

Contents

List of figures	v	4 Service Design processes	57
List of tables	vii	4.1 Service Catalogue Management	60
OGC's foreword	viii	4.2 Service Level Management	65
Chief Architect's foreword	ix	4.3 Capacity Management	79
Preface	x	4.4 Availability Management	97
Acknowledgements	xi	4.5 IT Service Continuity Management	125
		4.6 Information Security Management	141
		4.7 Supplier Management	149
1 Introduction	1	5 Service Design technology-related activities	165
1.1 Overview	4	5.1 Requirements engineering	167
1.2 Context	4	5.2 Data and Information Management	176
1.3 Purpose	8	5.3 Application Management	180
1.4 Usage	8	6 Organizing for Service Design	187
2 Service Management as a practice	9	6.1 Functional roles analysis	189
2.1 What is Service Management?	11	6.2 Activity analysis	190
2.2 What are services?	11	6.3 Skills and attributes	190
2.3 Functions and processes across lifecycle	12	6.4 Roles and responsibilities	190
2.4 Service Design fundamentals	13	7 Technology considerations	199
3 Service Design principles	21	7.1 Service Design tools	201
3.1 Goals	25	7.2 Service Management tools	203
3.2 Balanced design	25	8 Implementing Service Design	207
3.3 Identifying service requirements	27	8.1 Business Impact Analysis	209
3.4 Identifying and documenting business requirements and drivers	28	8.2 Service Level Requirements	209
3.5 Design activities	29	8.3 Risks to the services and processes	209
3.6 Design aspects	30	8.4 Implementing Service Design	210
3.7 The subsequent design activities	46	8.5 Measurement of Service Design	213
3.8 Design constraints	47	9 Challenges, Critical Success Factors and risks	217
3.9 Service Oriented Architecture	48	9.1 Challenges	219
3.10 Business Service Management	49	9.2 Risks	219
3.11 Service Design models	50		

Afterword	221
Appendix A: The Service Design Package	225
Appendix B: Service Acceptance Criteria (example)	231
Appendix C: Process documentation templates (example)	235
C1 Process framework	237
Appendix D: Design and planning documents and their contents	239
D1 Design and architectural documents and standards	241
D2 IT plans	241
Appendix E: Environmental architectures and standards	243
Appendix F: Sample SLA and OLA	249
Appendix G: Example Service Catalogue	257
Appendix H: The Service Management process maturity Framework	261
Appendix I: Example contents of a Statement of Requirement (SoR) and/or Invitation to Tender (ITT)	267
Appendix J: The typical contents of a Capacity Plan	271
Appendix K: The typical contents of a recovery plan	275
Further information	281
References	283
Glossary	285
Acronyms list	287
Definitions list	289
Index	319

1 Introduction

The primary objective of Service Management is to ensure that the IT services are aligned to the business needs and actively support them. It is imperative that the IT services underpin the business processes, but it is also increasingly important that IT acts as an agent for change to facilitate business transformation.

All organizations that use IT will depend on IT to be successful. If IT processes and IT services are implemented, managed and supported in the appropriate way, the business will be more successful, suffer less disruption and loss of productive hours, reduce costs, increase revenue, improve public relations and achieve its business objectives.

Most authorities now identify four types of IT assets that need to be acquired and managed in order to contribute to effective IT service provision. These are IT infrastructure, applications, information and people. Specifically there is a strong emphasis on the acquisition, management and integration of these assets throughout their 'birth to retirement' lifecycle. The delivery of quality IT services depends on the effective and efficient management of these assets.

These assets on their own, however, are not enough to meet the Service Management needs of the business. ITIL Service Management practices use these four asset types as part of a set of capabilities and resources called 'service assets'.

An IT service, used in support of business processes, is constructed from a combination of IT assets and externally

provided 'underpinning' services. Once in place, an IT service must be supported throughout its 'life', during which time it may be modified many times, either through technological innovation, changing business environment, changing usage of the service, changing its service quality parameters, or changing its supporting IT assets or capabilities (e.g. a change in an application software component to provide additional functionality). Eventually the IT service is retired, when business processes no longer have a use for it or it is no longer cost-effective to run. Service Transition is involved in the build and deployment of the service and day-to-day support, and delivery of the service is the role of Service Operation, while Continual Service Improvement implements best practice in the optimize and retire stages.

From this perspective, Service Design can be seen as gathering service needs and mapping them to requirements for integrated services, and creating the design specifications for the service assets needed to provide services. A particular feature of this approach is a strong emphasis on re-use during design.

The main aim of Service Design is to design IT services, together with the governing IT practices, processes and policies, to realize the strategy and to facilitate the introduction of these services into the live environment ensuring quality service delivery, customer satisfaction and cost-effective service provision. Service Design should also design the IT services effectively so that they don't need a great deal of improvement during their lifecycle. However, continual improvement should be embedded in all Service

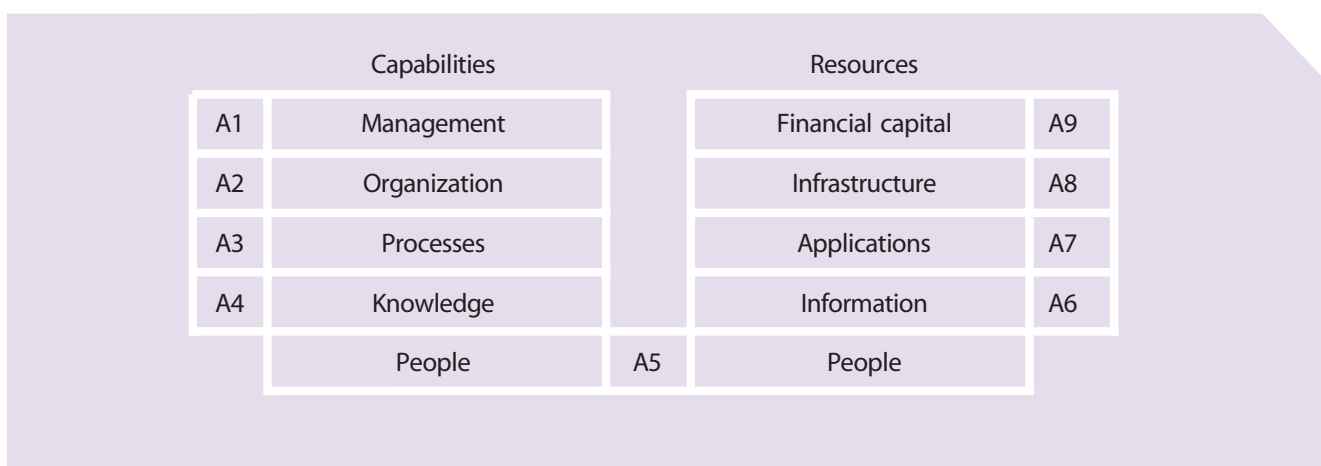


Figure 1.1 Resources and capabilities are the basis for value creation

Design activities to ensure that the solutions and designs become even more effective over time and to identify changing trends in the business that may offer improvement opportunities. Service Design activities can be periodic or exception-based when they may be triggered by a specific business need or event.

If services or processes are not designed they will evolve organically. If they evolve without proper controls, the tendency is simply to react to environmental conditions that have occurred rather than to understand clearly the overall vision and overall needs of the business. Designing to match the anticipated environment is much more effective and efficient, but often impossible – hence the need to consider iterative and incremental approaches to Service Design. Iterative and incremental approaches are essential to ensure that services introduced to the live environment adapt and continue to remain in line with evolving business needs. In the absence of formalized Service Design, services will often be unduly expensive to run, prone to failure, resources will be wasted and services will not be fully aligned to business needs. It is unlikely that any improvement programme will ever be able to achieve what proper design would achieve in the first place. Without Service Design, cost-effective service is not possible. The human aspects of Service Design are also of the utmost importance, and these will be explored in detail later in this publication.

1.1 OVERVIEW

This publication forms part of the overall ITIL Service Management practices and covers the design of appropriate and innovative IT services to meet current and future agreed business requirements. It describes the principles of Service Design and looks at identifying, defining and aligning the IT solution with the business requirements. It also introduces the concept of the Service Design Package and looks at selecting the appropriate Service Design model. The publication also discusses the fundamentals of the design processes and the five aspects of the design:

- Services
- Design of Service Management systems and tools, especially the Service Portfolio
- Technology architectures and management systems
- Processes
- Measurement methods and metrics.

The publication covers the methods, practices and tools to achieve excellence in Service Design. It enforces the principle that the initial Service Design should be driven

by a number of factors, including the functional requirements, the requirements within the Service Level Agreements (SLAs), the business benefits and the overall design constraints.

Chapter 4 explains the end-to-end process of the areas key to successful Service Design. These processes are utilized by all other stages of the Service Lifecycle, and other processes are taken into account by Service Design. However, it is here that Service Catalogue Management, Service Level Management, Capacity Management, Availability Management, IT Service Continuity Management, Information Security Management and Supplier Management are covered in detail.

The appendices to this publication give examples of the Service Design Package, Service Acceptance Criteria, process documentation templates, design and planning documents, environmental architectures and standards, sample SLAs, OLAs and Service Catalogue and the Service Management process maturity framework.

1.2 CONTEXT

1.2.1 Service Management

Information technology (IT) is a commonly used term that changes meaning with context. From the first perspective, IT systems, applications, and infrastructure are components or sub-assemblies of a larger product. They enable or are embedded in processes and services. From the second perspective, IT is an organization with its own set of capabilities and resources. IT organizations can be of various types, such as business functions, shared services units, and enterprise-level core units.

From the third perspective, IT is a category of services utilized by business. They are typically IT applications and infrastructure that are packaged and offered as services by internal IT organizations or external service providers. IT costs are treated as business expenses. From the fourth perspective, IT is a category of business assets that provide a stream of benefits for their owners, including but not limited to revenue, income and profit. IT costs are treated as investments.

1.2.2 Good practice in the public domain

Organizations operate in dynamic environments with the need to learn and adapt. There is a need to improve performance while managing trade-offs. Under similar pressure, customers seek advantage from service providers. They pursue sourcing strategies that best serve their own business interests. In many countries, government agencies and non-profits have a similar

tendency to outsource for the sake of operational effectiveness. This puts additional pressure on service providers to maintain a competitive advantage with respect to the alternatives that customers may have. The increase in outsourcing has particularly exposed internal service providers to unusual competition.

To cope with the pressure, organizations benchmark themselves against peers and seek to close gaps in capabilities. One way to close such gaps is the adoption of good practices in wide industry use. There are several sources for good practices, including public frameworks, standards, and the proprietary knowledge of organizations and individuals (Figure 1.2).

Public frameworks and standards are attractive when compared with proprietary knowledge:

- Proprietary knowledge is deeply embedded in organizations and therefore difficult to adopt, replicate or transfer, even with the cooperation of the owners. Such knowledge is often in the form of tacit knowledge that is inextricable and poorly documented.
- Proprietary knowledge is customized for the local context and specific business needs to the point of being idiosyncratic. Unless the recipients of such knowledge have matching circumstances, the knowledge may not be as effective in use.
- Owners of proprietary knowledge expect to be rewarded for their long-term investments. They may make such knowledge available only under commercial terms through purchases and licensing agreements.
- Publicly available frameworks and standards such as ITIL, COBIT, CMMI, eSCM-SP, PRINCE2, ISO 9000, ISO/IEC 20000, and ISO/IEC 27001 are validated across a diverse set of environments and situations rather than the limited experience of a single organization. They are subject to broad review across multiple organizations and disciplines. They are vetted by diverse sets of partners, suppliers and competitors.
- The knowledge of public frameworks is more likely to be widely distributed among a large community of professionals through publicly available training and certification. It is easier for organizations to acquire such knowledge through the labour market.

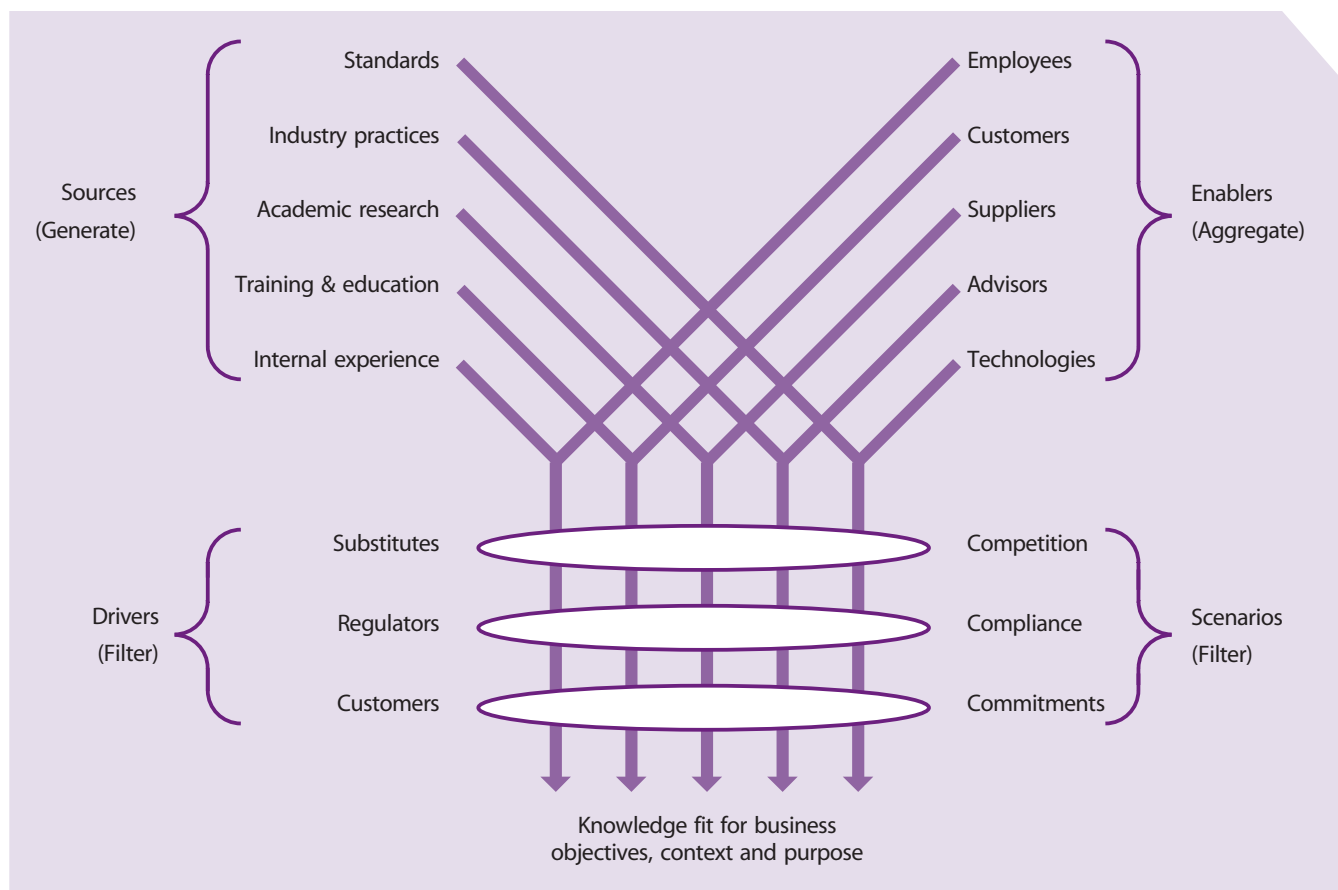


Figure 1.2 Sourcing of Service Management practice

Ignoring public frameworks and standards can needlessly place an organization at a disadvantage. Organizations should cultivate their own proprietary knowledge on top of a body of knowledge based on public frameworks and standards. Collaboration and coordination across organizations are easier on the basis of shared practices and standards.

1.2.3 ITIL and good practice in Service Management

The context of this publication is the ITIL Framework as a source of good practice in Service Management. ITIL is used by organizations worldwide to establish and improve capabilities in Service Management. ISO/IEC 20000 provides a formal and universal standard for organizations seeking to have their Service Management capabilities audited and certified. While ISO/IEC 20000 is a standard to be achieved and maintained, ITIL offers a body of knowledge useful for achieving the standard.

The ITIL Library has the following components:

- The ITIL Core – best practice guidance applicable to all types of organizations who provide services to a business
- The ITIL Complementary Guidance – a complementary set of publications with guidance specific to industry sectors, organization types, operating models and technology architectures.

The ITIL Core consists of five publications (Figure 1.3). Each provides the guidance necessary for an integrated approach, as required by the ISO/IEC 20000 standard specification:

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

Each publication addresses capabilities having direct impact on a service provider's performance. The structure of the Core is in the form of a lifecycle. It is iterative and multidimensional. It ensures organizations are set up to leverage capabilities in one area for learning and improvements in others. The Core is expected to provide structure, stability and strength to Service Management capabilities with durable principles, methods and tools. This serves to protect investments and provide the necessary basis for measurement, learning and improvement.

The guidance in ITIL can be adapted for use in various business environments and organizational strategies. The Complementary Guidance provides flexibility to implement the Core in a diverse range of environments. Practitioners can select Complementary Guidance as needed to provide traction for the Core in a given business context, much like tyres are selected based on the type of vehicle, purpose and road conditions. This is to increase the durability and portability of knowledge assets and to protect investments in Service Management capabilities.

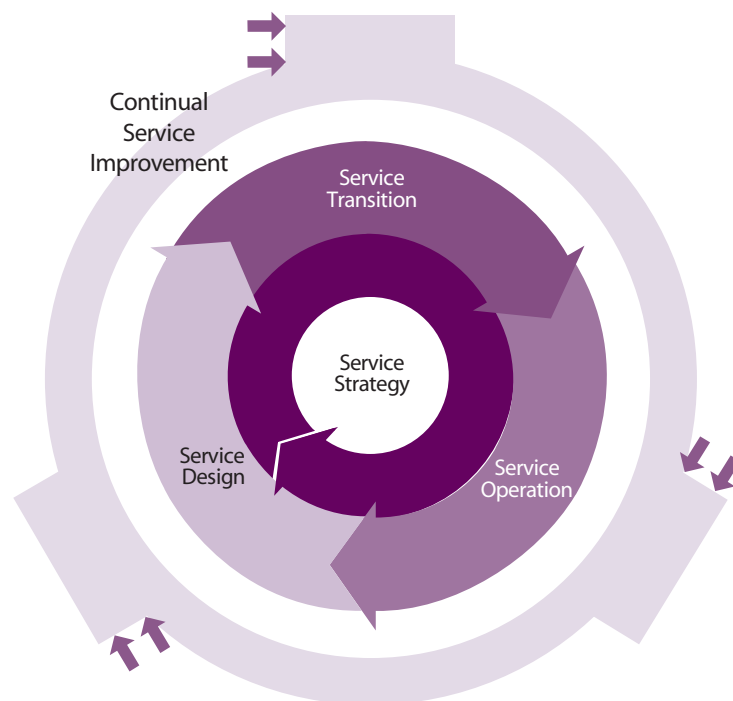


Figure 1.3 ITIL Core

1.2.3.1 Service Strategy

The Service Strategy publication provides guidance on how to design, develop and implement Service Management, not only as an organizational capability but also as a **strategic asset**. Guidance is provided on the principles underpinning the practice of Service Management, which are useful for developing Service Management policies, guidelines and processes across the ITIL Service Lifecycle. Service Strategy guidance is useful in the context of Service Design, Service Transition, Service Operation, and Continual Service Improvement. Topics covered in Service Strategy include the development of markets – internal and external, service assets, service catalogue, and implementation of strategy through the Service Lifecycle. Financial Management, Service Portfolio Management, Organizational Development and Strategic Risks are among other major topics.

Organizations use the guidance to set objectives and expectations of performance towards serving customers and market spaces, and to identify, select and prioritize opportunities. Service Strategy is about ensuring that organizations are in a position to handle the costs and risks associated with their Service Portfolios, and are set up not just for operational effectiveness but also for distinctive performance. Decisions made with respect to Service Strategy have far-reaching consequences, including those with delayed effect.

Organizations already practising ITIL use this publication to guide a strategic review of their ITIL-based Service Management capabilities and to improve the alignment between those capabilities and their business strategies. This publication of ITIL encourages readers to stop and think about why something is to be done before thinking of how. Answers to the first type of questions are closer to the customer's business. Service Strategy expands the scope of the ITIL Framework beyond the traditional audience of IT Service Management professionals.

1.2.3.2 Service Design

The Service Design publication provides guidance for the design and development of services and Service Management processes. It covers design principles and methods for converting strategic objectives into portfolios of services and service assets. The scope of Service Design is not limited to new services. It includes the changes and improvements necessary to increase or maintain value to customers over the lifecycle of services, the continuity of services, achievement of service levels and conformance to standards and regulations. It guides organizations on how to develop design capabilities for Service Management.

1.2.3.3 Service Transition

The Service Transition publication provides guidance for the development and improvement of capabilities for transitioning new and changed services into operations. This publication provides guidance on how the requirements of Service Strategy encoded in Service Design are effectively realized in service operations while controlling the risks of failure and disruption. The publication combines practices in Release Management, Programme Management and risk management, and places them in the practical context of Service Management. It provides guidance on managing the complexity related to changes to services and Service Management processes – preventing undesired consequences while allowing for innovation. Guidance is provided on transferring the control of services between customers and service providers.

1.2.3.4 Service Operation

This publication embodies practices in the management of service operations. It includes guidance on achieving effectiveness and efficiency in the delivery and support of services so as to ensure value for the customer and the service provider. Strategic objectives are ultimately realized through service operations, therefore making it a critical capability. Guidance is provided on how to maintain stability in service operations, allowing for changes in design, scale, scope and service levels. Organizations are provided with detailed process guidelines, methods and tools for use in two major control perspectives: reactive and proactive. Managers and practitioners are provided with knowledge allowing them to make better decisions in areas such as managing the availability of services, controlling demand, optimizing capacity utilization, scheduling operations and fixing problems. Guidance is provided on supporting operations through new models and architectures such as shared services, utility computing, internet services and mobile commerce.

1.2.3.5 Continual Service Improvement

This publication provides instrumental guidance in creating and maintaining value for customers through better design, transition and operation of services. It combines principles, practices and methods from quality management, Change Management and capability improvement. Organizations learn to realize incremental and large-scale improvements in service quality, operational efficiency and business continuity. Guidance is provided for linking improvement efforts and outcomes with service strategy, design, transition and operation. A closed-loop feedback system, based on the

Plan–Do–Check–Act (PDCA) model specified in ISO/IEC 20000, is established and capable of receiving inputs for change from any planning perspective.

1.3 PURPOSE

The aim of this publication is to give the reader guidance on using recommended practices when designing IT services and IT Service Management processes.

This publication follows on from the Service Strategy publication, which provides guidance on alignment and integration of the business needs to IT. It enables the reader to assess the requirements when designing a service, and documents industry best practice for the design of IT services and processes.

Although this publication can be read in isolation, it is recommended that it be used in conjunction with the other ITIL publications. The guidance in the ITIL publications is applicable generically. It is neither bureaucratic nor unwieldy if utilized sensibly and in full recognition of the business needs of the organization. Service Design is important for setting the stage to deliver services effectively to the business and meet the demand for growth and change. Enhancement is typically greater in cost and resource than development. Significant consideration should therefore be given to designing for the ease and economy of support over the whole lifecycle, but more importantly it is not possible to completely re-engineer a service once in production. It may be possible to get close, but it will be impossible to get back to a design once something is running. Retrofitting the design is difficult and costly and never achieves what could have been achieved if designed properly in the first place.

1.4 USAGE

This publication is relevant to anyone involved in the design, delivery or support of IT services. It will have relevance to the IT Architect, IT managers and practitioners at all levels. All the publications in the ITIL Service Management Core Library need to be read to fully appreciate and understand the overall lifecycle of services and of IT Service Management.

There are several ways of delivering an IT service, such as in-house, outsourced and partnership. This publication is generally relevant to all methods of service provision. So those involved in delivering IT services – within their own organization, in outsourced service provision or working in partnerships – will find that this publication is applicable to them. Business managers may find the publication helpful in understanding and establishing best practice IT services and support. Managers from supplier organizations will also find this publication relevant when setting up agreements for the delivery and support of services.