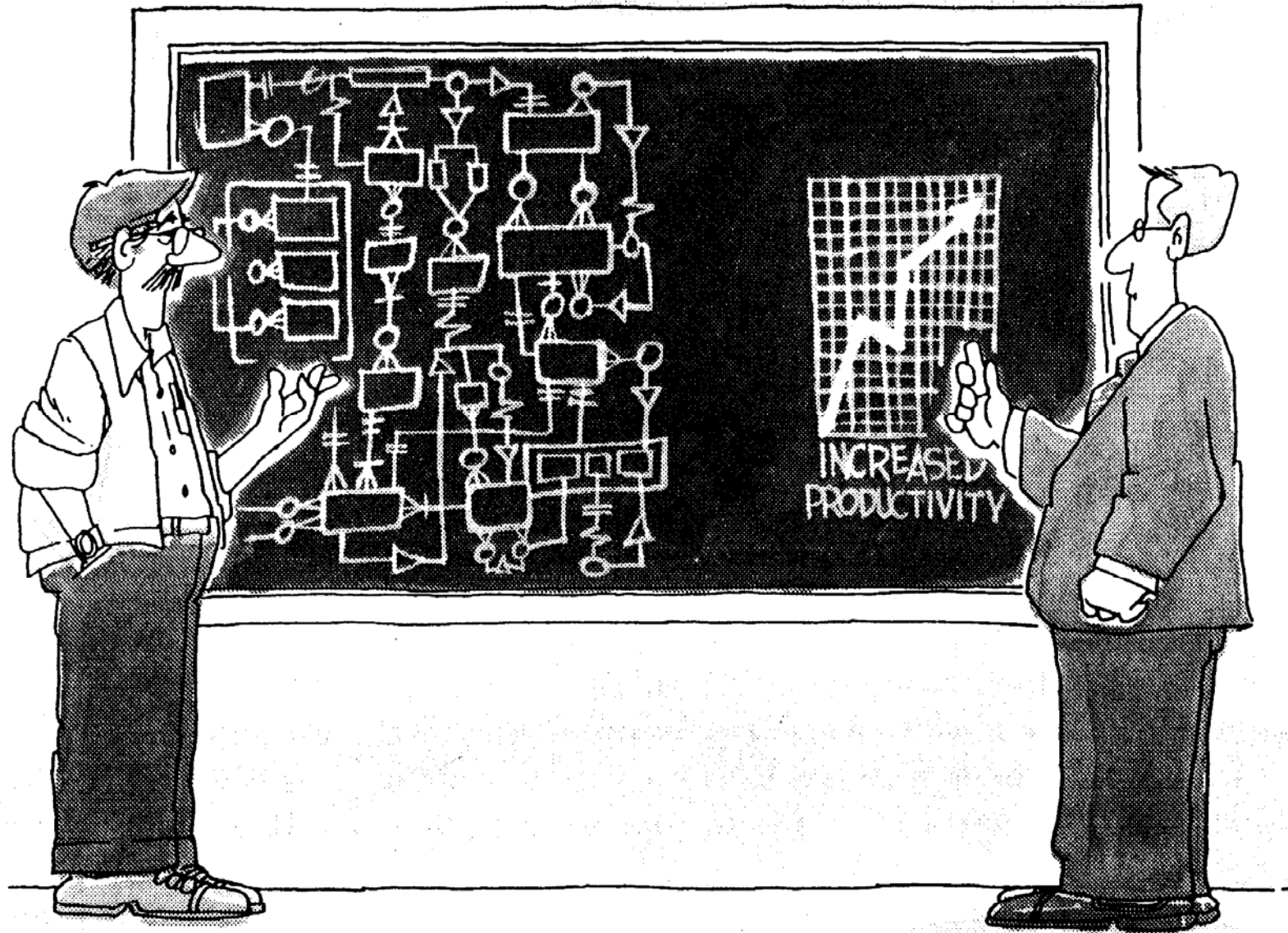
- Secure executive sponsorship
- Identify critical stakeholders
- Conduct facilitated workshops:
 - Business area leaders
 - IT leaders
- Evaluate proposed measures
- Develop balanced scorecards
- Focus on the alignment and translation of IT and Business objectives
- Make it visible
- Own the responsibility
- Tailor the reward system



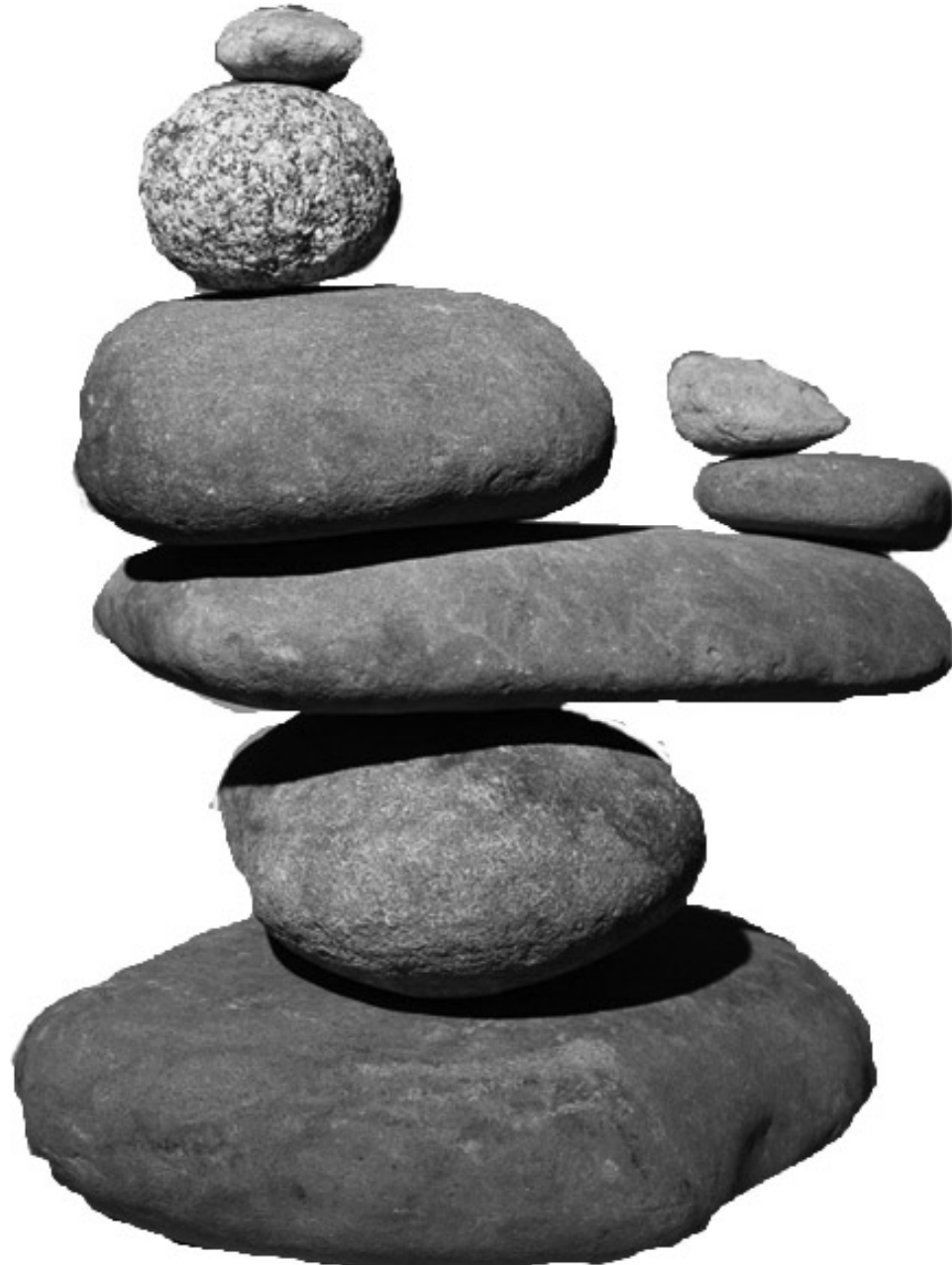
Lessons Learned



Communication



Balance



For More Information

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