meaningful metrics

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first, what are metrics and measures?

- A metric is a standard unit of measure, such as mile or second, or more generally, part of a system of parameters, or systems of measurement, or a set of ways of quantitatively and periodically measuring, assessing, controlling or selecting a person, process, event, or institution, along with the procedures to carry out measurements and the procedures for the interpretation of the assessment in the light of previous or comparable assessments.
- Metric – an operational definition that describes, in specific terms, what something is and how the process measures it
- Metric – a standard of measurement
- Measurement - an actual value

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why measure?

- If you don't measure it, you can't manage it
- If you don't measure it, you can't improve it
- If you don't measure it, you probably don't care
- If you can't influence it, then don't measure it
- **To make decisions** – all data is used to make decisions
- *If you are collecting data, and you don't know exactly what decision is associated with the data, stop collecting the data. It is a waste of time.*

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why I love metrics
key to IT Governance because they are key to making decisions

— Specifying the decision rights and accountability framework to encourage desirable behavior in using IT.

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— Simple Version - ***The processes and relationships that lead to reasoned decision-making in IT***

— **3 Key Questions:**

- What **decisions** need to be made?
- Who is accountable for making the **decisions**?
- How will the **decisions** be made?

— Everyone in my organization delivers value in the same way – by making decisions.

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too much Information, too little sharing

- 47% of IT Managers spend 30% of their time trying to get the right information (as opposed to 25% for non-IT)
- 42% say they have too much information
- 44% complain other departments are not forthcoming with information
- 39% say they can't determine what information is current
- 38% must weed out duplicate information
- 21% don't understand the value of received information
- 84% collect and store information on their own hard drives and e-mail accounts

Source: InformationWeek, January 3, 2007

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metrics provide the data required to make reasoned and rational decisions

- Decision-mapping to identify data
- Data Requirements should influence metrics
- Role-specific Reports

what do metrics tell me?

- **Variances** – Did I hit the mark? If I missed, was I within *tolerance* levels?
- **Trends** - Examining performance over time to determine performance improvement or deterioration and to forecast future performance

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measures – critical dimensions

- Financial/Productivity
  - cost
  - price
  - profit
  - overhead
  - carrying cost
  - estimate vs. actual
- Timeliness
  - cycle time (speed)
  - on-time
- Quality of Interaction
  - responsiveness
  - convenience
  - dependability
- Quality of Work/Product
  - performance
  - accuracy
  - conformance
  - reliability/durability
  - aesthetics
  - serviceability
- Other
  - capacity
  - compliance
  - agility/adaptability
  - safety
  - employee satisfaction

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data collection methods

Method	Counts	Expert judgments	Length of turns	Turn overlap	Resource cost	Task Completion	Time	Tool Usage	User ratings	Conversational Constructs	Repair Activities
	Metrics										
Log	x		x	x	x	x	x	x		x	x
Observation	x	x	x		x	x	x	x		x	x
Questionnaire		x			x			x	x		x
Audio	x		x	x						x	
Video	x	x	x		x		x	x			

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the elements of a good measure

- Important - Reflects the ultimate goals and purpose of the organization
- Controllable - Is something that employees can directly influence
- Accurate - Reliably expresses what is being measured
- Objective - Not subject to dispute
- Easy - Not burdensome or too expensive to obtain
- Timely - Is available in time to make a difference
- Comprehensible - Easily communicated and readily understood
- Harmless - Does not induce dysfunctional behavior

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metrics driving dysfunctional behavior

Help Desk Examples

— Mean Time to Restoral (MTR)

— 1st-call Resolution

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am I measuring the right things?

- **When making decisions**
  - Was my decision realized?
  - Was my decision good?
  - How can I make better decisions?
- People understand it
- People know what to do with it
- ***People want it***

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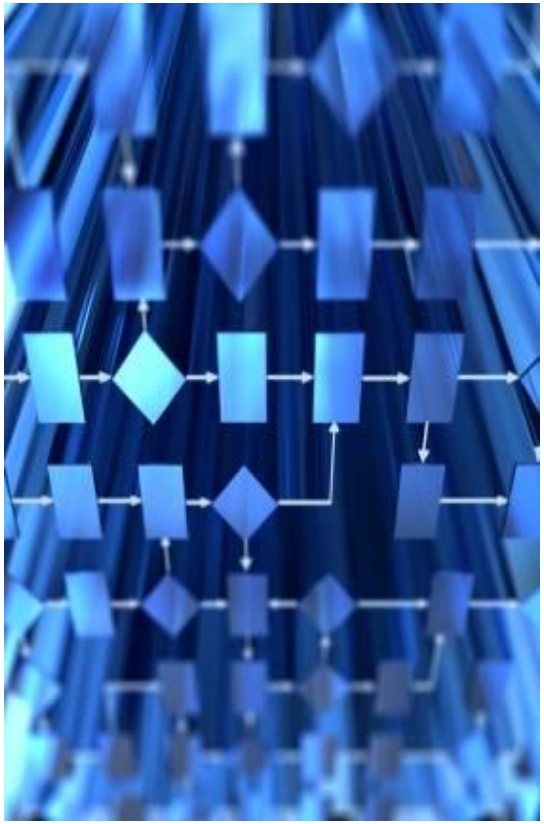
the principles of process metrics



- Focus on end to end process outcomes and performance
- Meticulously derive metrics from customer needs and enterprise goals
- Assists in the strive for common understanding and awareness
- Avoid being distracted by intermediate measures
- Base performance measures and rewards on metrics
- *Use to monitor performance, shape behavior and drive change*

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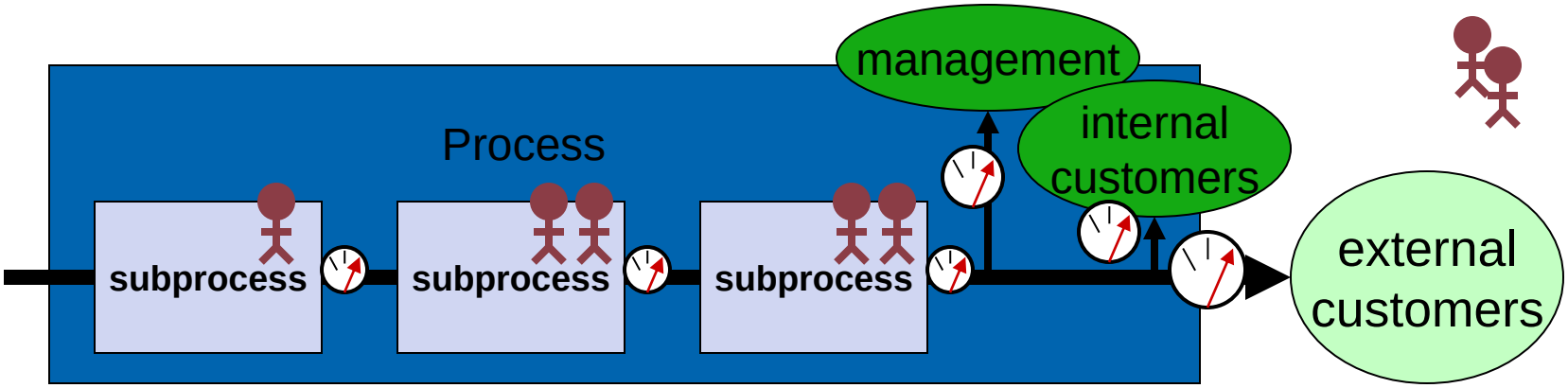
understanding what to measure



1. process name and description
2. start/trigger, end, and major sub-processes
3. external customers and services received
4. internal customers and management, and outputs received
5. internal and external stakeholders
6. end-to-end measures
7. intermediate (sub-process) measures

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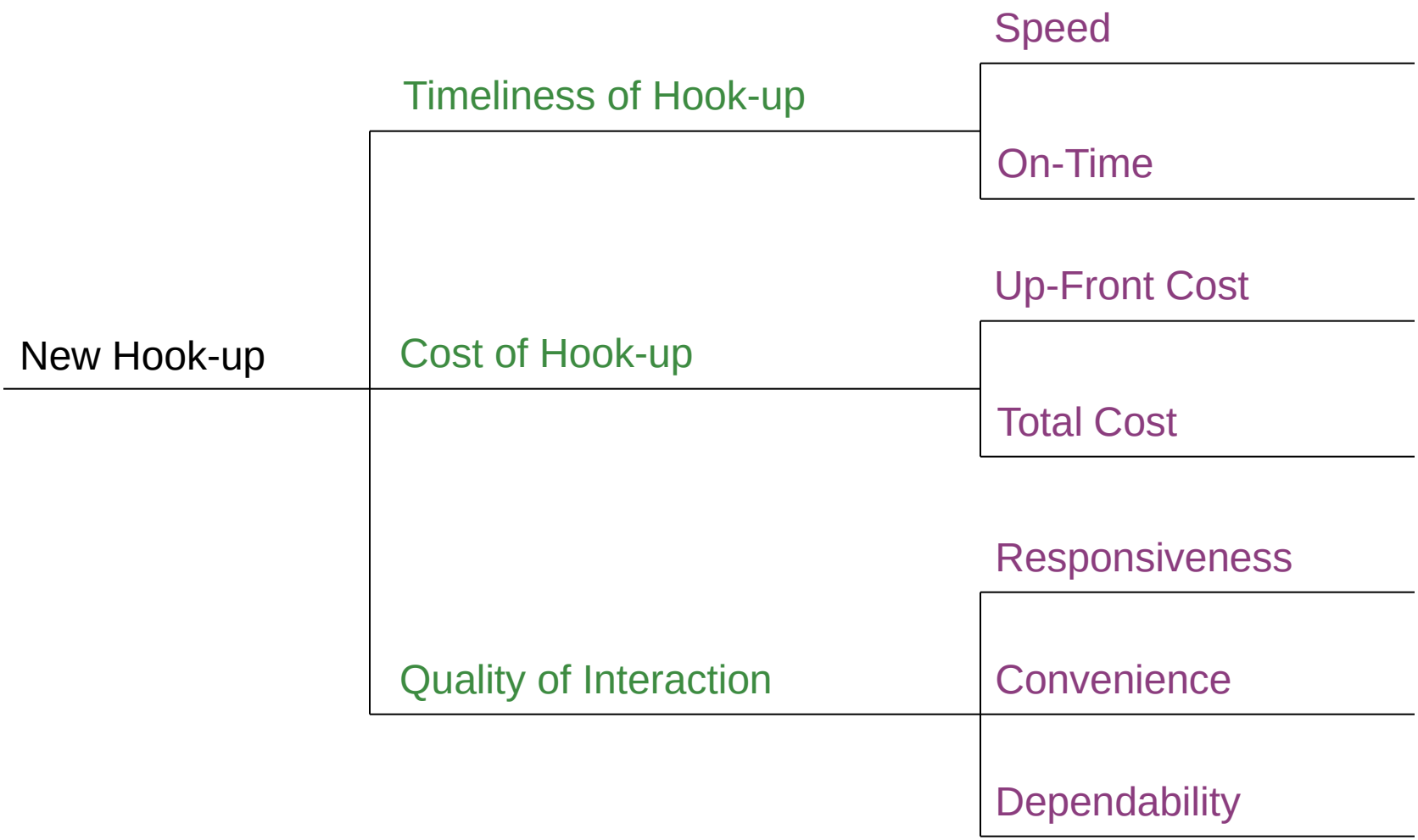
output measurement tree



Developing Measures and Goals

Process	Hotel Room Service
Output	A Meal
Dimension	Timeliness - speed
Measure	Time order taken to meal delivered
Goal	30 minutes or less

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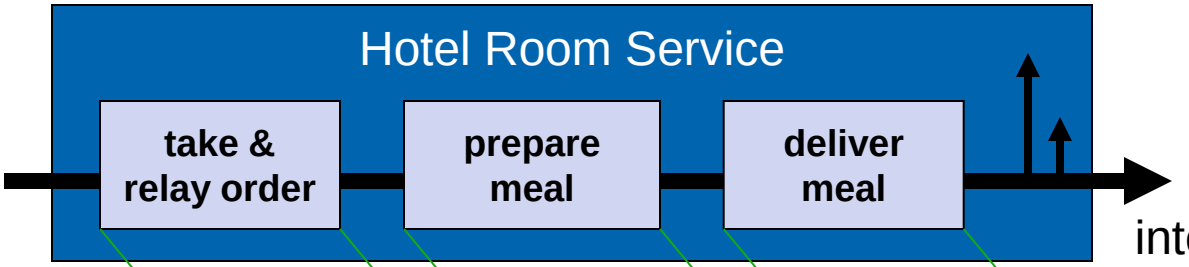
process measures chain



				internal & management	external
time	speed <2 min	speed <18 min	speed <10 min	timely billing info	speed <30 min
quality	accurate friendly	accurate fresh	friendly	accurate billing info	fresh & friendly
cost		food cost labor cost	labor cost	cost	price
other		variety cleanliness		compliance	variety

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A Quality Measurement System

- Measures process performance end-to-end (start to finish), across functional boundaries (i.e., focuses on results).
- Reflects customers' needs and wants, and is predictive of customer satisfaction where possible.
- Is likely to involve some surveying or otherwise soliciting feedback directly from customers.
- Includes intermediate measures for troubleshooting.
- Includes a few internally focused measures (e.g., cost), but not at the expense of customer-focused measures.
- Links job performance to process performance, and in turn to organizational performance.
- Does not hide problems (e.g., buries the few but important) and can not be manipulated or "gamed" to cover up issues.
- Prefers continuous measures over discrete (e.g., number of days late rather than simply on-time or late).

metrics from the top

- **Goals** – outcomes the enterprise must achieve
- **Strategies** – major programs the enterprise pursues to achieve its goals
- **Processes** – operating mechanisms that execute strategies

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balanced scorecard – a history lesson

- The **Balanced Scorecard** (BSC) began as a concept for measuring whether the smaller-scale operational activities of a company are aligned with its larger-scale objectives in terms of vision and strategy. It was developed and first used at Analog Devices in 1987. By focusing not only on financial outcomes but also on the human issues, the Balanced Scorecard helps provide a more comprehensive view of a business, which in turn helps organizations act in their best long-term interests. The strategic management system helps managers focus on performance metrics while balancing financial objectives with customer, process and employee perspectives. Measures are often indicators of future performance.
- **According to the Balanced Scorecard Institute**
  The balanced scorecard (BSC) is a strategic planning and management system used to align business activities to the vision and strategy of the organization, improve internal and external communications, and monitor organizational performance against strategic goals
- IT view of the world with financial transparency so you can talk with business executives about true life-cycle costs and true accountability within IT services

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balanced scorecard objectives

- Demonstrate the value added by IT
- Establish a balanced set of measures for determining the effectiveness of the IT organization
- The foundation for creating the IT strategic plan and linking it into tactical and operational plans
- Communicate and influence IT performance in key areas as required by the business and its stakeholders
- Establish a framework for IT management reporting

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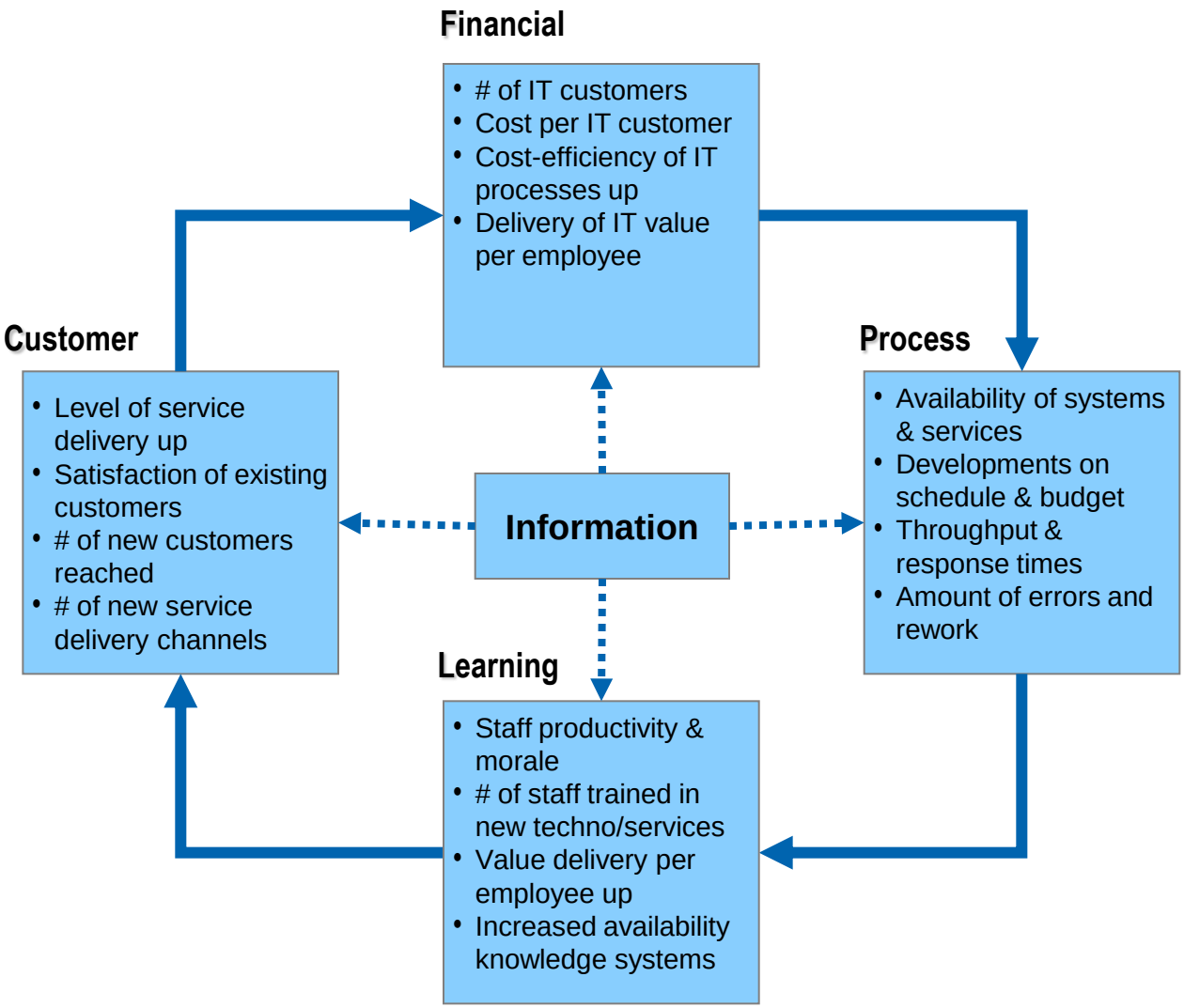
balanced scorecard – 4 perspectives



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balanced scorecard – examples

- Financial
  - Cash flow
  - ROI
  - Financial result
  - Return on capital employed
  - Return on equity
- Customer
  - Delivery performance to Customer - by date
  - Delivery performance to Customer - by quality
  - Customer satisfaction rate
  - Customer retention
- Internal Business Processes
  - Number of activities
  - Opportunity success rate
  - Accident ratios
  - Overall equipment effectiveness
- Learning and Growth
  - Investment rate
  - Illness rate
  - Internal Promotions %
  - Employee Turnover
  - Gender/racial ratios

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IT governance principle metrics

Strategic Alignment

> Show how IT supports the Enterprise Strategy

> Show how IT Operations are aligned with current Enterprise Operations

Value Delivery

> Show how IT delivers appropriate quality on-time and within budget

> Show how actual cost and ROI is managed

Risk Management

> Risk Controls

> Transferring risk

> Risk acceptance

Resource Management

> Show how IT optimizes the infrastructure

> Show how IT optimizes human resources

Performance Management

> Show how IT measures performance (balanced scorecard, KPIs, etc.)

> Use of automated systems providing performance data and information

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strategic alignment

Focus on aligning with the business and collaborative solutions

> Show how IT supports the Enterprise Strategy

> Show how IT Operations are aligned with current Enterprise Operations

Show how IT:

> Delivers against the strategy

> Balances investments between systems that support the enterprise as is, and transforms the enterprise to create an infrastructure that enables the business to grow

> Adds value to products and services

> Improves customer satisfaction and customer retention

> Assists in competitive positioning

> Contains costs and improves administrative efficiency

> Increases managerial effectiveness

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value delivery

Optimizing expenses and proving the value of IT

- Show how IT delivers appropriate quality on-time and within budget
- Show how actual cost and ROI is managed

Show how IT:

- Is fit for purpose, meeting business requirements
- Flexible to adopt to future requirements
- Provides required throughput and response times
- Enables ease of use, resiliency and security
- Provides integrity, accuracy and currency of information

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risk management

Addressing the safeguard of IT assets, disaster recovery and continuity of operations

> Risk Controls
> Transferring risk
> Risk acceptance

Show how IT:

> Mitigates risk by implementing controls (e.g. Risk Management Systems, Audit controls, acquiring and deploying security technology to protect the infrastructure, Business Continuity Planning, Disaster Recovery, etc.)

> Transfers risk by sharing risk with partners or transfers risk to insurance coverage

> Accepts risk by formally acknowledging that the risk exists and it is being monitored

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resource management

Optimizing knowledge and IT infrastructure

> Show how IT optimizes the infrastructure
> Show how IT optimizes human resources

Show how IT:

> Manages system procurement
> Benefits from service procurement
> Manages the lifecycle of hardware, software licenses and services contracts
> Applies appropriate methods and adequate skills to manage and support IT Projects and Systems
> Improves workforce planning, recruiting and workforce retention
> Provides IT education and development

performance management

Tracking project delivery and monitoring IT services

> Show how IT measures performance (balanced scorecard, KPIs, etc.)

> Use of automated systems providing performance data and information

Show how IT:

> Establishes and measures financial objectives

> Maps financial objectives to customer requirements and needs

> Measures process performance, effectiveness, efficiency and criticality to the business

> Addresses innovation requirements and future needs

> Determines how business executives and users view the IT department

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COBIT® IT performance measurement

Goals and metrics are defined in COBIT® at three levels

— It goals and metrics that define what the business expects from IT and how to measure it

— Process goals and metrics that define what the process must deliver to support IT's objectives and how to measure it

— Activity goals and metrics that establish what needs to happen inside the process to achieve the required performance and how to measure it

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PPM metrics

- Increase of revenue attributable to the Portfolio
- Development of new markets and expansion of customer base as a result of the portfolio
- Cost reductions attributable to the portfolio
- Change in net present value (NPV) of the portfolio
- Return on investment from the portfolio
- Internal rate of return (IRR) of the portfolio
- Degree to which the portfolio and business risks have been reduced by undertaking the portfolio components
- Availability of resources needed to support the portfolio components, both as planned and in execution.

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PPM metrics

- % of investment decisions influenced by PPM Committee
- % of projects aligned with organizational goals
- % of projects reviewed during execution by Executive Management
- % of healthy Projects
- % of projects delivered ahead of schedule
- % of actual value versus expected value
- % of projects that meet or exceed expected value
- Executive satisfaction with PPM – survey based

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PPM metrics

Category	Key Question	Sample Metrics
Portfolio Mix	Is our funding aligned to strategic objectives?	• % portfolio spend in “run the business,” “grow the business,” and “innovate the business” • % of Portfolio in Short/Medium/Long-term Projects % of Portfolio in Large and Extra Large Projects
Demand & Capacity	Do we have the right prioritization and sequencing of projects given capacity?	• % growth in project intake • % growth in initiatives • IT resource utilization • Business resource utilization • Recruiting pipeline
Value	For our portfolio, to what extent did we achieve our objectives?	• % on time • % on budget • Portfolio and Sub-portfolio IRR • # function points delivered vs. plan • $ saved for consolidation efforts
Portfolio Health	For projects in-flight, how is our execution progressing?	• Counts and amounts for projects in Red/Amber/Green status • # issues by severity: opened, closed, on-hold
Financial Management	How effectively are we managing project budgets and what are financial trends?	• % variance to plan • % funding in-flight • $ committed but not spent • Earned value

PPM Dashboard care of Diamond Management Consultants http://bit.ly/cwO9c5

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PMO metrics
4 dimensions – based on a 2008 forrester report

Consulting

— Number of engagements
— Number of mentoring relationships
— Number of training days delivered

Knowledge Management

— % of Healthy Projects
— Number of best practices contributed

Standards

— Number of projects complying with project management standards
— Number of projects complying with methodology

Portfolio Management*

— Total return of the portfolio
— % of actual value versus expected value
— % of projects that meet or exceed expected value

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PMO metrics
connect the data to enable…

Facilitating and Enabling Project and Portfolio Management (PPM)

- % of investment decisions influenced by PMO-provided data
- % of projects aligned with organizational goals
- % of projects reviewed during execution by Executive Management
- Executive satisfaction with PMO – survey based

Influencing Project Success

- Project success rate (upward trend)
- % of projects delivered ahead of schedule
- % of healthy Projects
- % of projects governed by the PMO

Establishing a Partnership with Project Managers

- Project management competence (upward trend)
- Number of mentoring relationships
- Number of training days delivered
- Project Manager satisfaction with PMO - survey based

Fostering Processes that Enable Success

- Project standards, processes, tools and templates are designed and implemented
- Project processes are owned and managed (process management lifecycle)
- % of projects complying with project management standards & methods
- Value of PMO is measured and understood

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measuring the value of projects

- Increase throughput
- Reduce investment
- Reduce operating expense
- Have the combined effect in the 3 measurements that result in an obviously positive effect on the bottom line now and in the future (e.g. increase investment, but provide a dramatic resulting increase in throughput, such that the investment is recovered within two years or less). A project that can affect two of these simultaneously is even better. A project that affects 3 is even better.
- *Unless meeting legal or regulatory requirement*

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measuring the value of projects

- **Throughput** - The value of the products and services you deliver to customers minus the direct cost of goods or services sold or paid to outside vendors. In a for-profit company, this is how much money is left in the bank account after payment has been received from customers and outside vendors and subcontractors have been paid for parts, materials and services. In a not-for-profit organization, the value of the products and services is still required but often expressed in non-monetary form.
- **Investment** - All capital investment and investment in inventories at all levels (raw materials and parts, work in progress, and finished goods throughout the supply chain.) This includes all investments that must be written off over more than the fiscal year.
- **Operating Expense** – All of the money that the organization spends to turn its investment into throughput. This includes all annual expenses. It also includes all labor costs, depreciation expense, and supplies consumed throughout the year.

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project metrics and measures

- Classic - On time, on budget, within scope
- ITG Evangelist's – Speed, Value, and Performance delivered
- Influence future decision-making

Projects

Project Filter

Filter System Default [Create Filter Expression][Expand Filter]

New | New from Template | Mark for Deletion | Cancel Deletion | Multisort

Project	Budgeted Cost	Risk	Status Indicator
Bus Ops Call Center Enhancement	625,000.00 USD		
CRM Implementation - Asia Pac	650,000.00 USD		
CRM Upgrade Data Conversion	890,000.00 USD		
Customer Tracking System	625,000.00 USD		
Enhance Call Center System	150,000.00 USD		
Enterprise Web Portal Infrastructure	450,000.00 USD		
GL Posting Interchange	350,000.00 USD		
HR Benefit Statement Reporting	450,000.00 USD		
HR Enhancements	275,000.00 USD		
Journal Entry Enhancements	210,000.00 USD		
New Partner Web Site	675,000.00 USD		
Operations System Performance Upgrade	250,000.00 USD		
Order Management Data Mart Development	550,000.00 USD		
PeopleSoft Data Migration	450,000.00 USD		
Reduce Network Maintenance Costs	550,000.00 USD		
Upgrade Network Performance	425,000.00 USD		
Web Development - OM Interface	450,000.00 USD		
Lifecycle Management Template	1,200,000.00 USD		
Systems Migration	0.00 USD		
Lifecycle Management Template			

Jan 2004 Feb 2004 Mar 2004 Apr 2004 May 2004

New | New from Template | Mark for Deletion | Cancel Deletion | Multisort

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PMI PMBOK® project measurements

- Performance information – status of deliverable completion
- Performance measurements – schedule variance, cost variance
- Forecasted completion – Earned Value Technique
- Quality control measurements
- Project plan as baseline – scope, schedule, cost parameters – may include technical and quality parameters
- Approved change requests
- Deliverables – subject to approval by sponsor or customer

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earned value technique

- Earned Value Technique

  Compares the cumulative value of the budgeted cost of work performed (earned) at the original allocated budget amount to both the budgeted cost of work schedule (planned) and to the actual cost of work performed (actual). This technique is especially useful for cost control, resource management, and production.

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measuring and ensuring business value

- Value: *performance on a dimension that stakeholders find important**
- Determine how your organization defines value and measure process performance in those terms
- Make IT metrics meaningful to business executives – communicate IT operational performance in business terms
  - BMW : number of cars not produced due to IT incidents
- Help business executives improve performance in their areas
- Assign executive accountability for project business value delivery – providing status of benefits progress during execution and analysis of benefits realization post-implementation

*George Westerman, Research Scientist, MIT CISR

audience metrics

Metrics

1. - on-time
2. - time to resolve a call
3. - up-time
4. - call volume
5. - number of tasks completed
6. - average unit volume
7. - on budget

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summary

Some final thoughts

— Metrics cost $ - the #1 inhibitor

— Match frequency to importance

— If you can’t take action on a metric, then it doesn’t matter

— Can somebody make a decision based on the metric?

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thank you

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