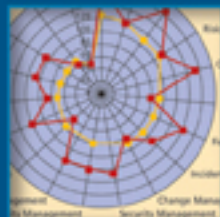
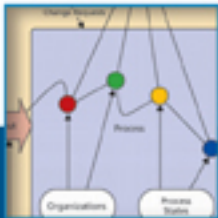
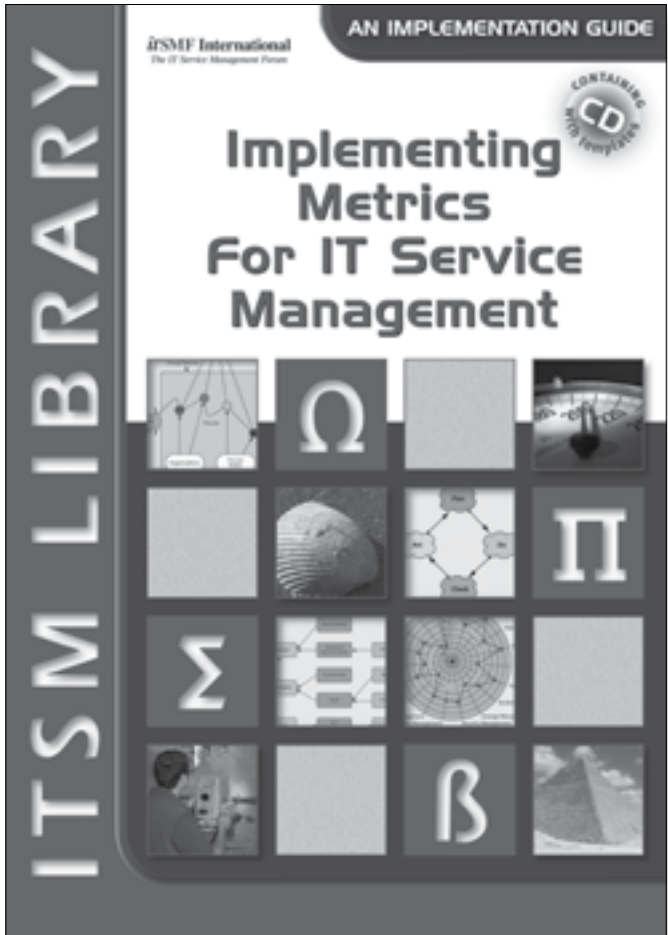




Implementing Metrics For IT Service Management



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Implementing Metrics for IT Service Management

A measurement framework that helps align IT with the business objectives and create value through continual improvements.

A data warehouse model for ITSM.

itSMF International
The IT Service Management Forum

A publication of itSMF International



Colophon

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Foreword

The IT Service Management community is fast becoming the authoritative body of knowledge and practical advice for businesses wishing to make the best and most efficient use of its IT systems & implementation. For many companies this is an entirely new field of management science that needs careful exploration and exploitation. Other companies have been successfully implementing excellent IT Service Management for longer periods but the level of expertise varies tremendously.

itSMFI sees the spreading of best practice and the further production of material highlighting best practice as essential to leveling the playing field and making sure that as a fledgling industry, the movement goes forward united. We believe that the material in this title helps organizations to get up to speed on what is good IT Service Management practice is all about, helping them to achieve more from what they have within their operations. Greater efficiency means greater profitability!

This title looks practical implementation of Metrics within our Industry. It has received the benefits of a full global peer review and I believe there is real valuable material in here. The sister publication in the series: *Metrics for IT Service Management* makes the point that this activity is only useful if it communicates to the business as well as to the Service area. In addition, measurements are there to ensure the business runs smoothly, hits its objectives and that problems are ironed out even before they arise. My itSMF USA colleague Ken Wendle makes the point more succinctly:

“Yesterday’s hero is today’s suspect. If you could fix it at 3 am when it broke, chances are you could have prevented it from breaking in the first place.”

I’m sure that this guidance will prove invaluable to those addressing these two key points.

Many individuals and organizations have contributed to the development of this book. At itSMF we are indeed very fortunate to have so many people willing to put in time and effort to support our aims of spreading Best Practice throughout the world. I would like to thank all these people and especially those who have spent so much of their own time working on this particular title. They have a lot to be proud of.

Keith Aldis
Interim Chief Editor, ITSM Library

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We owe author David Smith, President of Micromation Canada, huge thanks for generously sharing his knowledge, best practice and valuable time to develop the contents for this book.

An important role was played by the review team. This team was composed of a wide variety of professionals from all over the world:

- Pierre Bernard, Pink Elephant Inc
- Charles Betz, erp4it
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- Brian Shipston, Micromation Inc.
- Rui Soares, GFI Portugal
- Steve Tremblay, Excelsa Technologies Consulting Inc.
- Antonio Valle, G2, Gobierno y Gestión de TI, SLU

Together, they raised a good nine hundred issues that were all taken into account by the editor and the author. In this way, we hope we have achieved best practice in the truest sense of the word, having lots of experts contributing their 'private best practice' experiences, and merging these into a consistent whole.

Given the desire for a broad consensus in the field of IT Service Management, new developments, additional material and other contribution from IT Service Management professionals are welcome to extend and further improve this publication. Any forwarded material will be discussed by the editorial team and where appropriate incorporated into new editions. Comments can be sent to the chief editor, email: j.van.bon@inform-it.org.

Jan van Bon

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Chapter 1 Introduction

Even though we are often too busy to ask for directions, implementing a measurement framework should help align IT with the business objectives and create value through continuous improvements because it helps us create a roadmap and keeps us from getting lost.

It's often been said that "you can't manage what you don't measure" which is still true to this day. Without purpose and a course to follow, the destination is uncertain and almost always unpredictable. Many management books have been written on this subject ranging from personal development to organizational leadership. They all agree in principle that a purpose, goal or destination must be determined in order to chart a course and path to achieve them. Once the path or road map has been defined, the journey must be carefully planned to guide safely the traveller to the desired destination in the prescribed time within planned costs.

Measurements are like navigational aids. They help identify the destination, the road-map to follow, hazards to avoid, mile-stones to reach, fuel consumption, constraints or limitations, expected time of arrival, and so-on. Without navigational aids, one could get lost, end up anywhere, get stranded, fall off a cliff, run out of fuel, get in an accident or fall asleep at the wheel.

The challenge for Information Technology (IT) providers is that the destination can change quickly, frequently and without notice. The information age fuelled by IT has made it possible to accelerate the pace of business. Product and service lifecycles have been reduced from years to days in extreme cases. The business must now lead the market-place, stay close behind or it will vanish as a result of heightened global competition. This has resulted in a run-away feedback loop, IT enables the business to evolve more quickly; competition requires IT to change more rapidly, efficiently and effectively. It's "the nature of the beast".

IT is quickly becoming one of business's most costly, critical and strategic assets. Of late, the money spent on IT is in question, business leaders are continually asking for proof of value delivered. This has put more strain on IT leaders to demonstrate value, reduce costs and improve services or else be outsourced.

IT providers need navigational aids, more so than ever. This presents somewhat of a conundrum. Most IT providers are too busy to figure out how to implement measurements let alone become experts in their use to control and manage the business of IT.

The purpose of this book is to endow IT providers with a flexible and scaleable measurement framework which is easy to learn, implement, manage and improve. It provides methods, concepts, examples, techniques, check lists and metrics templates to accelerate adoption through a “how to” based approach.



Chapter 2

What this book is about

This book “Implementing Metrics for IT Service Management” provides a measurement framework which is based on a continual improvement lifecycle. The measurement framework is aligned with the IT Infrastructure Library (ITIL®)¹ set of best practices. The framework is compatible with the Control Objectives for IT (CobIT®)² framework and supports ISO/IEC 20000 standard for IT service management³.

This book also provides the basic concepts around measurements for business/IT alignment, achieving compliance and driving operational efficiency, effectiveness and quality. Where possible, examples, case studies and check lists have been included along with a scorecard accelerator metrics templates to further improve the learning experience and accelerate the adoption of measurements.

2.1 Goals & objectives

The goal of this book is to provide the reader with a measurement framework that helps align IT with the business objectives and create value through continual improvements; making processes and services more efficient and effective⁷. This book is complimentary to the book “Metrics for IT Service Management” published by Van Haren Publishing⁴.

The objectives of the measurement framework are to help the reader determine ways to:

- help align IT with business objectives and verify results
- maintain compliance requirements for business operations
- drive operational efficiencies, effectiveness and quality

The measurement framework can be implemented as a comprehensive measurement program for all processes and services or selectively for individual process or services.

2.2 What you will learn

By reading this book, the reader will learn:

- Information Technology Service Management (ITSM) metrics overview
- basic measurement framework concepts, core elements, analysis and reporting techniques
- implementing ITSM metrics design approach for operational, tactical and strategic services
- measurement lifecycle of monitoring, analysis, tuning and process improvement
- costs, benefits and common problems
- implementing and optimizing the measurement system

By using the scorecard accelerator metrics templates included with this book, the reader will learn how to:

- conceptualize and apply many of the ideas presented in this book through visualization and practice creating scorecards
- plan the application of a measurement framework for IT service management processes
- personalize and test scorecards and dashboards using predefined metrics and templates
- implement a basic measurement framework pilot
- complete a measurement lifecycle of monitoring, analysis, tuning and process improvement
- report and verify performance improvements; and report value realized over time
- justify the adoption, continuance, customization, expansion, investment and optimization of the measurement framework (fit-for-purpose)

2.3 Scope

Although this measurement framework can be applied to any technology, process or service, the scope of this book is primarily about strategic, tactical and operational processes from the IT Infrastructure Library ITIL^{®1} set of best practices. Examples of specific metrics for ITIL[®] processes can be found in the book “Metrics for IT Service Management”⁴ and in the scorecard metrics templates include with this book. Table 2.1 provides an example of strategic, tactical and operational processes:

Strategic	Tactical	Operational
Business Perspective	Service Level Management	Service Desk
Service Improvement Program	Problem Management	Incident Management
Risk Management	Financial Management	Configuration Management
Document Management	Availability Management	Change Management
Competence, Awareness & Training	Capacity Management	Release Management
Program and Project Management	Service Continuity Management	Application Development
	Security Management	Application Support
		Operations Management

Table 2.1 Strategic, tactical and operational processes

2.4 Who should read this book

This book is intended for all levels of IT Management. Specific interest by role includes:

- IT Executive Management
- process/service owners and managers
- CSI owner/manager
- measurement process owner/manager
- IT team leaders
- Service quality professionals
- service level managers



Chapter 3

How to implement ITSM metrics - overview

3.1 What metrics are all about

Based on the book “Metrics for IT Service Management”⁵, a ‘metric’ is just another term for a measure. Metrics provide the feedback mechanism allowing management to steer and control and guide IT toward strategic objectives. The book further explains that metrics help to:

- Align business/IT objectives
 - accounting of IT processes & deliverables
 - inform stakeholders
 - understand issues
 - influence behaviour
 - maximize value creation
- Achieve compliance
 - IT Operations Strategy
 - ISO/IEC 20000³, CobiT^{®2}, service levels
 - maturity levels
 - service levels
- Establish operational excellence
 - measure, control, and manage cost effectiveness
 - improve effectiveness and quality
 - service level improvements

3.2 Why implement metrics

You can't manage what you don't measure and what you measure gets done. The ITIL[®] V3 CSI “Continual Service Improvement” book⁶ states four very good reasons why organizations should monitor and measure:

1. to validate previous decisions
2. to set direction for activities in order measure achievements
3. to justify with factual evidence or proof that a course of action is required
4. to intervene as a result of subsequent changes or corrective actions

Today, many IT organizations are producing management reports, metrics and service level achievement statistics. Three key questions for determining value realization:

1. Who receives existing reports?
2. What is done with them?
3. To what degree do they support the goals?

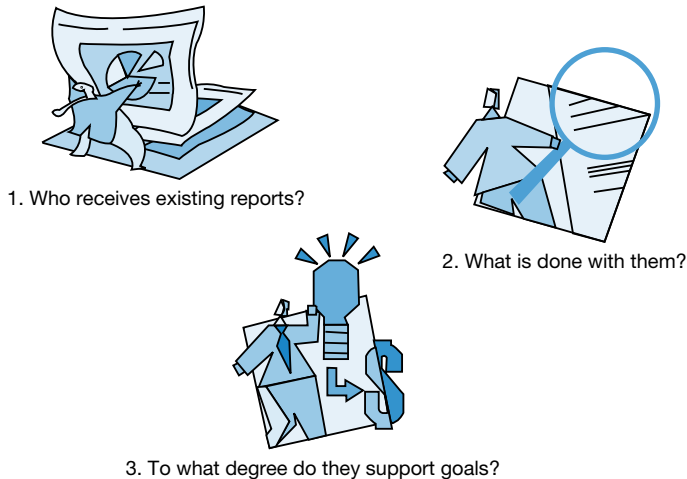


Figure 3.1 Steering towards value realization

In many cases, today's management reports are often widely distributed and include many technical details which are not easily understood by the average reader. Most of the time they report industry standard metrics but they are not structured or aligned to support the business or IT goals and objectives. Unless there is a serious problem to solve, the reports are often filed away and quickly become 'shelf-ware'. There is very little analysis and determination of root cause done and action plans developed to improve.

Business managers are more aware of IT costs and the value of IT. The Year 2000 (Y2K) non-event started this trend, where billions of dollars were spent to fix a potential date roll-over problem, senior executives have become more aware, concerned and focused on the IT costs and value proposition. The management reports provided by IT have not been meeting the business needs to articulate the cost and value proposition very well.

Additionally, IT has evolved to become such an integral part of the business that for many companies "IT is now the business" and its success is crucial. The business is looking for a way to view the impact of IT in meeting goals and objectives and expressed in business terms.

External regulatory compliance has also elevated the role of IT to help address the business adherence requirements. For example, the Sarbanes-Oxley (SOX) Act in the United States has caused tremendous change and rigor to be applied to the financial reporting processes which are supported by IT systems and processes for any company trading on the New York Stock exchange. IT needs to report and maintain compliance requirements for business operations.

Compounding this even further is that the pace of change and the increase in complexity has gone up exponentially making it very difficult to be proactive. For example, IT has enabled business cycles to become shorter; the IT processes change more frequently as a result of the shorter business cycles; software development lifecycles are quicker to keep pace with the business and IT; and finally the rapid hardware procurement lifecycles because of the advancements in processor speeds. IT needs to report and determine ways to improve operational performance to keep pace with change.

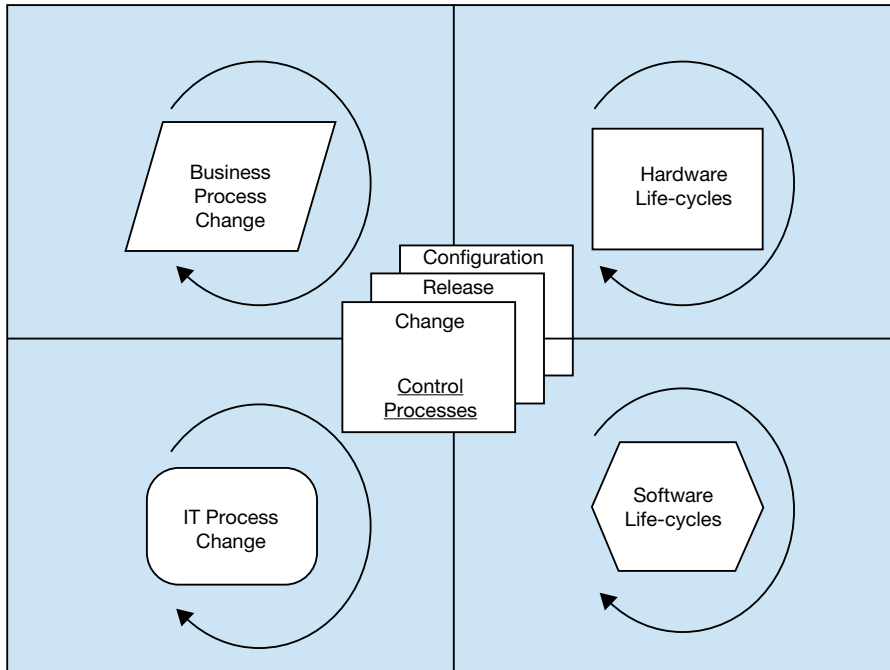


Figure 3.2 Drivers of change

An effective measurement process can help manage change more effectively by focusing on what's important. IT Managers are faced with many challenges to overcome, enabling compliance initiatives and rationalizing, improving and innovating the quality, efficiency and effectiveness of day-to-day IT operations:

- Agility, through managing the pace of change.
- Enablement, by improving IT/Business alignment.
- SOX, C198 (the Canadian version of SOX), ISO/IEC 20000 service levels, through being compliant.
- Transparent open management control through IT governance.
- Management control through error detection and corrective actions to minimize deviations from stated goals.
- Availability and performance by improving service levels.
- Customer satisfaction by improving service quality.
- Efficiency and effectiveness by improving cost/value.
- Rationalization and innovation objectives on service level, quality and cost/value.

Measurements compliment and are a requirement of many best practice frameworks. There has been great demand for IT best practices and management frameworks. Many private and public IT organizations are gravitating towards IT service management frameworks and best practices such as the Control Objectives for IT (CobiT®)² best known as an IT Governance model and the IT Infrastructure Library (ITIL®)¹ best known as a library of good practices for IT service management. Both frameworks compliment one another and present many methods, controls, processes, best practices and key performance metrics.

The ITIL® V3 CSI “Continual Service Improvement” Book⁷ explains that a measurement framework is needed to help:

- validate the strategy and vision
- provide direction with targets and metrics
- justify with a means to gauge value realized
- intervene and provide corrective actions

Metrics can support all issues listed above when used effectively within the measurement framework, and they can help to:

- provide the instrumentation for management control
- make it easier to concentrate on what's important
- make it easier to spot danger in time to correct it
- improve morale in an organization by recognizing successes
- stimulate healthy competition between process owners
- help align IT with the business goals and objectives; verify alignment
- drive cost efficiencies and effectiveness
- improve service levels and quality of service, increasing satisfaction
- reduce the total cost of ownership (TCO)
- transforms data into information to impart knowledge and gain wisdom

3.3 Steering towards value creation

Metrics used within a measurement framework can help to steer towards value creation by keeping the following guiding principles in mind:

- Focus on metrics which demonstrate IT value either directly or indirectly.
- Use metrics to drive continual improvement strategies and tactics which have outcomes that support the organization's goals and objectives.
- Regularly communicate the successes and impact to the key stakeholders.
- Align the IT goals and objectives with the business, choose critical success factors to help meet the objectives, then formulate the key metrics required to monitor the progress against them.
- Evolve and optimize the metrics to help predict and prescribe solutions which better support the business goals and objectives.

3.4 Who should use metrics

Metrics are used by executive management, service/process owners and technical staff to gauge performance of services, processes and technologies. Executives are concerned with meeting strategic goals and objectives of the business and IT strategy. Metrics help management summarize

the efficiency, effectiveness and quality of their capabilities and resources to delivery services to customers. Service and process owners are most interested in the justifying, directing and controlling services and processes. Metrics help service and process owners to measure service and process capabilities from a customer's perspective. Technical staff are focused on service delivery execution and technology management. Technology staff require metrics to measure the resources that provide the capabilities from a functional and technical perspective. Metrics provide the ability to measure performance from many perspectives.

Figure 3.3 shows that capabilities in the form of services and processes rely on resources which may span multiple functions and technologies; all of which can be measured through metrics.

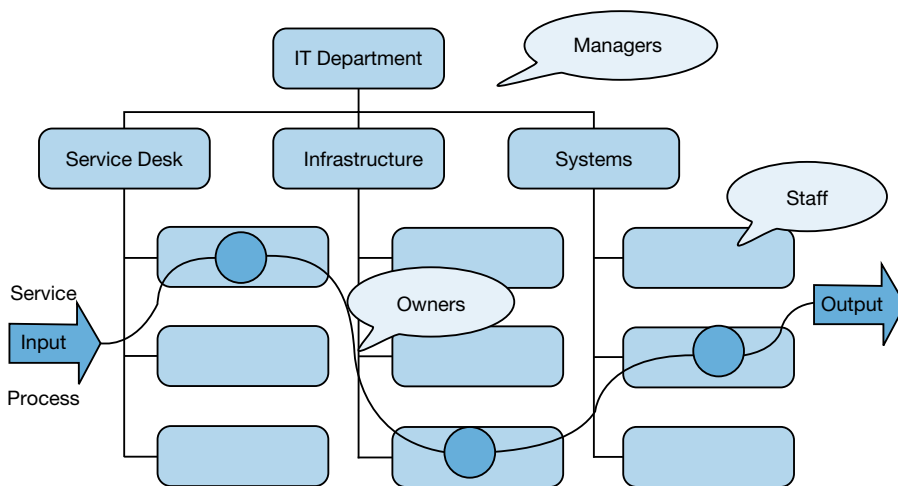


Figure 3.3 Metrics help management, owners & staff

3.5 Implementing metrics

Metrics need to be aligned with the business and IT goals and objectives. Metrics implemented in isolation of business and IT strategy, goals and objectives will quickly result in fragmented groups running in different and sometimes opposing directions. For example, implementing metrics to monitor and only reduce Service Desk costs can be at the expense of service levels; resulting in the increase of hidden costs due to shifting the burden of support to the business users. TCO studies have uncovered these scenarios where IT cost controls can increase hidden costs. The overall effect is an increase in organizational costs.

Metrics help improve process performance. Metrics in IT have traditionally been measured in functionally oriented silos like the Help Desk, Server Technical Services or the Operations Department. Information technology itself has enabled process or service centric organizational models requiring metrics which report beyond the functional boundaries to determine success. For example, the Application Development and IT Operations departments are both functionally very mature and when independently measured, appear successful. However, they don't work well with each other and together frequently fail to deliver deployments.

Metrics can be used to measure and improve end-to-end services. Metrics have been very mature for measuring system availability on a discrete component basis, but in many cases without consideration for the end-to-end user experience. For example the application server was available 99.99% of the time but the network is not measured and is frequently not available or not responsive. Therefore the measure of system availability does not match the user experience. Improving the service from the user's perspective will improve customer satisfaction.

Metrics can verify the benefits and value realized from performance improvements. Metrics have been used on many occasions to produce elaborate justifications for new projects through cost/benefit analysis then quickly forgotten once the money has arrived. For example, implementing the new change management software to reduce change costs, improve through-put and increase customer satisfaction which was never re-calculated and verified after the project implementation. Measuring results can verify the benefits and value were actually realized.

Metrics help drive continual service improvements. Metrics reports are regularly produced and widely distributed throughout the company but not used to evaluate trends or make performance improvements. In some cases they are not used at all. For example, a business compliance audit discovered that the monthly IT reports had not been produced for six months because the report administrator was given new duties. The real value that metric reports can provide is often overlooked like setting direction and targets, evaluating goal attainment, identifying trends or issues and making adjustments and corrections.

A new and improved approach for implementing metrics using a continual improvement framework is needed to align IT to the business, meet new and changing compliance requirements and provide a means to gain operational excellence. This book provides a "measurement framework" reference model which can be quickly implemented, adapted and evolved to meet the organizations needs. Some of the key features of this measurement framework reference model include:

- continual improvement, that is, W. Edward Deming's⁸ Plan/Do/Check/Act cycle
- top-down design approach for aligning goals and objectives
- process and service based IT service management approach
- scalable and flexible fit-for-purpose model with hundreds of sample metrics and scorecards
- bottom-up reporting of facts, metrics, indicators, scorecards and dashboards
- aggregation of metrics to formulate key performance indicators
- accountability and roles based matrix models
- techniques for comparative, causal and predictive analysis
- method for filtering improvement initiatives and tracking performance status
- ability to report performance improvements and derived value based benefits
- multiple implementation methods and scenarios
- how- to -check lists for planning and implementing metrics
- scorecard accelerator metrics templates to demonstrate principles and techniques; and to help kick-start a measurement program implementation