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About the ITSM Library

The publications in the ITSM Library cover best practice in IT management and are published on behalf of itSMF International.

The IT Service Management Forum (itSMF) is the association for IT service organizations, and for customers of IT services. itSMF's goal is to promote innovation and support of IT management. Suppliers and customers are equally represented within the itSMF. The Forum's main focus is exchange of peer knowledge and experience. Our authors are global experts.

The following publications are, or soon will be, available.

Introduction, Foundations and Practitioners books

- Foundations of IT Service Management based on ITIL® (V2, Arabic, Chinese, German, English, French, Italian, Japanese, Korean, Dutch, Brazilian Portuguese, and Russian; Danish and Spanish)
- Foundations of IT Service Management based on ITIL® (V3, English, Dutch)
- IT Service Management – An Introduction (V2, being replaced by V3, only a few languages left)
- IT Service Management – An Introduction (V3, English, Dutch)
- IT Services Procurement based on ISPL – An Introduction (Dutch)
- Project Management based on PRINCE2™ 2005 Edition (Dutch, English, German)
- Release & Control for IT Service Management, based on ITIL® – A Practitioner Guide (English)

IT Service Management – best practices

- IT Service Management – best practices, part 1 (Dutch)
- IT Service Management – best practices, part 2 (Dutch)
- IT Service Management – best practices, part 3 (Dutch)
- IT Service Management – best practices, part 4 (Dutch)

Topics & Management instruments

- Metrics for IT Service Management (English)
- Six Sigma for IT Management (English)
- The RfP for IT Outsourcing – A Management Guide (Dutch)
- Service Agreements – A Management Guide (English)
- Frameworks for IT Management (English, German, Japanese)
- IT Governance based on COBIT® – A Management Guide (English, German)

Pocket guides

- IT Service Management – A summary based on ITIL® (V2, Dutch)
- IT Service Management – A Pocket Guide (V3, English, Dutch)
- IT Service Management based on ITIL – A Pocket Guide (V3, English, Dutch)
- IT Service Management from Hell!! (V2, English)
- IT Service Management from Hell. Based on Not-ITIL (V3, English)
- ISO/IEC 20000 – A Pocket Guide (English, German, Japanese, Italian, Spanish, formerly BS 15000 – A Pocket Guide)
- IT Services Procurement based on ISPL – A Pocket Guide (English)
- IT Service CMM – A Pocket Guide (English)
- Six Sigma for IT Management – A Pocket Guide (English)
- Frameworks for IT Management – A Pocket Guide (English, Dutch)

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Foundations of IT Service Management

Based on ITIL V3

*it*SMF International
The IT Service Management Forum

A publication of itSMF International

Van Haren PUBLISHING

Colophon

Title:	Foundations of IT Service Management Based on ITIL V3
Authors:	Jan van Bon (chief editor ITSM Library for itSMF International) Arjen de Jong (co-author, Inform-IT) Axel Kolthof (co-author, Inform-IT) Mike Pieper (co-author, Inform-IT) Ruby Tjassing (co-author, Inform-IT) Annelies van der Veen (co-author, Inform-IT) Tieneke Verheijen (co-author, Inform-IT)
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Foreword

It is with great pride that I present this rigorous update of "Foundations of IT Service Management Based on ITIL V3". With the long-awaited update of ITIL®, launched in June 2007, this ITIL Foundations guide had to be completely reconfigured to suit its objective: provide an easy introduction to the broad library of ITIL core books, to support the understanding and the further distribution of ITIL as an industry standard. In addition - as could be expected from the itSMF - we managed to be the first in the market, to provide this service to our members.

The main focus of this guide is on the Service Lifecycle, as defined by ITIL. The information on this lifecycle was taken from the extensive documentation of the core books, and was concentrated in Part 1. Separately, the information on all the processes and functions that were also described in the core books, was concentrated in Part 2 of this book. This approach enables readers to get a firm grasp of the lifecycle's structure, while also having all information on functions and processes at their disposal.

The book was produced the same way other publications of the ITSM Library were produced: a broad team of expert editors, expert authors and expert reviewers contributed to a comprehensive text, and a lot of effort was spent on the development and review of the manuscript. The content was actually developed in a larger publishing project, covering not just ITIL, but also other important sources of information on IT Service Management. This project delivered the ITSM Library title "IT Service Management - An Introduction", a 500+ page itSMF title on ITSM, ITIL, ISO/IEC 20000 and many other standards and management frameworks relevant for IT Service Management. From that title, all relevant material covering ITIL V3 was taken, and used to assemble this comprehensive introduction to ITIL.

For several years, "Foundations of IT Service Management Based on ITIL" has been a core element in the important series of management guides that is titled the ITSM Library, and we expect this new edition will continue to hold that position.

Jan van Bon
Chief Editor ITSM Library for itSMF International

Acknowledgements

This publication is the result of the co-operation of many experts from the field, in many different countries, representing users, providers, government, trainers, examiners, and itSMF chapters. It was based on an itSMF publication in the Netherlands, developed as an introduction to IT Service Management, first published in April 1999. The book was originally initiated by Georges Kemmerling (Quint Wellington Redwood), and built by a Dutch itSMF project team, under the guidance of chief editor Jan van Bon. Since 1999, this project team of reviewers and co-authors has extended and improved the book, in a series of new editions, expressing the developments in the field of IT Service Management.

In May 2002 the first translation was published, in English. This first global edition was soon followed by a second, improved version, audited by selected itSMF members, cooperating in the itSMF International Publications Committee (IPESC), each representing an itSMF chapter. In addition to that, the global edition was reviewed by several experts from vendor and user organizations, and by representatives of the OGC. This resulted in the very first internationally endorsed itSMF publication, supported by the entire itSMF community, and accepted as a high quality introduction to ITIL® and IT Service Management. The book provided excellent services as an aid in understanding the published best practices in the field of IT Service Management, concentrated in and around ITIL publications, in many countries.

Since 2002, several other translations appeared. Each of these translations was developed and audited by a team of experts in the targeted language region, if possible under the guidance of an itSMF chapter. In all cases, a terminology translation table was determined, before translating the text. Translations were delivered in English, German, French, Spanish, Russian, Chinese, Japanese, Italian, Korean, Brazilian-Portuguese, Arabic, and Danish.

In 2004, this title was split into two separate publications: one covering the broad field of IT Service Management (this was the "Introduction" title), the other concentrating on the core of that field as it was scoped for the basic level of understanding of ITIL (this was the "Foundation" title).

In 2007, both books had to be heavily rewritten, due to significant changes in the published sources on IT Service Management. Therefore it was decided to create one comprehensive publication that would contain all the content of both titles, and then split the resulting manuscript into a large all-over publication on IT Service Management and a second publication that contained a part thereof, only covering ITIL.

A team of expert authors and editors who work for itSMF produced the updated text (see the Colophon). As with all publications in the ITSM Library, a broad Review Team was composed, representing experts from various disciplines, covering user organizations, training organizations, consultancy organizations, global leaders in the IT service industry, and individual experts. All of these experts were deeply involved with ITIL in their daily practice. Most of them had already been involved in the review of one or more of the core ITIL books, or were directly involved in the ITIL Refresh project. A third publication, a pocket guide on relevant IT Management

frameworks was also derived from this large manuscript. This way, the reviewers in fact reviewed three publications in one manuscript.

The reviewers that reviewed the entire manuscript, thus covering this Foundations level introduction to ITIL, are the following:

- John van Beem, ISES International, Netherlands
- Aad Brinkman, Apreton, Netherlands
- Peter Brooks, PHMB Consulting, itSMF South Africa
- Rob van der Burg, Microsoft, Netherlands
- Judith Cremers, Getronics PinkRoccade Educational Services, Netherlands
- Robert Falkowitz, Concentric Circle Consulting, itSMF Switzerland
- Rosario Fondacaro, Quint Wellington Redwood, Italy
- Peter van Gijn, LogicaCMG, Netherlands
- Jan Heunks, ICT Partners, Netherlands
- Linh Ho, Compuware Corporation, USA
- Ton van der Hoogen, ToTZ Diensten, Netherlands
- Kevin Holland, NHS, UK
- Matiss Horodishtiano, Amdocs, itSMF Israel
- Wim Hoving, BHVB, Netherlands
- Brian Johnson, CA, USA
- Georges Kemmerling, Quint Wellington Redwood, Netherlands
- Kirstie Magowan, itSMF New Zealand
- Reiko Morita, Ability InterBusiness Solutions, Inc., Japan
- Jürgen Müller, Marval Benelux, Netherlands
- Ingrid Ouwerkerk, Getronics PinkRoccade Educational Services, Netherlands
- Ton Sleutjes, CapGemini, Netherlands
- Maxime Sottini, Innovative Consulting, itSMF Italy
- Takashi Yagi, Hitachi Ltd., itSMF Japan

Their contributions are highly appreciated and, due to their detailed review, have improved the quality of the book significantly.

Given the desire for a broad consensus in the IT Service Management field, new developments, additional material and contributions from ITSM professionals who have worked with ITIL version 3 are welcome. They will be discussed by the editors and where appropriate incorporated into new editions. Comments can be sent to the Chief Editor of the ITSM Library, Jan van Bon, email: j.van.bon@inform-it.org.

Contents

Chapter 1
Introduction

1.1 Background

Developments in IT have had a tremendous effect on the business market during the last decade. Since the appearance of extremely powerful hardware, highly versatile software and super-fast networks, all connected to each other worldwide, organizations have been able to develop their information-dependent products and services to a greater extent, and to bring them to the market much faster. These developments have marked the transition of the industrial age into the **information age**. In the information age, everything has become faster and more dynamic, and everything is connected.

Traditional hierarchical organizations often have difficulties in responding to this rapidly changing market, and this has led to current trends for organizations to become flatter and more flexible. The focus has shifted from vertical silos to horizontal **processes**, and decision-making powers are increasingly bestowed on the employees. It is against this background that the work processes of IT Service Management have arisen.

An important advantage of process-oriented organizations is that processes can be designed to support a **customer-oriented approach**. This has made the alignment between the IT organization (responsible for supplying information) and the customer (responsible for using these information systems in their business) increasingly significant. Over the last couple of years, this trend has attracted attention under the title of **Business-IT Alignment (BITA)**.

As organizations gained more experience with the **process-oriented approach** of IT Service Management, it became clear that the process must be managed coherently. Furthermore, it was obvious that the introduction of a process-oriented work method meant a big change for the primarily line and project-oriented organizations. Culture and change management proved to be crucial elements for a successful organizational design.

Another important lesson learned was that the IT organization must not lose itself in a process culture. Just like the one-sided project-oriented organization, a one-sided process-oriented organization was not the optimum type of business. Balance was, as always, the magic word. In

addition, it became clear that the customer-oriented approach required that an **end-to-end** and **user-centric** approach must be followed: it was of no help to the user to know that 'the server was still in operation' if the information system was not available at the user's workplace. IT services must be viewed in a larger context. The need for the recognition of the **Service Lifecycle**, and the management of IT services in light of that lifecycle, became a concern.

Due to the fast growing dependency of business upon information, the quality of information services in companies is being increasingly subjected to stricter **internal and external requirements**. The role of **standards** is getting more and more important, and **frameworks** of 'best practices' help with the development of a management system to meet these requirements. Organizations that are not in control of their processes, will not be able to realize great results on the level of the Service Lifecycle and the end-to-end-management of those services. Organizations that do not have their internal organization in order, will also not achieve great results. For these reasons, all these aspects are handled alongside each other in the course of this book.

1.2 Why this book

This book offers detailed information for those who are responsible for strategic information issues, as well as for the (much larger) group who are responsible for setting up and executing the delivery of the information systems. This is supported by both the description of the Service Lifecycle, as documented in ITIL version 3, and by the description of the processes that are associated with it. The ITIL core books are very extensive, and can be used for a thorough study of contemporary best practices. This Foundations book provides the reader with an easy-to-read comprehensive introduction to the broad library of ITIL core books, to support the understanding and the further distribution of ITIL as an industry standard. Once this understanding of the structure of ITIL has been gained, the reader can use the core books for a more detailed understanding and guidance for their daily practice.

1.3 Organizations

Several organizations are involved in the maintenance of ITIL as a description of the 'best practice' in the IT Service Management field.

OGC

Initially ITIL was a product of the CCTA, a UK Government Organization. On 1 April 2001 the CCTA was incorporated into the OGC, which thus became the new owner of ITIL. The aim of the OGC is to help its clients (within the UK Government) with the modernization of their procurement activities and the improvement of their services, by, among other things, making the best possible use of IT: 'OGC aims to modernize procurement in government, and deliver substantial value for money improvements'. The OGC promotes the use of 'best practices' in numerous areas, such as project management, program management, procurement, risk management and IT Service Management. For this reason the OGC itself has published several series of books (Libraries) which have been written by (international) experts from different companies and organizations.

itSMF

The target group for this publication is anyone who is involved or interested in IT Service Management. A professional organization, working on the development of the IT Service Management field, has been created especially for this target group.
In 1991 the Information Technology Service Management Forum (itSMF), originally known as the Information Technology Infrastructure Management Forum (ITIMF), was set up as a UK association. In 1994, a sister-association was established in the Netherlands, following the UK example.

Since then, independent itSMF organizations have been set up in more than forty countries, spread across the globe, and the number of "chapters" continues to grow. All itSMF organizations operate under the umbrella organization, itSMF International (itSMF-I).

itSMF is aimed at the entire professional area of IT Service Management. It promotes the exchange of information and experiences that IT organizations can use to improve their service provision. itSMF is also involved in the use and quality of the various standards and methods that are important in the field. One of these standards is ITIL. and itSMF International has an agreement with OGC and APM Group on the promotion of the use of ITIL.

*The **IT Service Management Forum (itSMF)** is a global, independent, internationally recognized not-for-profit organization dedicated to IT Service Management. itSMF is wholly owned and principally run by its membership. It consists of a growing number of national chapters, each with a large degree of autonomy, but adhering to a common code of conduct*
The itSMF is a major influence on, and contributor to, industry best practices and standards worldwide, working in partnership with a wide, international range of governmental and standards bodies.
itSMF International is the controlling body of the itSMF national chapters and sets policies and provides direction for furthering the overall objectives of itSMF, for the adoption of IT Service Management (ITSM) best practice and for ensuring adherence to itSMF policies and standards.

This Foundations book is a publication of itSMF International, published in the ITSM Library series. The book fits in well with the mission of itSMF International:

***The mission of itSMF International** is to support the development of **IT Service Management (ITSM)** through strategic direction, co-ordination of effort and the sourcing of expertise and financial support with strategic partners.*

This mission can be translated into the following publishing activities:

itSMF Publishing activities:
- publishing supporting material on accepted best practice
- publishing material that represents 'new thought' in the ITSM field
- ensuring that, through all activities, including the publication of relevant material, itSMF assists organizations in the implementation of solutions that will deliver real value to them

By publishing this detailed introduction to the field of IT Service Management, based on ITIL, itSMF International offers a valuable contribution to the development of the subject.

APM Group

In 2006, OGC contracted the management of ITIL rights, the certification of ITIL exams and accreditation of training organizations to the APM Group (APMG), a commercial organization. APMG defines the certification and accreditation for the ITIL exams, and published the new certification system (see Section 2.1: ITIL exams).

Exam bodies

The Dutch foundation Examen Instituut voor Informatica (EXIN) and the English Information Systems Examination Board (ISEB, part of the BCS: the British Computer Society) co-operated in the development and provision of certification for IT Service Management. For many years they were the only bodies that provided ITIL exams. With the contracting of APMG by OGC, the responsibility for ITIL exams is now with APMG. To support the world-wide delivery of these ITIL exams, APMG has accredited a number of exam bodies: EXIN, BCS/ISEB, and Loyalist College, Canada.

1.4 Differences with previous editions

The 'Foundations of IT Service Management - based on ITIL V3' book has played a key role in the distribution of ideas on IT Service Management and ITIL for years. The title has been translated into thirteen languages and is recognized as the most practical introduction to the leading 'best practices' in this field. Earlier editions of the Foundations book focused on the content of three books from the ITIL series (version 2): Service Support, Service Delivery and Security Management, and placed them in a broader context of quality management.

ITIL, although widely used, was never actually in the public domain[1] but there were few restrictions on its use in practice. This has been acknowledged as one of the main reasons for ITIL's wide acceptance. With the transfer of the management, publication, and qualifications of ITIL to the APM Group (for qualifications) and TSO (for publications), a significant shift in the market has occurred. ITIL is now operationally run by commercial organizations that control the use of ITIL by providers in the market, through regulations in the areas of copyright, branding and accreditations. This does not influence the use of ITIL within organizations to a great extent, but it does have a specific effect in the provider market.

As a result of continuous development of best practices, various terms have disappeared between the introduction of ITIL version 2 and 3, and a large number of new terms have been added to version 3. As many of these concepts are part of the scope of an IT Service Management training or exam, they have been included in the relevant descriptions. For a definitive list of concepts, readers should refer to the various training and exam programs.

1 Based on the definition in Cambridge Advanced Learner's Dictionary: 'If something such as a book, song, computer program, etc. is in the public domain, no one has the right to control its use and anyone may use it without charge.'

1.5 Structure of the book

This book starts with an introduction on the backgrounds and general principles of IT Service Management and the context for ITIL (**Chapter 1**). It describes the parties involved in the development of best practices and standards for IT Service Management, and the basic premises and standards that are used.

The body of the book is set up in two large Parts: **Part 1** deals with the Service Lifecycle, **Part 2** deals with the individual functions and processes that are described in ITIL.

Part 1 starts with **Chapter 2**, introducing the Service Lifecycle, in the context of IT Service Management and IT Governance. It discusses principles of organizational maturity, and the benefits and risks of following a service management framework. This chapter ends with the introduction of the Service Lifecycle.

In **Chapters 3 to 7**, each of the phases in the Service Lifecycle is discussed in detail, in a standardized structure: Service Strategy, Service Design, Service Transition, Service Operation and Continual Service Improvement.. These chapters provide a detailed view on the characteristics of the Service Lifecycle, its construct and its elements. The main points of each phase are presented in a consistent way to aid readability and clarity, so that the text is clear and its readability is promoted. Each section follows a consistent structure:

- Introduction
- Basic concepts
- Processes and other activities
- Organization
- Methods, techniques and tools
- Implementation

Part 2 starts with **Chapter 8**, introducing the functions and processes that are referred to in each of the lifecycle phases. This chapter provides general information on principles of processes, teams, roles, functions, positions, tools, and other elements of interest.

Next, the processes and functions are described in detail in **Chapters 9 to 13**. The 27 functions and processes are clustered according to the ITIL core book that contains their detailed description. Each of these processes and functions is described in terms of :

- Introduction
- Activities, methods and techniques
- Interfaces, inputs and outputs
- Metrics and Key Performance Indicators (KPIs)
- Implementation, with Critical Success Factors (CSFs), challenges, risks and traps

The **Appendices** provide useful sources for the reader. A Reference list of used sources is provided, as well as the official ITIL Glossary. The book ends with an extensive Index of relevant terms, that will support the reader in finding relevant text elements.

1.6 How to use this book

Readers who are primarily interested in the Service Lifecycle can focus on Part 1 of the book, and pick whatever they need on functions and processes from part 2.

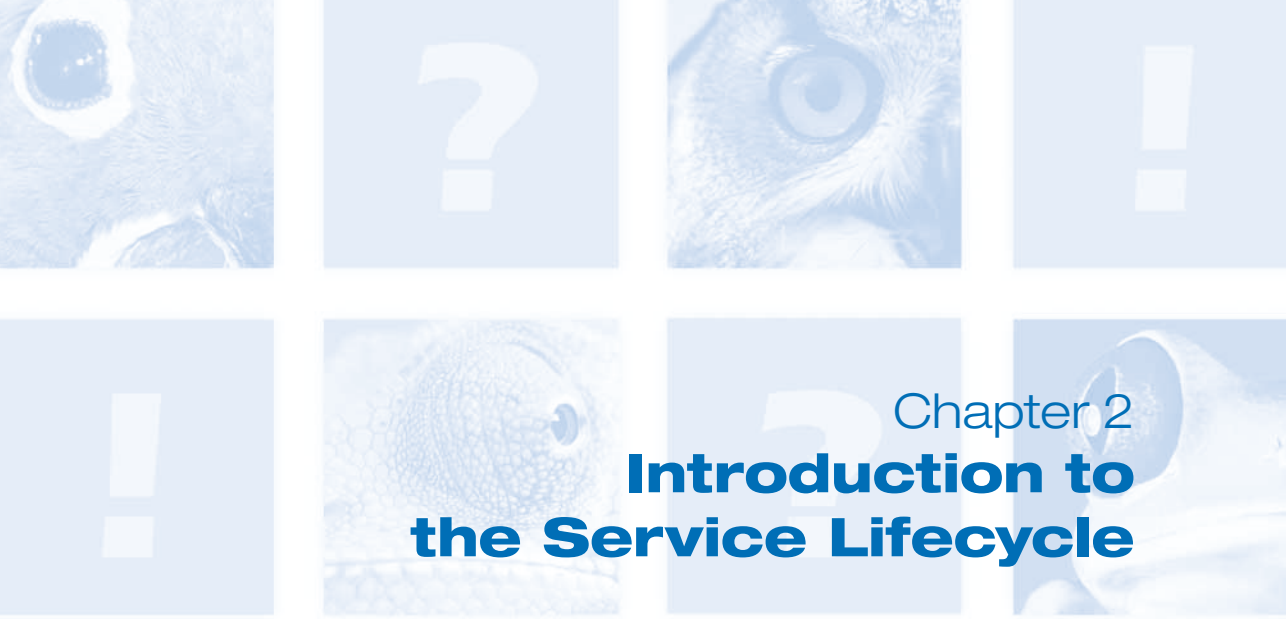
Readers who are primarily interested in the functions and processes and are not ready for a lifecycle approach yet, or who prefer a process approach, can read the introductory chapters, and then focus on the functions and processes of their interest.

Readers who want a thorough introduction to ITIL, exploring its scope and main characteristics, can read Part 1 on the Lifecycle, and add as many of the functions and processes from Part 2 as they need or like.

In this way, this new edition of the Foundations book aims to provide support to a variety of approaches to IT Service Management based on ITIL.

PART 1

THE ITIL SERVICE LIFECYCLE



Chapter 2
Introduction to the Service Lifecycle

2.1 Introduction to ITIL

In the 1980s the quality of service provided by both internal and external IT companies to UK government departments was of such a level that the CCTA (Central Computer and Telecommunications Agency, now the Office of Government Commerce, OGC) was instructed by the Government to develop a standard approach for an efficient and effective delivery of IT services. This was to be an approach which was independent of the suppliers (whether internal or external). The result of this instruction was the development and publication of the Information Technology Infrastructure Library™ (ITIL). ITIL is made up of a collection of 'best practices' found across the range of IT service providers.

ITIL offers a systematic approach to the delivery of quality of IT services. It gives a detailed description of most of the important processes in an IT organization, and includes checklists for tasks, procedures and responsibilities which can be used as a basis for tailoring to the needs of individual organizations.

At the same time, the broad coverage of ITIL also provides a helpful reference guide for many areas, which can be used to develop new improvement goals for an IT organization, enabling it to grow and mature.

Over the years, ITIL has become much more than a series of useful books about IT Service Management. The framework for the 'best practice' in IT Service Management is promoted and further developed by advisors, trainers and suppliers of technologies or products. Since the nineties, ITIL represents not only the theoretical framework, but the approach and philosophy shared by the people who work with it in practice.

Being an extended framework of best practices for IT Service Management itself, the advantages and disadvantages of frameworks in general are also applicable to ITIL. Of course, ITIL was developed because of the advantages mentioned earlier. Many of the pointers from 'best practices' are intended to avoid potential problems, or, should they occur after all, to solve them.

ITIL exams

In 2007 the APM Group launched a new certification scheme for ITIL, based on ITIL version 3. ITIL version 2 will be maintained for a transition period, continuing until the year 2008. **ITIL version 2** has qualifications on three levels:

- **Foundation** Certificate in IT Service Management
- **Practitioner** Certificate in IT Service Management. There are Practitioner Certificates for various processes or functions from ITIL version 2 (Service Level Management, Capacity Management, etc) and Practitioner Certificates for clusters of the functions and processes (four clusters: Release & Control, Support & Restore, Agree & Define and Plan & Improve)
- **Manager** Certificate in IT Service Management

The ITIL version 2 exams proved to be a great success. Until 2000, some 60,000 certificates had been distributed, but in the following years the number rocketed, and by 2006 had broken the boundary of 500,000 ITIL certificates.

For **ITIL version 3** a completely new system of qualification was set up. There are four qualification levels:

- **Foundation level** - This level is aimed at basic knowledge of, and insight into, the core principles and processes of ITIL version 3. At this level the qualification remains very similar to the old ITIL version 2 Foundation.
- **Intermediate level**:
  - *Intermediate level 1* - The first middle level is aimed at the Service Lifecycle and is built up around the five core books of ITIL version 3: Service Strategy, Service Design, Service Transition, Service Operation and Continual Service Improvement.
  - *Intermediate level 2* - The second middle level is aimed at capabilities and is built up around four clusters: Service Portfolio & relationship management, service design & optimization, service monitoring & control and service operation & support.

  The two middle levels are aimed at an insight into, and application of, the knowledge of ITIL version 3. These levels replace the Practitioner and Manager levels of ITIL version 2.
- **Advanced level** - This level was still under development when this book was being written. It is anticipated that this will test the ability to apply ITIL version 3 principles in a real-life situation.

For every element in the scheme a number of *credits* can be obtained. Credits are also awarded for the certificates from the ITIL version 2 scheme. Various 'bridge exams' are offered in order to connect version 2 certificates to the version 3 exams.

In order to obtain an ITIL version 3 diploma, the candidate must obtain 22 credits, two at Foundation level and the remainder at the middle levels. Figure 2.1 presents the new certification system.

The system[1] is based on the requirements of the effective fulfillment of the relevant role in an IT organization.

1 System is based on Bloom's Taxonomy of Learning, an established technique for defining and measuring stages of learning.

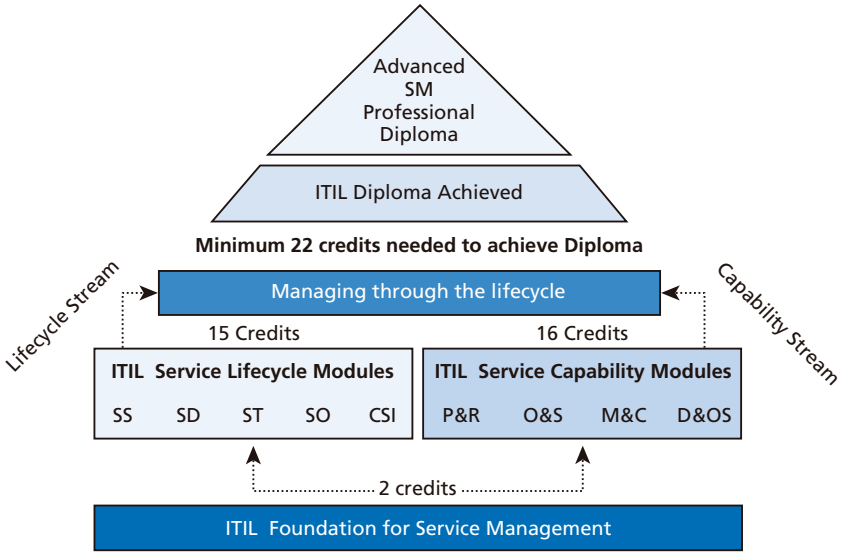


Figure 2.1 Certification APMG (Source: APMG)

The Foundation certificate is important to all members of staff who need to know the most important tasks in an IT management organization and their mutual cohesion. After obtaining the Foundation certificate staff members can participate in the lifecycle and capability exams. At this level candidates are taught to carry out tasks within the Service Lifecycle. These exams are aimed at knowledge and competence.

2.2 IT Governance

With the growing role of information, Information Systems and IT Service Management, the management requirements for IT grew as well. These requirements focus on two aspects: the compliance with internal and external policies, laws and regulations, and the provision of added value to the stakeholders of the organization. IT Governance is still a very young discipline, with no more than a few acknowledged standards or frameworks available. In contrast, there are many different definitions of IT Governance available. A definition that receives a lot of support is the one by Van Grembergen:

> ***IT Governance*** *consists of a comprehensive framework of structures, processes and relational mechanisms. Structures involve the existence of responsible functions such as IT executives and accounts, and a diversity of IT Committees. Processes refer to strategic IT decision-making and monitoring. Relational mechanisms include business/IT participation and partnerships, strategic dialogue and shared learning.*

There is a clear distinction between governance and management, suggesting that governance enables the creation of a setting in which others can manage their tasks effectively (Sohal & Fitzpatrick). So IT Governance and IT management are two separate entities. IT Service Management can be considered to be part of the IT management domain, which leaves IT Governance in the Business or Information Management domain.

Although many frameworks are characterized as 'IT Governance frameworks', such as CobiT and even ITIL, most of them are in fact management frameworks. There is at least one standard for IT Governance available: the local Australian Standard for Corporate Governance for IT (AS8015).

2.3 Organizational maturity

From the moment **Richard Nolan** introduced his 'staged model' for the application of IT in organizations in 1973, many people have used stepwise improvement models. These models were quickly recognized as suitable instruments for quality improvement programs, thereby helping organizations to climb up the maturity ladder.

Dozens of variations on the theme can easily be found, ranging from trades such as software development, acquisition, systems engineering, software testing, website development, data warehousing and security engineering, to help desks and knowledge management. Obviously the *kaizen* principle (improvement works best in smaller steps) was one that appealed to many.

After Nolan's staged model in 1973, the most appealing application of this modeling was found when the Software Engineering Institute (SEI) of Carnegie Mellon University, USA, published its Software Capability Maturity Model (SW-CMM). The CMM was copied and applied in most of the cases mentioned above, making CMM something of a standard in maturity modeling. The CMM was later followed by newer editions, including CMMI (CMM Integrated).

Later, these models were applied in quality management models, like the European Foundation for Quality Management (EFQM). Apart from the broad quality management models, there are several other industry accepted practices, such as Six Sigma and TQM, which are complementary to ITIL.

The available standards, and frameworks of best practice, offer guidance for organizations in achieving 'operational excellence' in IT Service Management. Depending upon their stage of development, organizations tend to require different kinds of guidance.

Maturity model: CMMI

In the IT industry, the process maturity improvement process is best known in the context of the **Capability Maturity Model Integration (CMMI).** This process improvement method was developed by the Software Engineering Institute (SEI) of Carnegie Mellon University. CMMI provides both a staged and a continuous model. In the continuous representation, improvement is measured using capability levels. Maturity is measured for a particular process across an organization. In the staged representation, improvement is measured using maturity levels, for a set of processes across an organization.
The capability levels in the **CMMI continuous representation** are:

1. **Incomplete process** - a process that either is not performed or partially performed
2. **Performed process** - satisfies the specific goals of the process area
3. **Managed process** - a performed (capability level 1) process that has the basic infrastructure in place to support the process

4. **Defined process** - a managed (capability level 2) process that is tailored from the organization's set of standard processes according to the organization's tailoring guidelines, and contributes work products, measures and other process improvement information to the organizational process assets
5. **Quantitatively Managed process** - a defined (capability level 3) process that is controlled using statistical and other quantitative techniques
6. **Optimizing process** - a quantitatively managed (capability level 4) process that is improved based on an understanding of the common causes of variation inherent in the process

The **CMMI staged representation** model defines five maturity levels, each a layer in the base for the next phase in the ongoing process improvement, designated by the numbers 1 through 5:

1. **Initial** - processes are ad hoc and chaotic
2. **Managed** - the projects of the organization have ensured that processes are planned and executed in accordance with policy
3. **Defined** - processes are well characterized and understood, and are described in standards, procedures, tools and methods
4. **Quantitatively Managed** - the organization and projects establish quantitative objectives for quality and process performance, and use them as criteria in managing processes
5. **Optimizing** - focuses on continually improving process performance through incremental and innovative process and technological improvements

Many other maturity models were based on these structures, such as the Gartner Maturity Models. Most of these models are focused at capability maturity. Some others, like KPMG's World Class IT Maturity Model, take a different approach.

Standard: ISO/IEC 20000

Developing and maintaining a quality system which complies with the requirements of the ISO 9000 (ISO-9000:2000) series can be considered a tool for the organization to reach and maintain the system-focused (or 'managed' in IT Service CMM) level of maturity. These ISO standards emphasize the definition, description and design of processes. For IT Service Management organizations, a specific ISO standard was produced: the ISO/IEC 20000 (see Figure 2.2).

Customer maturity

When assessing the maturity of an organization, we cannot restrict ourselves to the service provider. The **level of maturity of the customer** (Figure 2.3) is also important. If there are large differences in maturity between the provider and the customer, then these will have to be considered to prevent a mismatch in the approach, methods and mutual expectations. Specifically, this affects the communication between the customer and the provider.

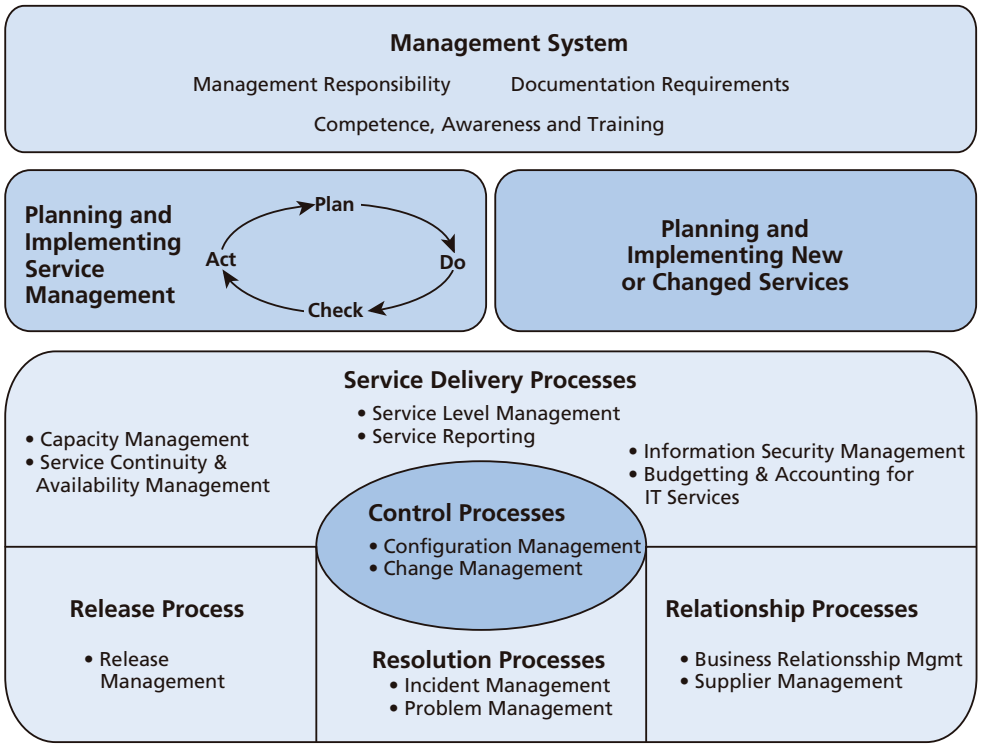


Figure 2.2 Overview of the ISO/IEC 20000 Service Management System

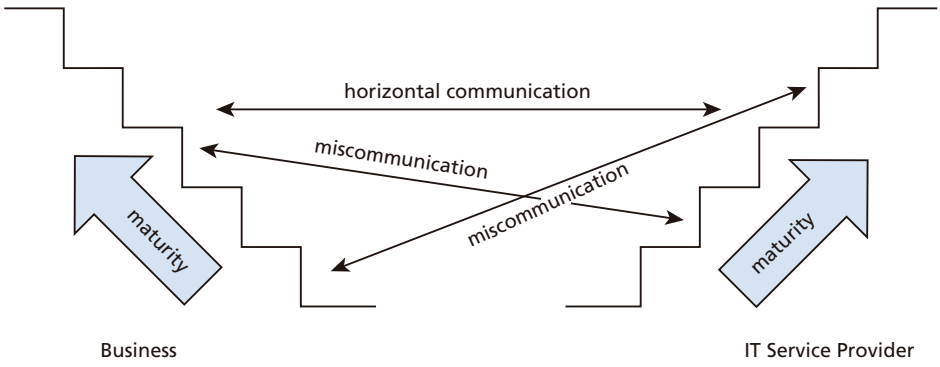


Figure 2.3 Communication and maturity levels: customer and provider

2.4 Benefits and risks of ITSM frameworks

The list below identifies some benefits and possible problems of using IT Service Management best practices. This list is not intended to be definitive, but is provided here as a basis for considering some of the benefits that can be achieved and some of the mistakes that can be made when using common process-based IT Service Management frameworks:

Benefits to the customer/user:

- the provision of IT services becomes more customer-focused and agreements about service quality improve the relationship
- the services are described better, in customer language, and in more appropriate detail
- better management of the quality, availability, reliability and cost of the services are managed better
- communication with the IT organization is improved by agreeing on the points of contact

Benefits to the IT organization:

- the IT organization develops a clearer structure, becomes more efficient, and is more focused on the corporate objectives
- the IT organization is more in control of the infrastructure and services it has responsibility for, and changes become easier to manage
- an effective process structure provides a framework for the effective outsourcing of elements of the IT services
- following best practices encourages a cultural change towards providing service, and supports the introduction of quality management systems based on the ISO 9000 series or on ISO/IEC 20000
- frameworks can provide coherent frames of reference for internal communication and communication with suppliers, and for the standardization and identification of procedures

Potential problems/mistakes:

- the introduction can take a long time and require significant effort, and may require a change of culture in the organization; an overambitious introduction can lead to frustration because the objectives are never met
- if process structures become an objective in themselves, the service quality may be adversely affected; in this scenario, unnecessary or over-engineered procedures are seen as bureaucratic obstacles, which are to be avoided where possible
- there is no improvement in IT services due a fundamental lack of understanding about what the relevant processes should provide, what the appropriate performance indicators are, and how processes can be controlled
- improvement in the provision of services and cost reductions are insufficiently visible, because no baseline data was available for comparison and/or the wrong targets were identified
- a successful implementation requires the involvement and commitment of personnel at all levels in the organization; leaving the development of the process structures to a specialist department may isolate that department in the organization and it may set a direction that is not accepted by other departments
- if there is insufficient investment in appropriate training and support tools, justice will not be done to the processes and the service will not be improved; additional resources and personnel may be needed in the short term if the organization is already overloaded by routine IT Service Management activities which may not be using 'best practices'

2.5 Service Lifecycle: concept and overview

The information provision role and system has grown and changed since the launch of ITIL version 2 (in 2000/02). IT supports and is part of an increasing number of goods and services. In the business world, the information provision role has changed as well: IT's role is no longer just supporting, but has become the baseline for the creation of business value.
ITIL version 3 intends to include and provide insight into IT's new role in all its complexity and dynamics. To that end, a new service management approach has been chosen that does not center around processes, but focuses on the Service Lifecycle.

Basic concepts

Before we describe the Service Lifecycle, we need to define some basic concepts.

Good practice

ITIL is presented as a good practice (literally: correct method). This is an approach or method that has proven itself in practice. These good practices can be a solid backing for organizations that want to improve their IT services. In such cases, the best thing to do is to select a generic standard or method that is accessible to everyone, ITIL, CobiT, CMMI, PRINCE2® and ISO/IEC 20000, for example. One of the benefits of these freely accessible generic standards is that they can be applied to several real-life environments and situations. There is also ample training available for open standards. This makes it much easier to train staff.

Another source for good practice is proprietary knowledge. A disadvantage of this kind of knowledge is that it may be customized for the context and needs of a specific organization. Therefore, it may be difficult to adopt or replicate and it may not be as effective in use.

Service

A service is about creating value for the customer. ITIL defines a service as follows:

> *A **service** is a means of delivering value to customers by facilitating outcomes the customers want to achieve without the ownership of specific costs or risks.*

Outcomes are possible from the performance of tasks, and they are limited by a number of constraints. Services enhance performance and reduce the pressure of constraints. This increases the chances of the desired outcomes being realized.

Value

Value is the core of the service concept. From the customer's perspective value consists of two core components: utility and warranty. Utility is what the customer receives, and warranty is how it is provided. The concepts utility and warranty are described in the Section 'Service Strategy'.

Service management

ITIL defines service management as follows:

> ***Service management** is a set of specialized organizational capabilities for providing value to customers in the form of services.*

ITIL discusses some of the fundamental principles of service management that supplement the functions and processes in the ITIL core books. The next principles may help design a service management system:

- **Specialization & co-ordination** - The goal of service management is to make capabilities and resources available through services that are useful and acceptable to the customer with regard to quality, costs and risks. The service provider takes the weight of responsibility and resource management off the customer's shoulders so that they can focus on the business' core competence. Service management co-ordinates the business of service management responsibility with regard to certain resources. *Utility* and *warranty* act as a guide.
- **Agency principle** - Service management always involves an agent and a principal that seconds this agent to fulfill activities on their behalf. Agents may be consultants, advisors or service providers. Service agents act as intermediary between service providers and customers in conjunction with users. Usually, these agents are the service provider's staff, but they can also be self-service systems and processes for users. Value for the customer is created through agreements between principals and agents.
- **Encapsulation** - The customer's interest focuses on the value of use; he prefers to be spared from any technical details and structure complexity. The 'encapsulation principle' is focused on hiding what the customer does not need and showing what is valuable and useful to the customer. Three principles are closely linked to this:
  - separation of concerns
  - modularity: a clear, modular structure
  - loose coupling: reciprocal independence of resources and users

Systems

ITIL describes the organizational structure concepts which proceed from system theory. The Service Lifecycle in ITIL version 3 is a system; however, a function, a process or an organization is a system as well. The definition of a system:

> *A **system** is a group of interacting, interrelating, or interdependent components that form a unified whole, operating together for a common purpose.*

Feedback and learning are two key aspects in the performance of systems; they turn processes, functions and organizations into dynamic systems. Feedback can lead to learning and growth, not only within a process, but also within an organization in its entirety.
Within a process, for instance, the feedback about the performance of one cycle is, in its turn, input for the next process cycle. Within organizations, there can be feedback between processes, functions and lifecycle phases. Behind this feedback is the common goal: the customer's objectives.

Functions and processes

The distinction between functions and processes is important in ITIL.

What is a function?

> *A **function** is a subdivision of an organization that is specialized in fulfilling a specified type of work, and is responsible for specific end results.*
> *Functions are independent subdivisions with capabilities and resources that are required for their performance and results. They have their own practices and their own knowledge body.*

What is a process?

> *A **process** is a structured set of activities designed to accomplish a defined objective.*
> *Processes result in a goal-oriented change, and utilize feedback for self-enhancing and self-corrective actions.*

Processes possess the following characteristics:

- They are **measurable** - because they are performance-oriented.
- They have **specific results**.
- They provide results to **customers** or stakeholders.
- They **respond to a specific event** - a process is indeed continual and iterative, but is always originating from a certain event.

It can be difficult to determine whether something is a function or a process. According to ITIL, whether it is a function or process depends completely on the organizational design. A good example of a function is a service desk, a good example of a process is change management.
The hierarchical structure of functions can lead to the rise of 'silos' in which each function is very self-oriented. This does not benefit the success of the organization as a whole. Processes run through the hierarchical structure of functions; functions often share some processes. This is how processes suppress the rise of functional silos, and help to ensure an improved co-ordination in between functions.

The Service Lifecycle

ITIL version 3 approaches service management from the lifecycle of a service. The Service Lifecycle is an organization model providing insight into:

- the way service management is structured
- the way the various components are linked to each other
- the impact that changes in one component will have on other system components and on the entire system

So the new ITIL version focuses on the Service Lifecycle, and the way service management components are linked. The processes are also discussed (both the old familiar ones and the new ones) in the cycle phases. They describe how things change.

The Service Lifecycle consists of five phases. Each volume of the new ITIL books describes one of these phases:

1. **Service Strategy** - the phase of designing, developing and implementing service management as a strategic resource
2. **Service Design** - the design phase of developing appropriate IT services, including architecture, processes, policy and documents; the design goal is to meet the current and future business requirements
3. **Service Transition** - the phase of developing and improving capabilities for the transition of new and modified services to production
4. **Service Operation** - the phase of achieving effectiveness and efficiency in providing and supporting services in order to ensure value for the customer and the service provider
5. **Continual Service Improvement** - the phase of creating and maintaining the value for the customer by design improvement, and service introduction and operation

Service Strategy is the axis of the Service Lifecycle (Figure 2.4) that 'runs' all other phases; it is the phase of policymaking and objectives. The phases Service Design, Service Transition and Service Operation implement this strategy, their continual theme is adjustment and change. The Continual Service Improvement phase stands for learning and improving, and embraces all cycle phases. This phase initiates improvement programs and projects, and prioritizes them based on the strategic objectives of the organization.

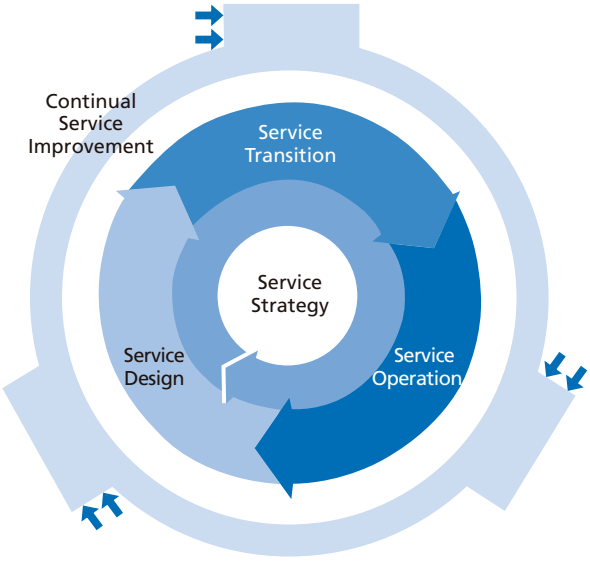


Figure 2.4 The Service Lifecycle

The Service Lifecycle is a combination of many perspectives on the reality of organizations. This offers more flexibility and control.

The dominant pattern in the Service Lifecycle is the succession of Service Strategy to Service Design, to Service Transition and to Service Operation, and then, through Continual Service Improvement, back to Service Strategy, and so on. The cycle encompasses, however, many patterns. Depending on tasks and responsibilities, a manager can choose his own control

perspective. If you are responsible for the design, development or improvement of processes, the best perspective to use is a process perspective. If you are responsible for managing SLAs, contracts and services, the Service Lifecycle perspective and its various phases is likely to meet your needs better.

ITIL Library

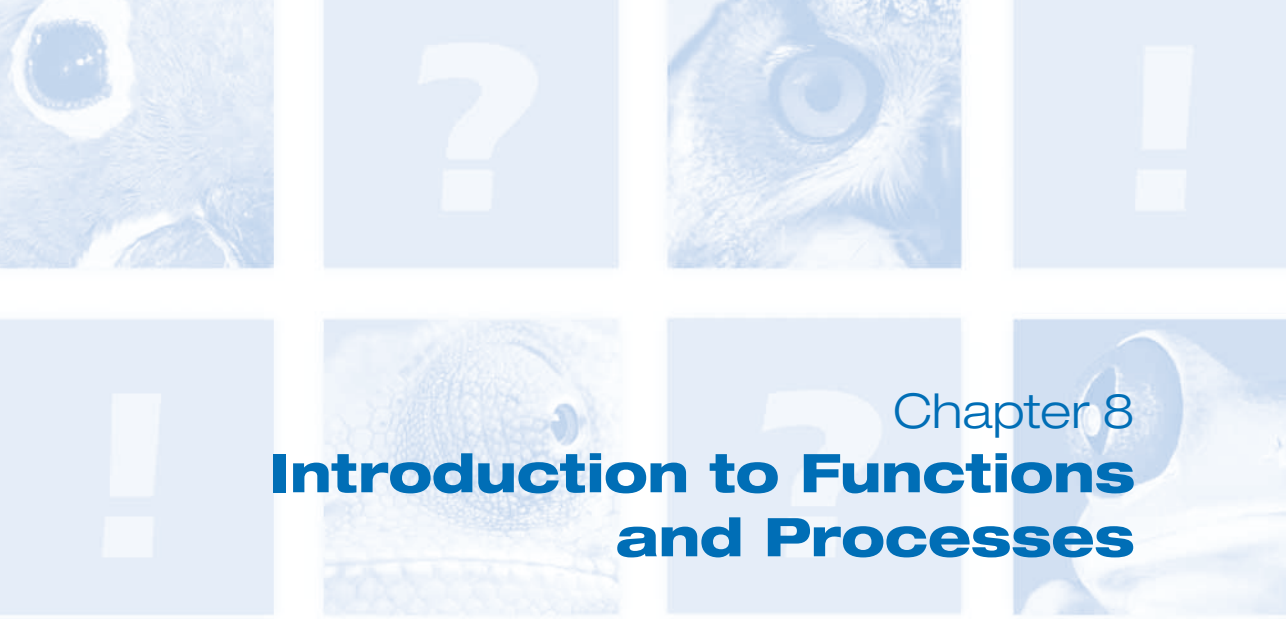
The official, new style ITIL Library encompasses the following components:

- Core Library: the five Service Lifecycle publications
- Complementary Portfolio:
  - pocket guides to the core publications
  - introductory guide and pocket guides to the core publications
  - complementary guidance such as case studies, training course materials, and white papers

The ITIL Core consists of five publications:

- **Service Strategy**
- **Service Design**
- **Service Transition**
- **Service Operation**
- **Continual Service Improvement**

Each book covers a phase from the Service Lifecycle and encompasses various processes. The processes are always described in detail in the book in which they find their key application.



Chapter 8
Introduction to Functions and Processes

8.1 Introduction

Processes are *internal* affairs for the IT service provider. An organization that is still trying to gain control of its processes therefore has an **internal focus**. Organizations that focus on gaining control of their systems in order to provide services are still internally focused. The organization is not ready for an **external focus** until it controls its services and is able to vary them on request. This external focus is required to evolve into that desirable customer-focused organization.

Because organizations can be in different stages of maturity, IT managers require a broad orientation in their discipline Most organizations are now working on the introduction of a process-focused or customer-focused approach, or still have to start working on this. Process control is therefore a vital step on the road towards a **mature customer-focused organization**.

ITIL has made an important contribution to the organization of that process-focused operating method in the past decade. The development started in North-western Europe and has made some progress on most other continents in the last few years also. On a global scale, however, a minimal number of organizations have actually started with this approach - and an even smaller number have made serious progress at this point. The organization change projects that were thought to be necessary to convert to a process-focused organization were not all successful.

These findings lead us to conclude that the majority of organizations in this world require access to good information and best practices concerning the **business processes of IT organizations**. Fortunately, that information is abundant. The ITIL version 2 books provide comprehensive documentation on the most important processes, while ITIL version 3 adds even more information.

The **process model** is at least as important as the processes because processes must be deployed in the right relationships to achieve the desired effect of a process-focused approach. There are many different process models available. The experiences gained with these processes and process models in recent years have been documented comprehensively in books, magazines and white papers, and were presented at countless conventions.

8.2 Management of processes

Every organization aims to realize its vision, mission, strategy, objectives and policies, which means that appropriate activities have to be undertaken.

For example, a restaurant will have to purchase fresh ingredients, the chefs will have to work together to provide consistent results, and there should be no major differences in style among the waiting staff. A restaurant will only be awarded a three-star rating when it manages to provide the same high quality over an extended period of time. This is not always the case: there will be changes among the waiting staff, a successful approach may not last, and chefs often leave to open their own restaurants. Providing a constant high quality also means that the component activities have to be co-ordinated: the better and more efficiently the kitchen operates, the higher the quality of service that can be provided to the guests.

In the example of the restaurant, appropriate activities include buying vegetables, bookkeeping, ordering publicity material, receiving guests, cleaning tables, peeling potatoes and making coffee. With just such an unstructured list, something will be left out and staff will easily become confused. It is therefore a better idea to structure the activities. Preferably these should be arranged in such a way as to allow us to see how each group of activities contributes to the objectives of the business, and how they are related.

Such groups of activities are known as **processes**. If the process structure of an organization is clearly described, it will show:

- what has to be done
- what the expected inputs and results are
- how we measure whether the processes deliver the expected results
- how the results of one process affect those of another process.

Processes can be defined in many ways. Depending upon the objectives of the creator, more or less emphasis will be on specific aspects. For example, a highly detailed process description will allow for a high level of control. Superficial process definitions will illustrate that the creator does not care much about the way in which the steps are executed.
Once the processes are defined, the roles, responsibilities and people can be assigned to specific aspects, bringing the process to the level of a *procedure*.

Processes

When arranging activities into processes, we do not use the existing allocation of tasks, nor the existing departmental divisions. This is a conscious choice. By opting for a process structure, it often becomes evident that certain activities in the organization are unco-ordinated, duplicated, neglected or unnecessary.

*A **process** is a structured set of activities designed to accomplish a defined objective.*

Instead, we look at the **objective** of the process and the **relationships** with other processes. A process is a series of activities carried out to convert input into an output, and ultimately into an outcome. The **input** is concerned with the resources being used in the process. The (reported) **output** describes the immediate results of the process, while the **outcome** indicates

the long-term results of the process (in terms of meaningful effect). Through **control** activities, we can associate the input and output of each of the processes with **policies and standards** to provide information about the results to be obtained by the process. Control regulates the input and the **throughput** in case the throughput or output parameters are not compliant with these standards and policies. This produces chains of processes that show the input that goes into the organization and what the result, and it also monitors points in the chains in order to check the quality of the products and services provided by the organization.

The standards for the output of each process have to be defined, in such a way that the complete chain of processes in the process model meets the corporate objective. If the output of a process meets the defined requirements, then the process is **effective** in transforming its input into its output. To be really effective, the outcome should be taken into consideration rather than merely focusing on the output. If the activities in the process are also carried out with the minimum required effort and cost, then the process is **efficient**. It is the task of process management to use **planning and control** to ensure that processes are executed in an effective and efficient way.

We can study each process separately to optimize its quality. The **process owner** is responsible for the process results. The **process manager** is responsible for the realization and structure of the process, and reports to the process owner. The **process operatives** are responsible for defined activities, and these activities are reported to the process manager.

The logical combination of activities results in clear transfer points where the quality of processes can be monitored. In the restaurant example, we can separate responsibility for purchasing and cooking, so that the chefs do not have to purchase anything and can concentrate on their core activities.

The management of the organization can provide control on the basis of the process quality of the process as demonstrated by data from the results of each process. In most cases, the relevant **performance indicators** and standards will already be agreed upon. In this case the process manager can do the day-to-day control of the process. The process owner will assess the results based on a **report** of performance indicators and checks whether the results meet the agreed standard. Without clear indicators, it would be difficult for a process owner to determine whether the process is under control, and if planned improvements are being implemented.

Processes are often described using **procedures** and **work instructions**.

*A **procedure** is a specified way to carry out an activity or a process.*
A procedure describes the 'how', and can also describe 'who' carries the activities out. A procedure may include stages from different processes. A procedure can vary depending on the organization.

*A set of **work instructions** defines how one or more activities in a procedure should be carried out in detail, using technology or other resources.*

A process is defined as a logically related series of activities executed to meet the goals of a defined objective. Processes are composed of two kinds of activities: the activities to realize the goal (operational activities concerned with the throughput), and the activities to manage these

(control activities). The control activities make sure the operational activities (the workflow) are performed in time, in the right order, etc. (For example, in the processing of changes it is always ensured that a test is performed *before* a release is taken into production and not *afterwards*.)

Processes and departments

Most businesses are hierarchically organized. There are departments that are responsible for the activities of a group of employees. There are various ways of structuring departments, such as by customer, product, region or discipline. IT services generally depend on several departments, customers or disciplines. For example, if there is an IT service to provide users with access to an accounting program on a central computer, this will involve several disciplines. The computer center has to make the program and database accessible, the data and telecommunications department has to make the computer center accessible, and the PC support team has to provide users with an interface to access the application.

Processes that span several departments (teams) can monitor the quality of a service by monitoring particular aspects of quality, such as availability, capacity, cost and stability. A service organization will try to match these quality aspects with the customer's demands. The structure of such processes can ensure that good information is available about the provision of services, so that the planning and control of services can be improved.

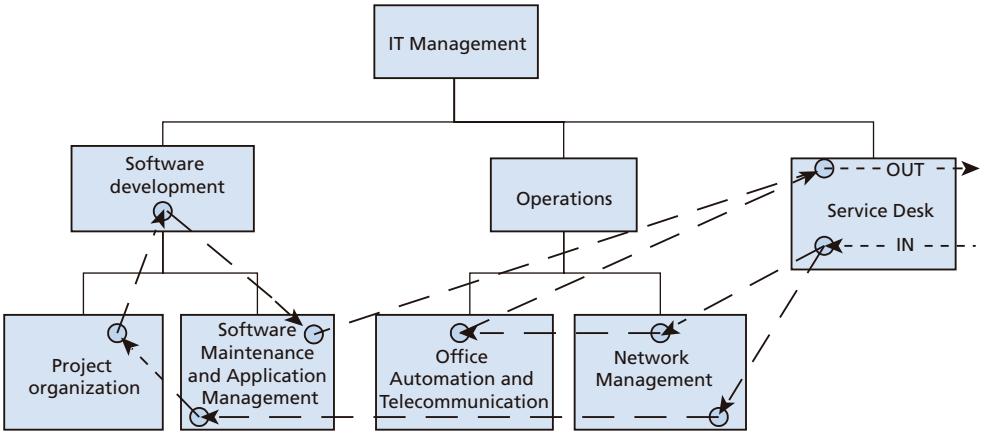


Figure 8.1 Processes and departments (example)

Figure 8.1 shows a basic example of the combinations of activities in a process (indicated by the dashed lines).

IT Service Management and processes

For the last decade, IT Service Management has been known for the last decade as the process and service-focused approach of what was initially known as Information Technology management. The shift of management from infrastructure to processes has paved the way for the term IT Service Management as a process and customer-focused discipline. Processes should always have a defined objective. The objective of IT Service Management processes is to contribute to the

quality of the IT services. Quality management and process control are part of the organization and its policies.

By using a process approach, best practices for IT Service Management describe how services can be delivered, using the most effective and efficient series of activities. The Service Lifecycle in ITIL V3 is based on these process descriptions. The structure and allocation of tasks and responsibilities between functions and departments depends on the type of organization, and these structures vary widely among IT departments, and they often change. The description of the process structure however, provides a common point of reference that changes less rapidly. This can help to maintain the quality of IT services during and after reorganizations, and also among suppliers and partners as they change. This makes service providers far less sensitive to organizational change, and much more flexible: providers can continually adapt their organization to changing conditions,leaving the core of their processes in place.Tthis way the shop can stay open during reconstruction work. However, reality may pose some practical problems, making this more difficult in practice than it seems in theory.

Applying the best process definitions of the industry allows IT service providers to concentrate on their business. As with other fields of industry, the processes in the IT industry are similar for all organizations of the same nature. Many of the process descriptions documented in ITIL have been recognized as the best that the industry could hope to adopt.

8.3 Teams, roles and positions in ITSM

Organizations can divide the various tasks for carrying out processes or activities in many different ways. Tasks can be covered by organizational bodies, such as groups, teams, departments or divisions. These organizational bodies are then managed in **hierarchical organizations** by a line manager, who has a certain 'span of control' and who manages one or more of these bodies. **Flat organizations** have relatively few layers in this hierarchy. Organizations can also divide the tasks more in the spirit of equality, such as, for example, **network organizations**, in which the co-operation between the various bodies is paramount.

Besides hierarchical organizations, which manage through 'the line', there are also **project organizations**, which manage primarily by using temporary forms of project co-operation, while **process organizations** are managed primarily by means of an agreed work method. Obviously, these types of management can be combined in innumerable ways. As a result of this, we are seeing a great number of unique organizational configurations in the field.

Organizations can distinguish themselves from other organizations, particularly in respect to the type of organization they operate. An organization that is directed toward hierarchy will have a staff of primarily of senior line management. A process-oriented organization will have people on staff who are responsible for processes. Depending on the degree to which management is based on processes, the line or projects, the staff will consist of a mix of the relevant responsible managers.

When setting up an organization, positions and roles are also used, in addition to the various groups (teams, departments, divisions). **Roles** are sets of responsibilities, activities and authorities

granted to a person or team. One person or team may have multiple roles; for example, the roles of Configuration Manager and Change Manager may be carried out by a single person. **Positions** (functions) are traditionally recognized as tasks and responsibilities that are assigned to a specific person. A person in a particular position has a clearly defined package of tasks and responsibilities which may include various roles. Positions can also be more broadly defined as a logical concept that refers to the people and automated measures that carry out a clearly defined process, an activity or a combination of processes or activities. Individuals and roles have an N:N relationship.

8.4 Tools used in ITSM

In the performance of tasks in IT Service Management, innumerable automated support aids can be used: these are referred to as tools. With the help of these tools, management tasks can be automated; for example, monitoring tasks or software distribution tasks. Other tools support the performance of the activities themselves; for example, help desk tools or service management tools. The latter category, in fact, supports the management of several processes and are therefore often referred to as workflow tools - although they may not have actual workflow engines.

The fact that the IT field is fundamentally focused on automated facilities (for information processing) has led to a virtual deluge of tools appearing on the market, which have greatly increased the performance capacity of IT organizations.

8.5 Communication in IT service organizations

People, process, partners and technology provide the main 'machinery' of any organization, but they only work well if the machine is oiled: **communication** is an essential element in any organization. If the people do not know about the processes or use the wrong instructions or tools, the output may not be as anticipated.

People are core assets of the organization. This is not only due to the fact that they need to be in place to perform certain activities or to take decisions, but also because people have the attractive habit of communicating. When an organization applies highly detailed instructions for all its activities, it will end up in a bureaucracy. On the other hand, an organization without any rules is most likely in chaos. Whatever balance an organization is trying to find here, it will always benefit enormously from communication between the people in the organization. A regular and formal meeting culture will support this, but organizations should not underestimate the important role of informal communication: many projects have been saved by means of a simple chat in the tea room, or in the car park.

Formal structures on communication include:

- **reporting** - internal and external reporting, aimed at management or customers, project progress reports, alerts
- **meetings** - formal project meetings, regular meetings with specific targets
- **online facilities** - email systems, chatrooms, pagers, groupware, document sharing systems, messenger facilities, teleconferencing and virtual meeting facilities
- **notice boards** - near the coffee maker, at the entrance of the building, in the company restaurant

IT teams and departments, as well as users, internal customers and service production teams, must communicate with each other. The **stakeholders** for communication can thus be found among all managers and employees who are involved in the service delivery, in all the layers of the organization, and with all customers, users and suppliers. Good communication can prevent problems. All communication must have a particular goal or result. Every team, process and every department must have a clear **communications policy**.

IT Service Management includes several types of communication, such as:
- routine operational communication
- communication between teams
- performance reports
- communication during projects
- communication when there are changes
- communication in case of exceptions
- communication in case of emergencies
- training for new or adapted processes and service designs
- communication with service production teams regarding service strategies and design

8.6 Culture

Organizations that want to change, for example to improve the quality of their services, will eventually be confronted with the current organizational culture and will have to deal with any changes to this culture as a consequence of the overall change. The organizational culture, or corporate culture, refers to the way in which people deal with each other in the organization; the way in which decisions are made and implemented; and the attitude of employees to their work, customers, suppliers, superiors and colleagues.

Culture, which depends on the standards and values of the people in the organization, cannot be controlled, but it can be influenced. Influencing the culture of an organization requires leadership in the form of a clear and consistent policy, as well as a supportive personnel policy.

The corporate culture can have a major influence on the provision of IT services. Businesses value innovation in different ways. In a stable organization, where the culture places little value on innovation, it will be difficult to adjust its IT services in line with changes in the organization of the customer. If the IT department is unstable, then a culture which values change can pose a serious threat to the quality of its services. In that case, a 'free for all' culture can develop where many uncontrolled changes lead to a large number of faults.

8.7 Processes, projects, programs and portfolios

Activities can be managed from a process perspective, from a organizational hierarchy (line) perspective, from a project perspective, or from any combination of these three. Organizations that tend to apply just one of these management systems, often miss the benefits of the others. The practical choice often depends upon history, culture, available skills and competences, and personal preferences. The optimum choice may be entirely different, but the requirements for applying this optimum may be hard to realize and vary in time.

There are no 'hard laws' for the way an organization should combine processes, projects and programs. However, it is generally accepted that there are some consequences attached to modern practices in IT service organizations, since the most widely accepted approach to service management is based on process management. The widely accepted best practices for IT Service Management documented in ITIL are using a Service Lifecycle approach, but in fact ITIL is still based on process management. This means that whenever the organization works with projects or programs, it should have established how these approaches work together.

The practical relationship between projects and processes is determined by the relative position of both in terms of 'leading principles for the management of the organization': if projects are considered more important than processes, then decisions on projects will overrule decisions on processes; as a consequence, the organization will not be able to implement a stable set of processes. If it is the other way around, with projects only able to run within the constraints of agreed processes, then project management will be a discipline that will have to adapt to new boundaries and definitions (eg since projects always change something from A to B, they will most likely fall under the regime of Change, Release and Deployment Management).

The most suitable solution is dependent upon the understanding of the role of IT Service Management in the organization. To be able to find a solution for this management challenge, it is recommended that a common understanding of processes, projects, programs, and even portfolio's is created. The following definitions may be used:

- **Process** - A process is a structured set of activities designed to accomplish a defined objective.
- **Project** - A project is a temporary organization, with people and other assets required to achieve an objective.
- **Program** - A program consists of a number of projects and activities that are planned and managed together to achieve an overall set of related objectives.
- **Portfolio** - A portfolio is a set of projects and/or programs, which are not necessarily related, brought together for the sake of control, co-ordination and optimization of the portfolio in its totality. NB: In ITIL, a Service Portfolio is the complete set of services that are managed by a service provider.

Since the project/program/portfolio grouping is a hierarchical set of essential project resources, the issue can be downscaled to that of a relationship between a project and a process.
The most elementary difference between a process and a project is the one-off character of a project, versus the continuous character of the process. If a project has achieved its objectives, it means the end of the project. Processes can be run many times, both in parallel and in sequence. The nature of a process is aimed at its repeatable character: processes are defined only in case of a repeatable string of activities that are important enough to be standardized and optimized.

Projects are aimed at changing a situation A into a situation B. This can involve a simple string of activities, but it can also be a very complex series of activities. Other elements of importance for projects include money, time, quality, organization and information. Project structures are normally used only if at least one of these elements is of considerable value.
Actually, projects are just ways of organizing a specific change in a situation. In that respect they have a resemblance with processes. It is often a matter of focus: processes focus at the specific sequence of activities, the decisions taken at certain milestone stages, and the quality of

the activities involved. Processes are continuously instantiated and repeated, and use the same approach each time. Projects focus more at the time and money constraints, in terms of resources spent on the change and the projects end, and projects vary much more than processes.

A very practical way of combining the benefits of both management systems might be as follows:

- Processes set the scene for how specific series of activities are performed.
- Projects can be used to transform situation A into situation B, and always refer to a change.
- If the resources (time, money, or other) involved in a specific process require the level of attention that is normally applied in a project, then (part of) the process activities can be performed as a project, but always under the control of the process: if changes are performed, using project management techniques, the agreed change management policies still apply.

This would allow organizations to maintain a continuous customer focus and apply a process approach to optimize this customer focus, and at the same time benefit from the high level of resource control that can be achieved when using project management techniques.

8.8 Functions and processes in the lifecycle phases

For the sake of readability and uniformity, the following structure for the descriptions was used as much as possible:

1. **Introduction** - describes the purpose and aims of the process or function, its scope, value to the business, principles, guidelines, starting points and basic concepts
2. **Activities, methods and techniques** - explains the process or function in greater detail based on the workflow of activities (if possible); also describes commonly used methods and techniques
3. **Interfaces** - describes how the process or function is triggered, its inputs and outputs, and its links to other functions and processes
4. **Metrics** - describes the process metrics, in particular the Key Performance Indicators (KPIs)
5. **Implementation** - describes the Critical Success Factors (CSFs), challenges, risks and traps that may apply for the introduction of a process or function