Metrics That Matter
Supporting IT Decision and Strategy at the Senior Executive Level

Randy Steinberg – Migration Technologies
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Agenda:

- The Metrics Problem
- The Metrics Model
- A Tour Through Metrics Hell
- 7 Killer IT Metrics
- Implementing A Metrics Program
The Metrics Problem

Key Challenges Many IT Organizations Have With Metrics
This Happens All Too Often….

“We Can’t Convince Management How Important Our Incident Management Project Is”

“Our ITIL/ITSM Effort Is Losing Steam”

“No One Recognizes the IT Value We Are Delivering”

Management: “Where’s The Value? What Are We Getting For Our Money?”
Actual IT Excuses For Not Measuring

What they sometimes say…

“We have other priorities…”

“We don’t have the tools…”

“We don’t want others to see how well or poorly we are doing…”

“We’re uncomfortable about letting others see our performance levels…”

What they are really saying…

“We know what’s good for the business and prefer to operate without validating our value

“We expect the tools to tell us what to measure and if we can’t be perfect we can’t be responsible…”

“We prefer to keep our management totally blind about what we are doing…”

“We’ve gotten away with this for years – we intend to continue to get away with this…”

When asked – most IT organizations generate metrics “because management asked us to…”
Measuring IT – Best Practices Per ITIL

Why does IT start here (the 2nd step) most of the time?

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Why does IT mostly focus here?
Example Problem: Availability Metrics

Component availability is meaningless to end users and the business…

We were out for over 16 hours last week!!

99% x 99% x 99% x 97% x 98% x 99% x 99% = 90.4%

Available
Metrics That Matter – An Example

Metric: NUMBER OF CHANGES (i.e. 1,067)

Doesn’t matter → Only describes what took place and provides no information for future action

Metric: CHANGE SUCCESS RATE (i.e. 94.6%)

Does matter → Provides quality indication and easily identifies when actions need to occur for improvement
Leveraging The ITIL DIKW Model

**Wisdom**
- Management Decisions

**Knowledge**
- Change Effectiveness
- Unplanned Labor Rates, etc.

**Information**
- Incident Volumes
- Change Volumes
- Average Resolution Times, etc.

**Data**
- Incidents
- Changes
- Expenditures
- Operational Events, etc.

*Bottom Line: Every Metric Should Lead To A Management Decision!*
The Metrics Model

Assembling the types of metrics that can be used for providing value

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Thinking In Categories Of Metrics

- Operational
- Key Performance Indicators (KPIs)
- Tolerances
- Critical Success Factors (CSFs)
- Dashboards
- What-Ifs
- Outcomes
- Analytical
- Other
Putting Metrics Categories Together

Example:
- # incidents
- # changes

Example:
- % of changes causing incidents

Example:
- Protect services when making changes

Operational → Key Performance Indicators → Critical Success Factors

Tolerances

Example:
- 0% Target
- 5% Threshold

Dashboards and Reports
Metrics Category: Operational

Metrics that reflect day to day observations of operational events

Used as input for Key Performance Indicators (KPIs)

Mistakenly used by IT when reporting to executives

Examples:
- Total Number Of Changes Implemented
- Number Of Incidents Reopened
- Number Of Problems In Pipeline
- Number Of Calls Handled
- Customer Survey Results
- Total Expended IT Costs
Metrics Category: - KPIs

Metrics that indicate the key performance level of an operation or process to provide that basis for actionable management decisions

Calculated or derived from one or more Operational Metrics

Indicates whether one or more Critical Success Factors (CSFs) are being met

Falls within a target and acceptance range (Tolerance)

Examples:
- Change Efficiency Rate
- Change Labor Workforce Utilization
- Incident Repeat Rate
- Capacity Management Process Maturity
- Total Service Penalties Paid
Metrics Category: Tolerances

Upper (Target) and Lower (Warning) KPI values that reflect success, at risk or failure of those KPIs

Upper and Lower values set by IT Service Manager with agreement from IT and Business Senior Management

<table>
<thead>
<tr>
<th>KPI Example</th>
<th>Target (Upper)</th>
<th>Warning (Lower)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Customer Satisfaction Rating</td>
<td>9.5</td>
<td>8.6</td>
</tr>
<tr>
<td>Unauthorized Change Rate</td>
<td>2.0%</td>
<td>3.5%</td>
</tr>
<tr>
<td>Average Incident Resolution Time (Hours)</td>
<td>3.0</td>
<td>4.5</td>
</tr>
</tbody>
</table>
Metrics Category: CSFs

Metrics that represent key operational performance requirements which indicate whether a process or operation is performing successfully from a customer or business perspective

Calculated or derived from one or more KPIs and how those KPIs performed within tolerance levels

Indicated with a Performance Level

<table>
<thead>
<tr>
<th>CSF</th>
<th>Performance Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Protect Services When Making Changes</td>
<td>High</td>
</tr>
<tr>
<td>Provide Services At Acceptable Cost</td>
<td>Medium</td>
</tr>
</tbody>
</table>
Metrics Category: Dashboards and Reports

Key metrics that are represented on a report or graphical interface that indicate whether the success, at risk or failure of a business operation

Used to quickly assess state of operation and take timely actions to correct operational deficiencies

May include drill down capabilities to determine more detailed performance issues
Other Metrics Categories: Outcomes

Key indicators of business risk areas with performance indicators resulting from the success, at risk or failure of KPIs or CSFs

Used to quickly assess the level of risks created by process or operational deficiencies

<table>
<thead>
<tr>
<th>Level</th>
<th>Risk Area</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td>Service Outages</td>
<td>3.0</td>
</tr>
<tr>
<td>Medium</td>
<td>Rework</td>
<td>2.6</td>
</tr>
<tr>
<td>Medium</td>
<td>Waste</td>
<td>2.2</td>
</tr>
<tr>
<td>Low</td>
<td>Delayed Solutions</td>
<td>1.5</td>
</tr>
<tr>
<td>Medium</td>
<td>Slow Operational Processes</td>
<td>2.8</td>
</tr>
<tr>
<td>High</td>
<td>Security Breaches</td>
<td>3.0</td>
</tr>
<tr>
<td>Medium</td>
<td>Inaccurate Information</td>
<td>2.7</td>
</tr>
<tr>
<td>Medium</td>
<td>Slow Turnaround Times</td>
<td>2.0</td>
</tr>
<tr>
<td>Medium</td>
<td>Unexpected Costs</td>
<td>2.0</td>
</tr>
<tr>
<td>Medium</td>
<td>Higher or escalating costs</td>
<td>2.2</td>
</tr>
<tr>
<td>Medium</td>
<td>Low Employee Morale</td>
<td>2.5</td>
</tr>
</tbody>
</table>
Other Metrics Categories: What-Ifs

Use cases derived from impending business decisions that will be used to “model” the impacts of those decisions on KPIs and CSFs

Associated with a Decision Impact Level

Characterized by increases/decreases in KPI/CSF results and whether they remain or fall outside of tolerances

<table>
<thead>
<tr>
<th>What-If</th>
<th>Impact Characterization</th>
<th>Decision Impact Level</th>
<th>Impacts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Implement new ERP system</td>
<td>Increase in changes to infrastructure</td>
<td>Low To Medium</td>
<td>All Change KPIs x +20%</td>
</tr>
<tr>
<td>Go through with ABC merger</td>
<td>Increase in infrastructure complexity</td>
<td>Medium To High</td>
<td>All Service Delivery KPIs x +30%</td>
</tr>
</tbody>
</table>
Other Metrics Categories: Analytical

Metrics used to aid research into an issue, incident or service problem

Typically collected and reported on for ONE-TIME ONLY or SPECIAL PURPOSES

Examples

- Number of incidents incurred by business unit ABC
- Number of delta releases included in package releases
- Number of incidents with resolution times > 8 hours

*IT frequently makes the mistake of including these in regular reporting to senior management “just in case”. This results in a lot of wasted labor in building reports and clouds real management issues that need to be addressed!*
What If Metrics Are Not Available?

Lack of available metrics is not an excuse to not measure!

<table>
<thead>
<tr>
<th>What You Can Do</th>
<th>Use</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Establish Indicators</td>
<td>Some observable operational event for which it is agreed means something</td>
<td>Number of staff on 3rd shift: &gt; 5 indicates unacceptable impact levels of incidents</td>
</tr>
<tr>
<td>Conduct Random or Scheduled Inspections</td>
<td>Observable event that represents all occurrences of that event</td>
<td>Acceptable network capacity levels if all network line utilizations at 1pm stay under 60%</td>
</tr>
<tr>
<td>Use Analogous Measures</td>
<td>Observable event substituted for another event</td>
<td># of calls to the Service Desk will equal # of incidents taking place</td>
</tr>
<tr>
<td>Develop Programs To Create Metrics</td>
<td>Developing programs who measures will substitute for real events</td>
<td>Build time stamped dummy transactions that traverse the infrastructure to get availability</td>
</tr>
<tr>
<td>Conduct Audits</td>
<td>Periodic audits for whose results will indicate KPIs</td>
<td>Annual customer satisfaction survey results will indicate service satisfaction levels</td>
</tr>
</tbody>
</table>
## Metrics Modeling Tool

**Easy To Use**

**Excel-Based**

**Provides Metrics For Many ITIL Processes**

**Provides Sources For Metrics**

**Follows The Concepts In This Presentation**

**Provides Dashboard Results**

**RANDY STEINBERG**

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A Tour Through Metrics Hell

Things That Actual IT Organizations Have Run Into

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“Fox In The Henhouse” Syndrome

Yes ma’am – just keep rebooting your PC when that happens!

Guess we can count this one as a closed problem!

The people doing the work should not be the people reporting about it!
“Impress Them With Data” Syndrome

Examples of metrics actually reported to the CIO Executive Team:

- Number of changes logged this month
- Number of incidents occurring this month
- Server utilization was 70%
- ABC Network availability was 99.5%
- Average transaction server response was 8ms
- Number of CIs in the CMDB
- Number of software licenses

If it doesn’t contribute to making decisions – don’t present it!
“Creative Charts” Syndrome

History by Day, In vs. Out, LAN MIB II Statistics

If it can’t be understood in 5 seconds or less – don’t do it!
“The Tool Is Everything” Syndrome

Don’t expect that tools will tell you what to measure!

Services Bill

- ABC Dashboard Tool $85,000.00
- Collection Agent Licenses $7,500.00
- ODCB Server License $1,080.00
- Database License $24,500.00
- Server Platforms $72,500.00
- Integration Services $124,850.00
- Annual Maintenance $15,500.00
- Gold-Level Support $24,200.00
- Operations Staff $178,500.00
“Seemed Like A Good Idea” Syndrome

Don’t use metrics that require significant labor to produce!
7 Killer IT Metrics

Metrics That IT Hates Yet Senior Executives Love

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Killer Measurement #1 – Incident Business Impact Ratio

Calculated As

\[
\frac{\text{Number of incidents resolved}}{\text{Number of incidents reported to service desk}}
\]

<table>
<thead>
<tr>
<th>Suggested Targets</th>
<th>If Within Targets</th>
<th>If Below Target</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Target</strong></td>
<td><strong>Threshold</strong></td>
<td><strong>Demonstrates wonderful work IT is doing to keep things running</strong></td>
</tr>
<tr>
<td>100%</td>
<td>90%</td>
<td></td>
</tr>
</tbody>
</table>

Primary Improvement ITSM Focus Areas

- Event Management
- Availability Management
- Problem Management
- Incident Management
- Service Design
- Service Operation
Killer Measurement #2 – Unplanned Labor Ratio

Calculated As

\[
\frac{\text{Number of monthly hours spent on incidents and rework}}{\text{Total labor hours available}}
\]

Suggested Targets

<table>
<thead>
<tr>
<th>Target</th>
<th>Threshold</th>
</tr>
</thead>
<tbody>
<tr>
<td>0%</td>
<td>10%</td>
</tr>
</tbody>
</table>

If Within Targets

IT is running efficiently and maximizing its investment in labor

If Below Target

IT labor is being diverted to non-value activities and may also be a root cause for project delays and inability to react to business needs

Primary Improvement ITIL Focus Areas

- Problem Management
- Change Management
- Incident Management
- Capacity Management
- Availability Management

- Service Design
- Service Operation
- Service Transition
Killer Measurement #3 – Unplanned Purchases

Calculated As

\[
\frac{\text{Total unplanned IT expenses}}{\text{Total IT budgeted expenses}}
\]

Suggested Targets

<table>
<thead>
<tr>
<th>Target</th>
<th>Threshold</th>
</tr>
</thead>
<tbody>
<tr>
<td>0%</td>
<td>10%</td>
</tr>
</tbody>
</table>

If Within Targets

IT is effectively managing and controlling its costs

If Below Target

IT is out of control when it comes to controlling costs and has lost negotiation leverage with its suppliers

Primary Improvement ITIL Focus Areas

- Capacity Management
- Demand Management
- IT Financial Management
- Event Management
- Availability Management

- Service Strategy
- Service Design
Killer Measurement #4 – Customer Satisfaction Level

Calculated As

Average customer satisfaction survey score

Suggested Targets

<table>
<thead>
<tr>
<th>Target</th>
<th>Threshold</th>
</tr>
</thead>
<tbody>
<tr>
<td>10.0*</td>
<td>9.0*</td>
</tr>
</tbody>
</table>

*Assumes a 10 point scale with 10=High and 1=Low

If Within Targets

IT is effectively meeting customer needs

If Below Target

IT is viewed as problematic and lacks confidence from the business in their capabilities

Primary Improvement ITIL Focus Areas

- Incident Management
- Problem Management
- Request Fulfillment
- Service Desk
- Service Strategy
- Service Design
- Service Transition
### Killer Measurement #5 – Change Efficiency Ratio

**Calculated As**

\[
\frac{\text{Number of changes implemented defect free on time}}{\text{Total changes that have been requested}}
\]

<table>
<thead>
<tr>
<th>Suggested Targets</th>
<th>If Within Targets</th>
<th>If Below Target</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Target</strong></td>
<td><strong>Threshold</strong></td>
<td>IT is effectively meeting and adapting to business needs and changes</td>
</tr>
<tr>
<td>100%</td>
<td>90%</td>
<td></td>
</tr>
</tbody>
</table>

**Primary Improvement ITIL Focus Areas**

- Change Management
- Release and Deployment
- Service Validation and Testing
- Request Fulfillment
- Demand Management

- Service Strategy
- Service Transition
Killer Measurement #6 – Costs By Service

Calculated As

\[
\frac{\text{Number of IT services with known delivery costs}}{\text{Total services in the IT portfolio}}
\]

<table>
<thead>
<tr>
<th>Target</th>
<th>Threshold</th>
</tr>
</thead>
<tbody>
<tr>
<td>100%</td>
<td>90%</td>
</tr>
</tbody>
</table>

If Within Targets

IT has appropriate transparency of costs expended to deliver services and a sound basis for working IT strategy with the business.

If Below Target

IT is viewed as a “black box” overhead to the business organization and may be “leaking costs” and deemed as too expensive.

Primary Improvement ITIL Focus Areas

- ✔ Service Portfolio Management
- ✔ IT Financial Management
- ✔ Service Asset & Configuration
- ✔ Demand Management
- ✔ Capacity Management

- ✔ Service Strategy
- ✔ Service Design
- ✔ Service Transition
Killer Measurement #7 – Availability By Service

Calculated As

\[
\frac{\text{Number of IT services meeting availability targets}}{\text{Total services in the IT portfolio}}
\]

<table>
<thead>
<tr>
<th>Suggested Targets</th>
<th>If Within Targets</th>
<th>If Below Target</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Target</strong></td>
<td><strong>Threshold</strong></td>
<td></td>
</tr>
<tr>
<td>100%</td>
<td>90%</td>
<td></td>
</tr>
</tbody>
</table>

IT services are available at levels that meet business needs

IT is providing little value and in extreme cases could be putting business revenue and reputation at risk

Primary Improvement ITIL Focus Areas

- Service Portfolio Management
- Availability Management
- Problem Management
- Incident Management
- Event Management

- Service Strategy
- Service Design
- Service Operation
Implementing A Metrics Program

Establishing Your Metrics Capabilities
Getting Started Tips

✓ Follow the ITIL 7-Step Improvement Process

✓ Identify WHAT needs to be measured first

✓ Identify strategy for getting those metrics

✓ Develop a Metrics Dictionary – describes your measurement standards:
  • Metrics descriptions
  • Data sources
  • Calculations
  • Thresholds for action
  • Intended audiences

✓ Implement reporting as an IT service (see next slide)
Build A Metrics Reporting Service

✓ Build and maintain a catalog of standard service reports that describe how well services are being delivered and the overall quality of service delivery and support activities

✓ Plan, design, build, test, implement and maintain strategies, procedures and technologies to assemble result data, create and distribute reports

✓ Plan, design, build, test, implement and maintain strategies and technologies to provide management dashboards and reporting web sites

✓ Build and maintain report distribution lists

✓ Plan, build, manage, maintain and coordinate a master set of service metrics, calculations and assumptions

✓ Provide consulting services to identify and implement a best practice set of key performance indicators, critical success factors and service targets for services

✓ Periodically conduct service audits to identify how well services are being delivered and potential opportunities for improvement

✓ Periodically conduct reporting reviews with management to identify improvements over the quality and use of reports provided
Key Metrics Reporting Activities

1) Identify who will use metrics and for what purpose
2) Identify desired metrics
3) Establish assumptions
4) Establish data sources
5) Implement collection and reporting roles and responsibilities
6) Implement collection and reporting processes
7) Implement collection and reporting tools
8) Continually monitor for metric improvements

*Metrics implementation should be a critical component of your ITSM Implementation efforts!!*
Key Takeaways

✓ Focus on metrics that lead to management decisions
✓ Consider using categories of metrics that work together
✓ Establish a metrics reporting “service”
✓ Remember:
  – “If you don't measure it, you can't manage it”
  – “If you don't measure it, you can't improve it”
Discussion

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