

Practical IT Service Management

A concise guide for busy executives

Thejendra B.S

Second edition



Practical IT Service Management

A concise guide for busy executives

Second edition

Practical IT Service Management

A concise guide for busy executives

Second edition

THEJENDRA B.S



IT Governance Publishing

Every possible effort has been made to ensure that the information contained in this book is accurate at the time of going to press, and the publisher and the author cannot accept responsibility for any errors or omissions, however caused. Any opinions expressed in this book are those of the author, not the publisher. Websites identified are for reference only, not endorsement, and any website visits are at the reader's own risk. No responsibility for loss or damage occasioned to any person acting, or refraining from action, as a result of the material in this publication can be accepted by the publisher or the author.

All ITIL definitions in this book are taken from the official ITIL® Glossary. The full glossary is available online - links are provided in the appendix.

ITIL® is a Registered Trademark of AXELOS Limited.

Apart from any fair dealing for the purposes of research or private study, or criticism or review, as permitted under the Copyright, Designs and Patents Act 1988, this publication may only be reproduced, stored or transmitted, in any form, or by any means, with the prior permission in writing of the publisher or, in the case of reprographic reproduction, in accordance with the terms of licences issued by the Copyright Licensing Agency. Enquiries concerning reproduction outside those terms should be sent to the publisher at the following address:

IT Governance Publishing
IT Governance Limited
Unit 3, Clive Court
Bartholomew's Walk
Cambridgeshire Business Park
Ely, Cambridgeshire
CB7 4EA
United Kingdom

www.itgovernance.co.uk

© Thejendra B.S 2008, 2014

The author has asserted the rights of the author under the Copyright, Designs and Patent Act, 1988, to be identified as author of this work.

First published in the United Kingdom in 2008 by IT Governance Publishing
ISBN 978-1-905356-40-9

Second edition published in 2014.

ISBN 978-1-84928-547-6

PREFACE

Practical IT Service Management is a concise guide to implementing a professional, technical service management structure in your organisation, based on the international best practice framework ITIL[®] (Information Technology Infrastructure Library[®]). This framework is globally the most widely accepted approach to technical service management, and is developed based on input from several public and private sector organisations. This book explains the fundamentals of the latest ITIL 2011 version and its implementation in an easy, self-study approach for all technical and business staff in your organisation. The entire book is written in a question and answer format for easy comprehension and speedy reading. Each chapter covers just one specific area of ITIL, and each topic is explained concisely, with very few answers extending beyond one page. Practical and real-life examples are used throughout. *Practical IT Service Management* is designed to be a stepping stone to the official books on ITIL published by the The Stationery Office (TSO).

Unless stated otherwise, the names of the companies and people mentioned in the examples in this book are fictitious. The names of actual companies and products mentioned are the trademarks of their respective organisations. I would like to thank Alan Calder and Vicki Utting for their immense help in preparing this book. Although this manuscript has been prepared with the utmost care, the author, publisher, editor, or any other party associated with this book, can accept no liability for any direct or indirect damages caused by following the advice given here. However, suggestions

Preface

for improvement, errors or mistakes observed, corrections required and any other relevant information that could be incorporated in a future edition, will be gratefully received at thejendra@yahoo.com or thejendrabs@gmail.com.

Thejendra B.S
January 2014

ABOUT THE AUTHOR

Thejendra B.S is an IT Manager for a software development company in Bangalore, India. Starting work as a field engineer, he has more than 20 years' experience in a wide range of roles in IT areas. He has been involved in IT support, help desk, DRP-BCP, asset management and IT security, and has implemented numerous small to large IT projects worth millions of pounds. Thejendra has worked in India, Saudi Arabia, Dubai, Bahrain, Qatar and Australia. During his years in the IT world, he has dealt with countless flavours of customers, vendors, end-users and organisations of all sizes. His articles have also been published on reputed websites, such as geekleaders.com, drj.com, ezinearticles.com, cio.com, techrepublic.com, cnbc.com, sourcingmag.com and many ezines.

Thejendra can be contacted at thejendra@yahoo.com or thejendrabs@gmail.com. For further details of his books and articles, please visit his website www.thejendra.com.

CONTENTS

Introduction.....	16
Chapter 1: Introduction to IT Service Management....	19
What is IT?	19
What are IT services?	20
What is IT service management?.....	20
What problematic issues do IT departments commonly face?.....	21
What issues do businesses face through heavy dependence on IT?.....	23
How can professional IT service management help?	27
Chapter 2: Overview of ITIL 2011	29
What is ITIL?.....	29
What are the main benefits of using a framework, such as ITIL?	34
How many departments are needed to implement IT service management or ITIL?.....	38
How did ITIL start and evolve?.....	39
What were the main processes of ITIL Version 2?	40
What was ITIL Version 3?	40
What is ITIL 2011?.....	41
Chapter 3: The ITIL Lifecycle.....	47
What is Service Strategy?.....	47
What departments or staff are required for service strategy?.....	49
What is Service Design?.....	51
What are the sub-processes of service design?.....	51

What departments or staff are required for service design?	54
What is Service Operation?	56
What are the sub-processes of service operation?	57
What departments or staff are required for service operations?	59
What is Service Transition?	61
What are the sub-processes of service transition?	62
What departments or staff are required for service transition?	64
What is Continual Service Improvement?	65
What are the sub-processes of continual service improvement?	66
What departments or staff are required for continual service improvement?	67
Chapter 4: Service Desk Function	68
What is a service desk?	68
Why do you need a service desk?	69
What are the responsibilities of a service desk?	70
What are the different types of service desk?	71
What options should be provided to contact your service desk?	73
What tools and equipment do service desk personnel need?	74
Are there any ITIL-compliant software or hardware?	77
What job roles are needed in a service desk department?	78
Some tips and advice for a responsive service desk	79
Chapter 5: Incident Management	83
What is an incident?	83

Isn't an incident the same as a problem?	83
What is incident management?	83
What are the responsibilities of incident management? ..	84
Why is incident management necessary?	85
What is incident priority?	86
What is a business impact?	87
What is an incident category?	88
How can IT services reduce the number of incidents?	89
What is classification matching?	90
What is incident routing?	90
What is incident escalation?	90
What is an incident lifecycle?	91
What are the sub-processes of incident management?	93
Chapter 6: Problem Management	95
What is a problem?	95
What is problem management?	96
Why is problem management necessary?	96
What are the responsibilities of problem management? ..	97
What are the sub-processes of problem management?	98
What is a known error database?	100
Examples of management reports	100
Chapter 7: Change Management	103
What is change?	103
What is change management?	104
Why is change management important?	104
What are the responsibilities of change management? ..	107
What will an RFC usually consist of?	109
Is RFC and CAB approval required for every change? ..	111
Examples of change management reports	111

Chapter 8: Release and Deployment Management.....115

What is a release?	115
What is release management?.....	115
What is a deployment?	116
What is release and deployment management?	116
Why should there be a R&D management team?.....	117
What are the responsibilities of R&D management?	117
What is a DML?	121
What is release building?.....	121
What are the different types of releases?.....	123
What is service validation and testing?	124
What is meant by withdrawal of service?.....	125
What are the sub-processes of release management?	126

Chapter 9: Service Asset and Configuration

Management128

What is a service asset?	128
What is configuration management?	128
Is configuration management the same as managing IT inventory?	129
Why is configuration management important?	130
What is service asset and configuration management? .	130
What is a configuration item?.....	131
What is a CI attribute?.....	132
What is a CI relationship?	134
What is the configuration management database?	135
What are the responsibilities of configuration management?	137
How are CMDBs managed?	138
What is a configuration baseline?.....	139

What is a baseline analyser?	140
What is CMDB updating?	141
What is software licensing?	142
What are the sub-processes of configuration management?	144
Chapter 10: Service Level Management.....	146
What is service level management?.....	146
What is a service level agreement?.....	146
Why should there be an SLA?	147
What are the responsibilities of SLM?	148
What are the sub-processes of service level management?	159
Chapter 11: Service Catalogue Management.....	160
What is a service catalogue?.....	160
How do you differentiate the IT service portfolio from the service catalogue?	161
What is service catalogue management?	162
Why is a service catalogue needed?	162
What should a catalogue contain?	164
Some tips and advice for a service catalogue	167
Chapter 12: Capacity Management	169
What is capacity management?	169
Why is capacity management necessary?.....	170
What are the responsibilities of capacity management?	172
What is meant by an IT staff ratio?	175
Some tips and advice for capacity management.....	178
Chapter 13: Demand Management	181
What is demand?	181
What is demand management?	181

What are the responsibilities of demand management?	183
Some tips and advice for demand management	184
Chapter 14: Availability Management.....	187
What is availability management?.....	187
Why is availability management important?	188
What are the main responsibilities of availability management?	190
Some tips and advice for availability management	194
What are the sub-processes of availability management?	194
Chapter 15: Information Security Management	196
What are the various ways in which information security can be compromised?.....	197
What safeguards are available to protect information? .	198
Some tips and advice for information security management.....	201
What are the sub-processes of information security?	203
Chapter 16: Access Management	204
What are the responsibilities of access management? ...	205
What are the sub-processes of access management?	208
Chapter 17: IT Service Continuity Management	210
What is a disaster?	211
What is disaster recovery?	213
What is business continuity?	214
What is crisis management?	216
Why is service continuity important?	217
What are the main responsibilities of SCM?	219
What is a business impact analysis?	221
What options are available for service continuity?	222

Who can invoke service continuity?.....	223
How can IT services be aware of risks?	224
Chapter 18: Financial Management for IT Services ..	227
Why is financial management important?	228
What are the responsibilities of IT financial management?	229
Some tips and advice for financial management	234
What are the sub-processes of financial management for IT services?	234
Chapter 19: Supplier Management	236
Why are suppliers critical?	236
What is supplier management?	237
Is it necessary to have contracts with suppliers?	238
What are the key elements of a maintenance contract or a service agreement?	240
Some tips and advice for supplier management	241
What are the sub-processes of supplier management? ..	248
Chapter 20: IT Operations Management Function....	249
What are the main responsibilities of IT operations management?	249
Some best practices for IT operations	250
Chapter 21: General Tips and Advice for IT Service Management	252
Appendix 1: Sample SLA Between IT Services and Rocksolid Business Managers	262
Appendix 2: Sample OLA between IT Department and the Electrical Department	269
Appendix 3: Sample UC between RockSolid IT Services and ABC Computer Corp	270

**Appendix 4: A Simple IT Service Management Flow
with Interactions among Different Processes272**

Appendix 5: The ITIL Glossary274

Appendix 6: ITSM Books and other Resources275

ITG Resources276

INTRODUCTION

‘A business absolutely devoted to service will have only one worry about profits. They will be embarrassingly large.’

Henry Ford

What is this book about?

The advancement and ease of availability of new and useful technologies has enabled thousands of organisations, worldwide, to implement, and become heavily dependent on, technology for running their businesses. It is not possible to run any organisation, small or big, without the use of some computer or telecom-related technologies. With so much proliferation of hardware, software and networking equipment it is necessary to have specialised and dedicated technology support departments to look after them. Otherwise, companies can get into serious trouble. A professional, technology support department is as essential to any organisation as a qualified finance department or a senior management team. Although organisations are free to have their own proprietary flavours of technical support, suiting their needs, it is always better to adopt some international best practices, as they prevent organisations from reinventing the wheel.

This concise book explains how to implement one such international best practice, ITIL. ITIL is a Registered Trademark, and all its contents are owned by the Cabinet Office, under the HM Government. Earlier ownership was with OGC (Office of Government Commerce). The

Introduction

publications (books) continue to be Crown Copyright. In addition, the Cabinet Office has entered into a joint venture with Capita plc. to commercialise its accreditation and publishing services, including ITIL. The new name for this joint venture company is called AXELOS, and it will inherit the entire portfolio of best management practice products from the Cabinet Office. The joint venture is expected to become fully operational by the middle of 2014. The term Axelos comes from a Greek-French philosopher named Kostas Axelos, who united old and new with games and openness.

All the ITIL concepts can be freely adopted by anyone implementing IT Service Management (ITSM) within their organisation. Written in a condensed style, *Practical IT Service Management* explains how you can interpret and implement the ITIL concepts in an easy, self-help format.

Who should read this book?

This book is written for busy IT executives in any organisation. Most busy executives often don't have the time, patience, luxury or interest to read detailed, academically-oriented IT books, due to their never-ending workloads and competitive pressures. They need quick, practical information on a topic or concept that will help them in their workplace. This book fills the needs of such an audience and will be of use to:

- Technical managers
- Technical support specialists
- IT consultants
- Chief technical officers

Introduction

- Chief information officers
- Business managers
- And even members of the Board of Directors.

CHAPTER 1: INTRODUCTION TO IT SERVICE MANAGEMENT

What is IT?

The term 'IT' is an abbreviation of Information Technology. A general dictionary defines IT as the development, installation and implementation of computer systems, telecommunications and software applications. In practical terms, IT consists of:

1. Computers, such as desktops, servers, laptops, mainframes, and the data that they hold.
2. Software, such as operating systems (Windows, Unix, Linux, Novell, specialised operating systems) and applications, such as word processors, spreadsheets, databases, productivity tools, business applications and custom-built applications.
3. Communication and telecom equipment, such as PBX, lease lines, the Internet, telephone networks, Local Area and Wide Area Networks.
4. Other specialised IT equipment and software.

The ITIL definition of IT is:

'The use of technology for the storage, communication or processing of information. The technology typically includes computers, telecommunications, applications and other software. The information may include business data, voice, images, video, etc. Information technology is often used to support business processes through IT services.'

1: Introduction to IT Service Management

What are IT services?

The term ‘IT services’ refers to a set of support and maintenance functions provided by technically qualified staff (internal or outsourced) to an organisation that uses various computers, software, printers, hardware and communication facilities. An IT service may range from providing access to a simple application, such as a word processor for all end-users, or access into a complex network consisting of hundreds of different types of computers, operating systems, servers, e-mail systems, websites, databases, telecom systems and Internet access used by hundreds of end-users inside an organisation.

The ITIL definition of an IT service is:

‘A service provided by an IT service provider. An IT service is made up of a combination of information technology, people and processes. A customer-facing IT service directly supports the business processes of one or more customers and its service level targets should be defined in a service level agreement. Other IT services, called supporting services, are not directly used by the business but are required by the service provider to deliver customer-facing services.’

What is IT service management?

The term *IT Service Management* refers to an orderly and professional method followed by an IT department to provide reliable and efficient information systems and support to meet your business requirements. Most organisations now understand the benefits of having IT throughout their internal environment, but do not understand the need for managing it properly. If IT equipment and services are not managed correctly in your organisation, you could get into serious trouble. Firstly, and as mentioned

1: Introduction to IT Service Management

earlier, no modern organisation can run its operations, or survive, without using one or more computers, software, telecommunications and the Internet. If an important computer system stops working, then business may have to stop if it is not possible to switch over to alternative manual processes for any length of time. Secondly, computer systems and networks are extremely complex and complicated for any business person to maintain, or support, on their own. Specialised employees are required who understand how those systems work and how to babysit them. IT services should be in alignment with your business strategy and objectives. From a simple nuts and bolts perspective, IT service management means that the ‘techies’ (employed or outsourced) in the organisation are professionally managing and maintaining the computers, networks, telecommunications, data storage and retrieval, e-mail systems and databases, owned or used by your business.

The ITIL definition of IT service management is:

‘The implementation and management of quality IT services that meet the needs of the business. IT service management is performed by IT service providers through an appropriate mix of people, process and information technology.’

What problematic issues do IT departments commonly face?

Running an IT department is a herculean task. There will always be difficulties and headaches to keep the staff perpetually busy and hassled. Some of the common obstacles faced by IT departments of many small, and even large, organisations include the following:

1: Introduction to IT Service Management

- Roles and responsibilities of staff are not clearly defined or are non-existent. No structured customer support mechanism is in place. No help desk or service desk facilities.
- Business managers do not understand (or try to understand) the technical department's work and constraints, and technical people do not understand (or try to understand) business people's needs.
- A single IT person or an IT team that is too small are responsible for anything and everything related to IT. Excessive workloads and poor career growth prospects.
- Lack of clearly defined and simple processes. No service level agreements, vendor agreements and technical training.
- Frequent disagreements between business and IT departments for service and cost expectations.
- Business and technical staff not seeing eye to eye. Poor management buy-in, inadequate funding, culture issues and resistance to change.
- Businesses not understanding the essential requirements for using IT in their organisations (proper IT staffing, exponential hardware and software budgets, ongoing costs and frequent and necessary upgrades).
- Technical staff concentrating only on technical matters, and unable, or unwilling, to understand business needs.
- No proactive IT problem prevention methods. Only reactive support. Issues get solved after they occur, with no prevention mechanism in place.

1: Introduction to IT Service Management

- IT staff using outdated tools and equipment, resulting in the IT department being out of sync with modern business demands.

What issues do businesses face through heavy dependence on IT?

In the 1990s only very large organisations could afford to use computers. At that time, IT was not considered as being essential to run a business. This thinking is no longer applicable, and IT has proved its benefits, even in the smallest of organisations. However, using information technology is a catch-22 situation, as businesses have become excessively dependent on IT. You cannot live with IT, nor can you live without IT. With so much dependence on IT there will be associated risks and issues. To fully answer this question, it is first necessary to understand how IT normally gets implemented in an organisation. Many organisations can easily buy the necessary computers, software and telecommunications for running their businesses. However, the implementation of IT is often carried out without proper planning of any sort due to numerous reasons, such as a lack of appropriate knowledge.

There will be several IT-related issues that will cause minor to major irritations, or even bring an organisation to an abrupt halt. The following examples show how many organisations implement IT and the hair-raising issues they can face.

Example of poor IT implementation:

The owner of a small business may buy a single computer, initially for general use. After discovering the benefits of using a computer, he may immediately decide to buy 25 more for his staff.

Within a short time his business will be computerised, and very soon IT support headaches will enter the business. Using a computer may be easy, but maintaining a computer system is a complicated task. Users may suddenly experience crippling virus attacks, equipment failures, software licensing issues, data corruption, data loss, back-up issues and upgrade issues. They may not be in a position to support and maintain a computer network and its associated functions. Overnight, a smart purchasing assistant may undergo a crash course in computer maintenance, or buy a book on *Computer Maintenance*, and soon will be given responsibility for the technical support of the business, along with his or her other responsibilities. IT departments begin their life in this way in many organisations. However, this sort of approach will lead to major and uncontrollable issues later on.

Example of poor and inadequate IT support:

Let us take a simple example of how a single hard disk crash can cripple your organisation. A technician who lacks business sensitivity may view a computer hard disk crash as a simple issue, whereas it may be seen as a critical issue for the business owner since the entire business and financial data may be on the failed disk. To add to the misery, the disk was probably not being backed up regularly. On the other side of the coin, the business owner may have earlier refused to invest money on an essential device, such as a tape drive for data back-up. Both parties will blame each other. A typical interaction between the help desk and the business

1: Introduction to IT Service Management

departments in many organisations can be like this:

Finance Department: ‘Hello. Our finance server is not working. Can you fix it?’

Help desk: ‘Which one?’

Finance Department: ‘The one that we use in our department. It’s a black system with a green keyboard.’

Help desk: ‘I had a look at it, but the hard disk is dead and we will have to replace it. I will call the vendor and arrange for a replacement if possible.’

Finance Department: ‘What about our data?’

Help desk: ‘I’m afraid we can’t recover the data. The disk is dead and we have not been backing up the data of that server, because nobody told us to. Finance did not approve the purchase of a tape drive for this machine.’

Finance Department: ‘Oh no. We have our entire payroll, purchasing, billing, sales and other important financial data for the entire company on that machine. Five years of data!’

Help desk: ‘Unfortunately there is nothing we can do. Please excuse me, I have to go and attend another call.’

A situation like that can cripple your organisation within hours.

Other common IT headaches

Other IT-related frequent pin pricks and shocks can be as follows:

- Your end-users don’t know who to contact when their computers and other IT equipment fail.
- Your techies attend end-user calls if they can, when they can.
- Business managers do not understand why their IT

1: Introduction to IT Service Management

infrastructure is always having disruptions of a similar nature.

- Monday morning chaos. All computer systems are down for some reason. The IT department probably performed some maintenance activities over the weekend.
- Businesses cannot commit about their products and services to their external customers. (*See next example.*)
- Your end-users do not know if all IT services will be available for them every day to complete their activities.
- Viruses, crippling and lengthy IT shutdowns, are common.
- End-users always face a shortage of computers, disk space, data corruption and data loss.
- Business managers do not know why they need to shell out another bag of cash for some software the IT department needs.

Example of IT breakdown affecting business:

New Sales Manager: ‘Folks, where are you going? That sales quote must be sent to the Abacus Company today or we lose that account.’

Sales Team: ‘We are going home. All computers are down. We can’t prepare the sales quote without a computer.’

New Sales Manager: ‘Home? When will the IT department fix it?’

Sales Team: ‘They said it may take a couple of days or more.’

1: Introduction to IT Service Management

New Sales Manager: ‘What? We can’t wait that long.’

Sales Team: ‘We do here. Very often it can take three days to fix IT issues. Computer breakdowns are quite frequent here.’

New Sales Manager: ‘This isn’t good enough. I have committed the pricing quote to the Abacus Company. If I don’t send it today we may lose a £50,000 order.’

How can professional IT service management help?

The above examples show what could happen to your organisation without a professional and proactive IT service department. Without such a department, your organisation could face crippling and profit-threatening situations. However, if you have implemented professional IT service management practices, such harrowing situations are less likely to occur. Even if an important disk has crashed, with professional IT service management it should be able to be restored in a matter of hours.

Haphazard IT support directly, or indirectly, impacts your main business. For example, will external customers open an account in a bank that has frequent and lengthy computer breakdowns, virus attacks and shutdowns? Or if your entire manufacturing operation is computerised, and if there are frequent IT breakdowns, think about the losses, delay and its business impact. Considering the complexity and importance of today’s computer systems, it is imperative to bring in some measurable and verifiable IT service standards so that your business managers understand, amongst others, the IT department’s scope of work, the deliverables, the constraints, the limitations and budgetary needs. It is absolutely vital for both IT and business departments to understand that the