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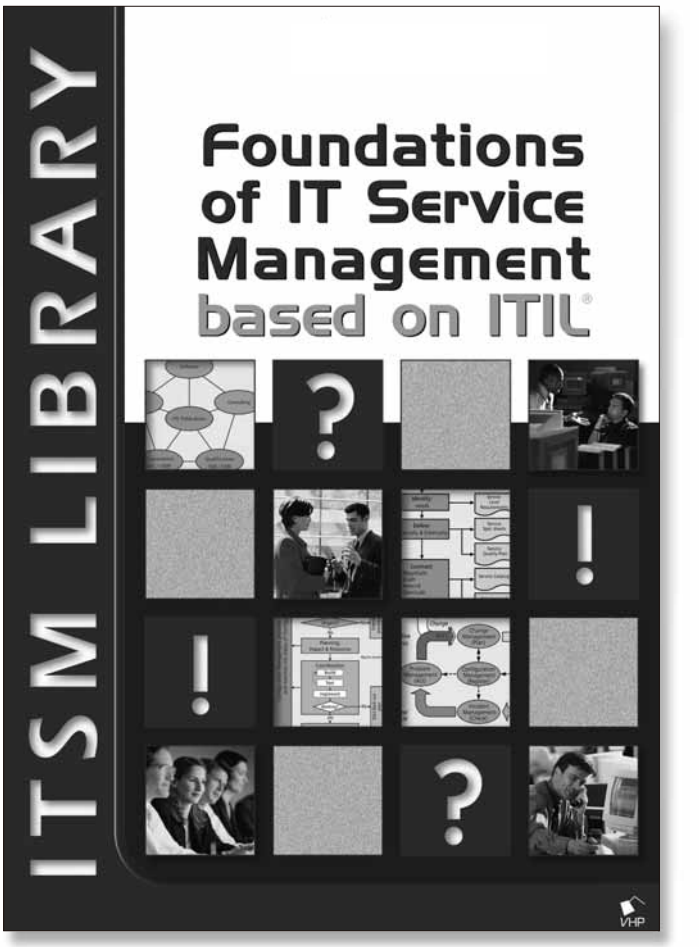

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About the ITSM Library

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)
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- 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)
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Foundations of IT Service Management

based on ITIL®

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Colophon

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"Foundations of IT Service Management, based on ITIL" was based on a publication of ITSMF-NL, formerly known as "IT Service Management, an introduction, based on ITIL". It contains the same chapters on ITIL Service Support, Service Delivery and Security Management as the official "Introduction to ITIL". A chapter on exam preparation was added to this edition.

Although this publication has been composed with most care, neither author, nor editor, nor publisher can accept any liability for damage caused by possible errors and/or incompleteness in this publication.

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Foreword

In the last few years, ITIL® - the IT Infrastructure Library, has taken a gigantic leap. Based on an originally European initiative to document best practices in IT Service Management, ITIL now is adopted worldwide as the *de facto* best practice for IT Service Management. Its tight relation with ISO20000 has further confirmed this status.

The ITIL Foundation Certificate in IT Service Management is widely recognized as one of the major contributions to the worldwide acceptance and dissemination of ITIL. This Foundations book, originally based on a Dutch ITSMF publication, has been accepted in many countries and by many training institutes as a very effective and appropriate study guide for the ITIL Foundations course.

Through the efforts and dedication of its committee members, the objective of ITSMF International's Publications Executive Sub-Committee (IPESC) is to create added value to the community of ITSM professionals, by enabling the development of a common global library that supports a *uniform understanding* of ITSM knowledge and best practices. IPESC has given its formal ITSMF International endorsement to this book, after a thorough review by dozens of matter experts. The review process itself is a rigorous one, with stringent endorsement criteria that any ITSM-related publication must meet before it can be endorsed by the IPESC.

The Acknowledgements on the following pages identify many ITSMF chapter representatives who were involved in the review and endorsement of this book.
On behalf of the ITMF global community I wish to thank the IPESC for their dedication, effort and commitment to participating in the review and endorsement of this book. I hope you find this book enjoyable, informative and a useful support for the ITIL Foundations course.

Sharon Taylor,
Chair, International Publications Executive Sub-Committee
ITSMF International

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Ackowledgements

This publication is the result of the cooperation 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 (Inform-IT). Since 1999, this project team of reviewers and co-authors has extended and improved the book, in a series of new editions. The following experts from the Netherlands contributed to the project:

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Georges Kemmerling (Quint Wellington Redwood)
Louk Peters (Getronics PinkRoccade)
Dick Pondman (ISES International)
Bart van Rooijen (IBM Global Services)

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 Executive Sub Committee, 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. The book provided excellent services as an aid in the preparation for ITIL examination, specifically for the Foundations exam, 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 German, French, Spanish, Russian, Italian, Chinese and Japanese, and several other languages will follow.

Now, in 2005, this book is published for - and by - ITSMF as the best support guide for the ITIL Foundations exam. This English edition has been reviewed by an impressive team of experts. It will be used as the one source for all translations. The following experts contributed to the English edition:

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Translating this book into several languages has been the ultimate test: many people have read the text carefully, and removed all issues that were not very clear in the source text. This has contributed highly to the quality of the final edition. The following quality auditors and co-authors have contributed to the various editions of this publication:

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Given the desire for a broad consensus in the ITIL field, new developments, additional material and contributions from ITIL professionals are welcome. They will be discussed by the editors and where appropriate incorporated into new editions. Any comments can be sent to the chief editor, Jan van Bon, email: j.van.bon@inform-it.org.

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Chapter 1
Introduction

In recent decades IT developments have had a major impact on business processes. The introduction of the PC, LAN, client/server technology and the Internet has enabled organizations to bring their products and services to markets more quickly. These developments have ushered in the transition from the industrial to the information age. In the information age, everything has become faster and more dynamic. Traditional hierarchical organizations often find it difficult to respond to rapidly changing markets, which has led to a trend towards less hierarchical and more flexible organizations. Similarly, emphasis within organizations has shifted from vertical functions or departments, to horizontal processes that run across the organization, and decision-making authority is increasingly granted to personnel at a lower level. The IT Service Management processes were developed against this background.

In the 1980s, the quality of the IT services provided to the British government was such that the then CCTA (Central Computer and Telecommunications Agency, now Office of Government Commerce, OGC) was asked to develop an approach for efficient and cost-effective use of IT resources by British public sector organizations. The aim was to develop an approach independent of any supplier. This resulted in the **Information Technology Infrastructure Library® (ITIL)**. ITIL[1] grew from a collection of best practices observed in the IT service industry.

ITIL gives a detailed description of a number of important IT practices, with comprehensive checklists, tasks, procedures and responsibilities which can be tailored to any IT organization. Where possible, these practices have been defined as processes covering the major activities of IT service organizations. The broad subject area covered by the ITIL publications makes it useful to refer to them regularly and to use them to set new improvement objectives for the IT organization. The organization can grow and mature with them.

A number of other IT Service Management frameworks have been developed on the basis of ITIL, generally by commercial organizations. Examples include Hewlett-Packard (HP ITSM Reference model), IBM (IT Process Model), Microsoft (MOF) and many others. This is one of the reasons why ITIL has become the de facto standard for describing a number of fundamental processes in IT Service Management. This adoption and adaptation of ITIL directly reflects the ITIL philosophy, and is a welcome development as ITIL has become a force for industry alignment that is sorely needed in today's heterogeneous and distributed IT environment.

This publication, developed and endorsed by ITSMF, is aimed at anyone involved in IT Service Management or interested in the subject. Given the broad target group, the IT Service Management Forum (ITSMF) provides the perfect channel as a non-profit industry organization. The objectives of this book are to create an accessible and practical reference book on IT Service Management, covering the core ITIL publications that fall within the scope of the ITIL Foundations exam. For a complete reference to all ITIL books the official "Introduction to ITIL" can be used.

ITIL is primarily a collection of best practices developed in the industry, and theory and practice are not always in step. Given the rapid developments in this field, the generic guidance in the core ITIL books can not always describe the latest developments. For that reason the set of core books is extended with a 'Complementary' portfolio of titles on more detailed subjects. The

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first title in this Complementary portfolio was Software Asset Management. Together with additional titles, available from other publishers and from ITSMF chapters, ITIL provides the source for enabling adoption of best practices in IT Service Management, keeping the market place up to date on the latest standards. This way the "Foundations of IT Service Management – based on ITIL" can be used both as a self-study guide, and as a general introduction to the broader area of IT Service Management, with a strong focus on ITIL. Each of the ITIL processes in the core service management books is described in one or more separate chapters. In Chapter 2 'IT Service Management - Background'' the book addresses, in a more general way, relevant matters in IT Service Management, in terms of quality, processes and policies.

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Chapter 2
IT Service Management - Background

This chapter addresses issues such as services, quality, organization, policy and process management. These concepts provide the backdrop for the development of a systematic approach to IT Service Management.

The IT Service Management processes described in this book (also referred to as IT Management) are best understood against the background of the concepts of the organizations, quality and services which influenced the development of the discipline. Familiarity with these terms also helps to understand the links between the elements of the IT Infrastructure Library (ITIL). ITIL is by far the best-known description of IT Service Management and is therefore used as the foundation for this book.

This chapter introduces the following subjects:

- **Services and quality** - This section addresses the relationship between the quality experienced by the customer's organization and users, and quality management by the provider of the IT services.
- **Organization and policies** - This section addresses concepts such as vision, objectives, and policies, and discusses issues such as planning, corporate culture and Human Resource Management. This section also discusses the coordination between the business processes of a company and the IT activities.
- **Process management** - This section addresses the control of IT service processes.

2.1 Services and Quality

Organizations are often greatly dependent on their IT services and expect the IT services not only to support the organization, but also to present new options to implement the objectives of the organization. Furthermore, the high expectations of customers of IT services tend to change significantly over time and require constant review. Providers of IT services can no longer afford to focus on technology and their internal organization, they now have to consider the quality of the services they provide and focus on the relationship with their customers.

The provision of IT services refers to the full management - maintenance and operation - of the IT infrastructure.

Before buying a **product** in a store, we normally assess the quality such as its appearance, usefulness and robustness. In a store, the customer has few opportunities to influence the product quality. This is because the product is produced in a factory. By effectively controlling the production plant, the manufacturer will try to deliver a fairly constant quality. In this example, manufacture, sales and consumption of the product are quite separate.

However, **services** are provided through interaction with the customer. Services cannot be assessed in advance, but only when they are provided. The quality of a service depends to some extent on the way in which the service provider and the customer interact. In contrast to the manufacturing process, the customer and provider can still make changes when the services are being delivered. How the customer perceives the service and what the provider thinks they supply both depend largely on their personal experiences and expectations.

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The process of providing a service is a combination of production and use, in which the provider and customer participate simultaneously.

The perception of the customer is essential in the provision of services. Customers will generally use the following questions to assess the quality of the service:
- Does the service meet expectations?
- Can I expect a similar service the next time?
- Is the service provided at a reasonable cost?

Whether or not the service fulfills the **expectations** depends primarily on how effectively the deliverables were agreed upon in any dialogue with the customer, rather than on how well the supplier provides the service.

A **continuing dialogue** with the customer is essential to refine the services and to ensure that both the customer and the supplier know what is expected of the service. In a restaurant, the waiter will first explain the menu, and ask if everything is satisfactory when serving a new course. The waiter actively coordinates supply and demand throughout the meal. And this experience with customers is then used to improve future customer contact.

*The **quality** of a service refers to the extent to which the service fulfills the requirements and expectations of the customer. To be able to provide quality, the supplier should continuously assess how the service is experienced and what the customer expects in the future. What one customer considers normal could be considered a special requirement by another customer, and eventually a customer may get used to something considered special at the start. The results of the assessment can be used to determine if the service should be modified, if the customer should be provided with more information, or if the price should be changed.*

"Quality is the totality of characteristics of a product or service that bear on its ability to satisfy stated and implied needs" (ISO-8402).

Reasonable costs may be considered as a derived requirement. Once it has been agreed on what is to be expected of the service, the next step is to agree on the cost. Cost can also be considered as a quality attribute that needs to be considered in conjunction with other quality attributes, to reach an overall balance on which the customer will be more than happy. At this stage the service provider has to be aware of the costs they incur, and the current market rates for comparable services.

A customer will be dissatisfied about a service provider who occasionally exceeds the expectations but disappoints at other times. Providing a constant quality is one of the most important, but also one of the most difficult aspects of the service industry.

For example, a restaurant will have to purchase fresh ingredients, the chefs will have to work together to provide consistent results, and hopefully there are 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. This is not always the case: there are changes among the waiting staff, a successful approach may not last, and chefs leave to open their own restaurants. Providing a constant high quality also means that the component activities have to be coordinated: the better and more efficiently the kitchen operates, the more quickly the guests can be served.

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Thus, when providing a service, the overall quality is the result of the quality of a number of component processes that together form the service. These component processes form a chain, and the links affect each other and the quality of the service. Effective coordination of the component processes requires not only adequate quality when performing each process, but also consistent quality.

2.1.1 Quality assurance

Supplying products or services requires activities. The quality of the product or service depends greatly on the way in which these activities are organized. Deming's Quality Circle (Figure 2.1) provides a simple and effective model to control quality. The model assumes that to provide appropriate quality, the following steps must be undertaken repeatedly:

- **Plan** - what should be done, when should it be done, who should be doing it, how should it be done, and by using what?
- **Do** - the planned activities are implemented.
- **Check** - determine if the activities provided the expected result.
- **Act** - adjust the plans based on information gathered while checking.

Effective and timely intervention means that the activities are divided into processes with their own plans and opportunities for checking. It must be clear who is responsible in the organization and what authority they have to change plans and procedures, not only for each of the activities, but also for each of the processes.

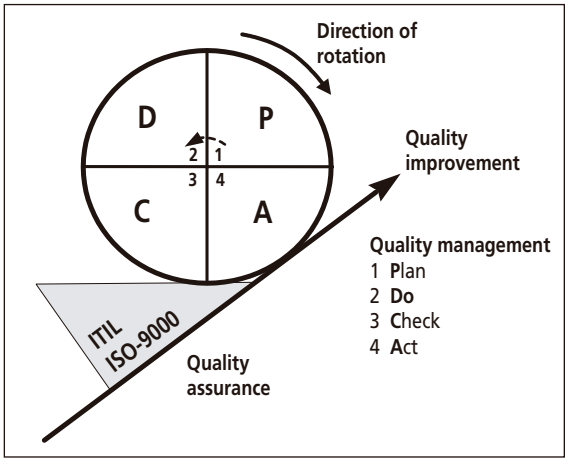

Figure 2.1 Deming's Quality Circle

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Dr. Edward Deming was an American statistician brought to Japan by General Douglas MacArthur after the Second World War to help rebuild the destroyed economy. He had developed theories about the best possible use of expertise and creativity in organizations in the United States in the 1930s, but because of the Depression his ideas were not accepted in the US. However, his optimization methods were successfully adopted in Japan.

Some of Deming's typical statements:

- *'The customer is the most important part of the production line.'*
- *'It is not enough to have satisfied customers, the profit comes from returning customers and those who praise your product or service to friends and acquaintances.'*
- *'The key to quality is to reduce variance.'*
- *'Break down barriers between departments.'*
- *'Managers should learn to take responsibility and provide leadership'*
- *'Improve constantly.'*
- *'Institute a vigorous program of education and self-improvement.'*
- *'Institute training on the job.'*
- *'The transformation is everybody's job.'*

Quality management is the responsibility of everyone working in the organization providing the service. Every employee has to be aware of how their contribution to the organization affects the quality of the work provided by their colleagues, and eventually the services provided by the organization as a whole. Quality management also means continuously looking for opportunities to improve the organization and implementing quality improvement activities.

Quality assurance is a policy matter within the organization. It is the complete set of the measures and procedures used by the organization to ensure that the services provided continue to fulfill the expectations of the customer and the relevant agreements. Quality assurance ensures that improvements resulting from quality management are maintained.

The quality system is the organizational structure related to responsibilities, procedures and resources for implementing quality management.

The ISO 9000 series of standards is often used to develop, define, assess and improve quality systems.

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ISO 9000 quality standard:

Some organizations require their suppliers to hold an ISO 9001 or ISO 9002 certificate. Such a certificate proves that the supplier has an adequate quality system whose effectiveness is regularly assessed by an independent auditor.

ISO is the International Organization for Standardization. A quality system that complies with the ISO standard ensures that

- *the supplier has taken measures to be able to provide the quality agreed with the customers;*
- *the management regularly assesses the operation of the quality system, and uses the results of internal audits to implement improvement measures where necessary;*
- *the supplier's procedures are documented and communicated to those affected by them;*
- *customer complaints are recorded, dealt with in a reasonable time, and used to improve the service where possible;*
- *the supplier controls the production processes and can improve them.*

An ISO certificate does not provide an absolute guarantee about the quality of the service provided, however, it does indicate that the supplier takes quality assurance seriously and is prepared to discuss it.

The new ISO 9000 series of standards, ISO-9000-2000, puts even greater emphasis than the previous standard on the ability of an organization to learn from experience and to implement continuous quality improvement.

2.1.2 Organizational maturity

Experience with improving the quality of IT services has shown that it is rarely sufficient to structure and define current practices. The causes of a mismatch between the service provided and the customer's requirements are often related to the way in which the IT organization is managed. Permanent quality improvement demands a certain degree of maturity of the organization.

The European Foundation for Quality Management was set up in 1988 by fourteen large European companies, with the support of the European Commission. The objective of the EFQM is to promote Total Quality Management, aimed at excelling in customer satisfaction, employee satisfaction, and appreciation by society, and performance results.

The EFQM 'Model of Business Excellence', generally known simply as the EFQM model, is widely accepted as the major strategic framework for managing an organization aimed at the balanced, continuing improvement of all aspects relevant to the business. Over 600 European businesses and research organizations have now joined the EFQM. For further information: http://www.efqm.org.

The European Foundation for Quality Management (EFQM) model (Figure 2.2) can be useful in determining the maturity of an organization. It identifies the major areas to be considered when managing an organization.

Deming's Quality Circle is incorporated in the EFQM model. Based on the outcomes from the result areas actions are taken (strategy, policies). These actions serve to underpin the planning (e.g. the structure of the processes) which should then lead to the desired results. The EFQM identifies nine areas.

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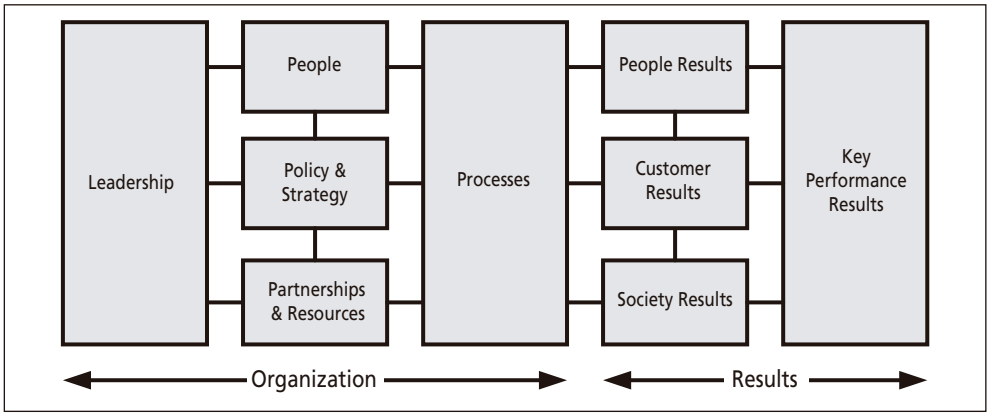

Figure 2.2 EFQM model

As an additional tool, the Dutch quality organization, INK, divided the EFQM model into stages indicating to what extent a company has implemented Total Quality Management, either in a particular area, or in general.

There are five stages:
- **Product-focused** - also known as ad hoc, output-focused; everyone in the organization works hard but their efforts show little direction.
- **Process-focused** - also known as 'we know our business'; the performance of the organization is planned and repeatable.
- **System-focused** - or 'cooperation between departments'.
- **Chain-focused** - also known as 'external partnership'; the organization is focused on the value it adds in the supplier-customer chain it forms a part of.
- **Total quality-focused** - also known as 'heaven on earth'; the organization has reached the stage where a continuous and balanced focus on improvement has become second nature.

The areas covered by the EFQM model can be combined with the levels of organizational maturity. Questionnaires can be used to determine how mature the organization is in each of these areas. Internal or external auditors can carry out such an assessment.

When an organization determines its maturity, it can develop a strategy for improvement that can then be further developed into a plan. The plan, based on the model and covering a period of one year, describes what improvements should be made to specific aspects in each area and how. By repeating this process of self-assessment and planning, every year the organization becomes more aware how it is maturing. Major benefits of this approach are that the organization can improve its quality step by step, that the intermediate results are visible, and that the management can steer the organization on the basis of its strategy.

There are many other health checks and types of self-assessment in addition to the EFQM approach. Some focus primarily inwardly. One should bear in mind that improvements to parts of the internal organization might only have a limited effect on the results, for example if there is no improvement in the relationships with the customers, employee satisfaction and leadership, or if the strategy and policy of the organization is unclear.

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In the IT industry, the process maturity improvement process is best known in the context of the Capability Maturity Model (CMM). This process improvement method was developed by the Software Engineering Institute (SEI) of Carnegie Mellon University. CMM is concerned with improving the maturity of the software creation processes. CMM provides a staged model, including the following levels:

- **Initial** - the processes occur ad hoc.
- **Repeatable** - the processes have been designed such that the service quality should be repeatable.
- **Defined** - the processes have been documented, standardized and integrated.
- **Managed** - the organization measures the results and consciously uses them to improve the quality of its services.
- **Optimizing** - the organization consciously optimizes the design of its processes to improve the quality of its services, or to develop new technology or services.

Since 2002 this staged model has been followed up by CMMI: CMM Integrated. This new model is still based on the well-known approach of CMM, but it now contains a more flexible continuous maturity model as well. Maturity models based on the CMM levels of maturity have also been developed for IT Service Management.

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.

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 supplier 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 supplier.

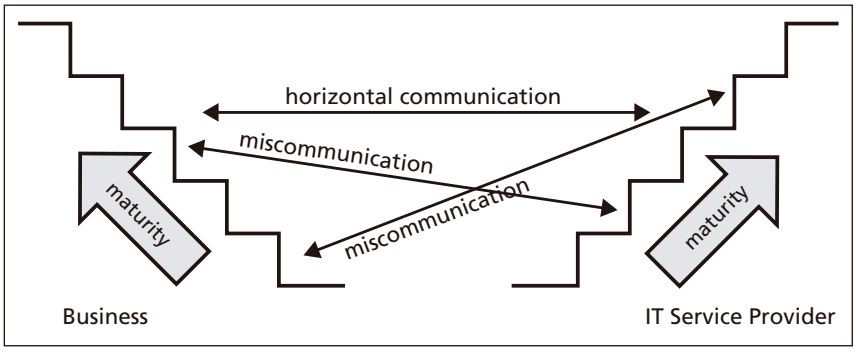

Figure 2.3 Communication and maturity levels: customer and supplier (source: ITSMF)

2.2 Organization and Policies

The preceding sections clearly illustrated that service quality is closely associated with the quality of an organization and its policies. This section will discuss several important aspects of organization and policies that are relevant to process management.

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2.2.1 Vision, objectives and policies

An organization is a form of cooperation between people. Any organization, from a darts club to a multinational company, depends upon a shared concept of why it is worth cooperating in the organization. The **vision** might be that you could make money by selling PCs. However, to be attractive to all stakeholders (e.g. customers, investors, personnel) your organization will have to communicate why they should do business with you, for example because you are the best, cheapest or most fun. Thus, you will want to build up a suitable image. Just think of slogans such as 'Let's make things better' or 'You'll never walk alone'.

To communicate its vision, the organization can be defined in the form of a **Mission Statement** (Figure 2.4). The mission statement is a short, clear description of the objectives of the organization and the values it believes in.

The **objectives** of the organization describe in greater detail what it wants to accomplish. Good objectives have five essential elements: they have to be **S**pecific, **M**easurable, **A**ppropriate, **R**ealistic and **T**ime-bound (SMART).

The **policy** of the organization is the combination of all decisions and measures taken to define and realize the objectives. In its policies, the organization will prioritize objectives and decide how the objectives will be reached. Of course, priorities may change over time, depending on the circumstances. The clearer the organization's policies are to all stakeholders, the less needs to be defined about how personnel are supposed to do their work. Instead of detailed procedures, personnel can independently use the policies as their guideline. Clearly formulated policies contribute to a flexible organization, as all levels in the organization can respond more quickly to changing circumstances.

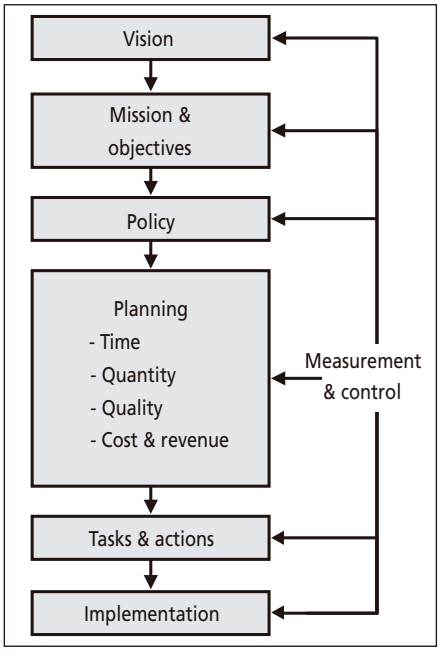

Figure 2.4 Vision, objectives and policies

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Implementing policies in the form of specific activities requires **planning**. Plans are usually divided into stages to provide milestones where progress can be monitored. For example, the policies can be used to draw up an annual plan, which is then used to develop the budgets. An annual plan can be developed in greater detail into departmental plans, quarterly plans or project plans. Each of these plans contains a number of elements: an activity schedule, the required resources, and agreements about the quality and quantity of the products or services to be delivered.

Realization of the planned activities requires **action**. Actions are allocated to personnel as **tasks**, or outsourced to external organizations.

When translating the mission of the organization into objectives, policies, planning and tasks, there is the risk that after some time, the mission, objectives or policies are forgotten. It is therefore important that at every stage we **measure** if the organization is still moving in the right direction, and to take remedial action where necessary.

Thus, we have to measure if the organization or processes fulfill the objectives, and there are various methods available for this. One of the most common methods in business is the **Balanced Score Card**, or BSC. In this method, the objectives of the organization or process are used to define **Critical Success Factors** (CSF). CSF's are defined for a number of areas of interest or perspectives: customers/market, business processes, personnel/innovation and finance. The parameters determined to measure if the CSF's meet the standard are known as **Key Performance Indicators** (KPI). Where necessary, these can be subdivided into Performance Indicators (PI).

Key performance indicators, or KPI's, are parameters for measuring progress relative to key objectives or Critical Success Factors (CSF) in the organization.

The outcome of the measurements and changing circumstances can lead to **modification** of the processes, tasks, plans, and policies, and even to a change in the objectives, mission and vision of the organization. The more mature the organization is, the better it deals with such changes. If the IT department supports the interests of the business, the objectives of the IT department will be derived from the business objectives. The IT department, for example, might have the following objective: 'To contribute to the competitive strength of the business'. The specific objectives of the IT department will then be developed on the basis of this general objective. Depending on the nature of the business, objectives will be defined for the IT department with respect to safety, accessibility, response speed, technical sophistication, and so forth.

2.2.2 Planning horizon

When considering the policies and planning of an IT department, we should be aware of the links between planning for the business as a whole, the application systems and the technical infrastructure. When planning the network and applications of a business, the IT department will have to stay ahead of the overall planning to ensure that the business has an IT infrastructure in which it can develop. Figure 2.5 gives an example of the links between the various plans.

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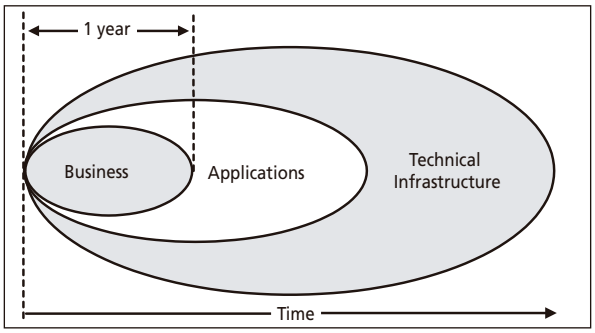

Figure 2.5 Planning horizons

Technical infrastructure has the longest planning horizon and in its support role it has fewer clear links with the substantive business activities. It takes time to develop a technical infrastructure and the fact that information systems and the business depend on the technical infrastructure limits the speed at which changes can be implemented. Furthermore, developing a technical infrastructure demands significant investment and the period over which it can be depreciated has to be considered.

The planning horizon is shorter for **applications** as they are designed for specific business purposes. Application life cycle planning is primarily based on the business functions to be provided by the system, after which the underlying technology is considered.

Business plans, based on the organization's strategy, normally cover one calendar or financial year. Budget, planning and progress reports all fall within this period. In some markets, the planning cycle time has become even shorter as the cycle time for product development is also being cut.

Planning should address four elements:
- **Time** - this is the easiest factor to determine. It is defined by a start date and end date, and is often divided into stages.
- **Quantity** - the objectives have to be made measurable to monitor progress. Terms such as 'improved' and 'quicker' are insufficient for planning purposes.
- **Quality** - the quality of the deliverables (results) should be appropriate for the objective.
- **Costs and revenues** - the deliverables must be in proportion to the expected costs, efforts and revenues.

Differences between the planning horizons occur not only between areas, but also between the various levels of activities and processes (strategic, tactical and operational).

2.2.3 Culture

Organizations that want to change, for example to improve the quality of their services, will eventually be confronted with the current organizational culture. 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 and a supportive personnel policy.

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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 can develop where many uncontrolled changes lead to a large number of faults.

2.2.4 Human Resource Management

Personnel policy plays an important and strategic role in fulfillling the long-term objectives of an organization (see also the EFQM model). It can also be used as an instrument to change the corporate culture. The objective of modern personnel management is to optimize the performance of all personnel across the organization, for which it uses instruments such as recruitment and selection, training and career development, motivation and reward.

Human Resource Management (HRM) is the major form of modern personnel management. Human Resource Management is based on two premises:

- Personnel management should contribute to the objectives of the organization. If organizations have to respond better and more quickly in an environment which changes ever more quickly, then this will affect the deployment, quality and number of personnel.
- Giving employees in the organization the opportunity to develop and use their skills will benefit the organization.

There are three approaches to HRM:

- **The hard approach** sees human resources as means of production which have to be organized as effectively and efficiently as possible. As the corporate strategy is determined by economic, technical and market factors, the same applies to personnel policy. This approach places different values on employees. Some core employees are strategically more important than peripheral employees who are easily replaceable. For example, a company might choose to permanently employ only core personnel, and for the rest use a pool of contract personnel.
- **The soft approach** emphasizes that making the best possible use of human potential and opportunities will benefit the business. Modern employees are highly educated, ambitious and prepared to invest a lot in their work. For this reason, their potential must be identified early and developed continuously (career development, training policy). When selecting its strategy and policy, the business must base its choices on the talent and potential of its employees.
- **The integrated approach** looks at the shared interests of personnel and management in an organization. To reach the objectives of the organization there will have to be good inflow, movement and outflow of personnel. Changes in the market and the organization (e.g. developments in technology) lead to constant changes in the need for skills.

All aspects of personnel policy have to be carefully coordinated. The movement of employees in the organization, determining and developing skills (competence), and promoting mobility in the internal labor market are becoming increasingly important in organizations.

The quality of service provided by an organization will benefit if the best use is made of the potential of its employees. This facilitates continuous improvement. Instruments for quality management in personnel policy include:

- **Policy Deployment** - communicating to each employee how and to what extent their task contributes to realizing the objectives of the organization. An important condition for the success of policy deployment is that it extends to all layers of management.

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- **Empowerment** - giving employees the opportunity to organize and implement their task in consultation with the organization. The degree of empowerment determines the extent to which employees can be held responsible for the quality of the work they provide.
- **Accountability** - as the result of policy deployment and empowerment. If an employee has had explained what is expected of them, and if they have had the opportunity to arrange and implement the task as they wanted, then they can be held accountable for it. This could be used as a basis for assessing and rewarding employees. The reward may be tangible (salary) or intangible, for example appreciation, new opportunities for development and career opportunities.
- **Competence Management** - this is both a means to use the competence available in an organization as effectively as possible, and as a way to systematically develop the competence the organization needs. This approach charts the competence required by the processes and projects as well as the competence of the employees. When organizing employees, the focus is not only on obtaining a good match between the required and available competence, but also on the opportunities to develop competence, transfer expertise, and learn skills. Mentors or coaches may support employees. Setting up skills groups can also support the exchange of experience and encourage the development of new competence.

2.2.5 IT Customer Relationship Management

The quality of IT services largely depends on good relationships with the customers of the IT organization. These relationships provide the basis for making and updating agreements. IT Customer Relationship Management addresses maintaining a relationship with customers and coordinating with customer organizations, at the strategic, tactical and operational levels. Figure 2.6, a diagram of customer relationships, illustrates the horizontal communication between the customers and the IT organization, regarding support and coordination. The vertical communication concerns policies, control and reporting.

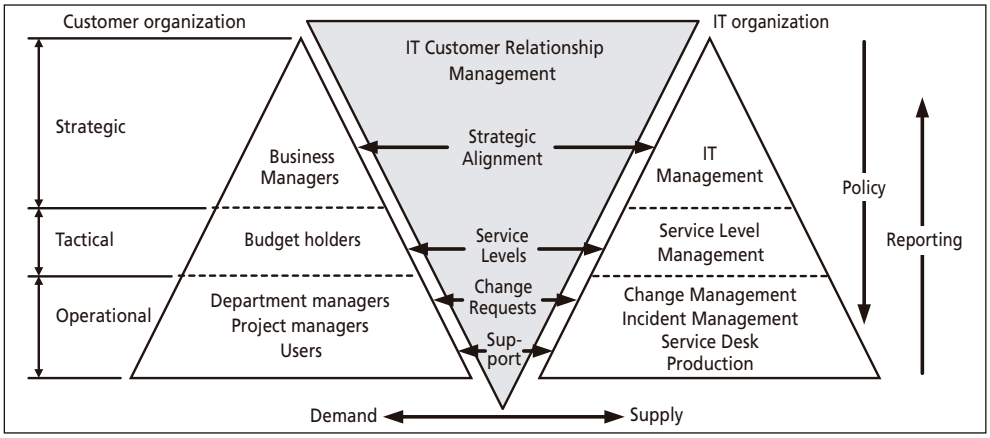

Figure 2.6 IT Customer Relationship Management

In IT Customer Relationship Management, the major challenge is to ensure that there are good and effective relationships between the IT organization and the customer organization at all levels. However, the extent of IT Customer Relationship Management will be different at each level. For instance, most Service Desks act on an operational level, while the control of Service Levels is a task for Service Level Management, at a more tactical level of the organization. IT Customer Relationship Management may also play a supportive role, for example, by organizing surveys among customers and users, providing information, and so forth.

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*The **user** is the 'hand on the keyboard' user, the employee who uses IT services for their routine activities.*

*The **customer** is the 'pay the bills' customer, the person who is authorized to conclude an agreement with the IT organization about the provision of IT services (for example a Service Level Agreement, or SLA) and who is responsible for ensuring that the IT services are paid for.*

Obviously the 'pay the bills' customer can also play the role of the 'hands on the keyboard' user in many situations.

IT Customer Relationship Management plays an important role in developing the Strategic Alignment between the IT organization and the organization purchasing the IT services. In practice, this is primarily a matter of staying in touch with the customer organization, and exploring the options for linking the strategic objectives of both organizations. This can provide the basis for a long-term relationship, in which the IT organization focuses on the customer and proposes IT solutions that help the customer reach their business objectives. Given the dynamic nature of both the customer organization and the IT organization, the rate of change in both organizations should also be coordinated.

The agreements with the customer about the services to be provided are then developed into service level proposals through Service Level Management. For example, if the customer wants to introduce an Intranet, then the availability, user support, implementation of change requests and cost all have to be agreed. These agreements are laid down in a Service Level Agreement (SLA). If the customer organization wants changes (expansion or modification) to the IT services that fall within the agreements laid down in the SLA, then a **Request For Change** will be submitted. Change Management then processes the request. Changes outside the current agreements are introduced into the Service Level Management process.

In most cases, users can contact a **Service Desk** for such operational requests and questions, and to report problems.

Figure 2.6 not only provides information about the horizontal and vertical communication, but also about the **planning horizon** of the processes. Coordination at a strategic level has a planning horizon of several years. Service Level Management concerns agreements at the tactical level, with a planning horizon of approximately one year. Change Management, Service Desk and Incident Management all concern the operational level, with a planning horizon of months, weeks, days or even hours.

2.3 Process Management

Every organization aims to realize its vision, mission, objectives and policies, which means that appropriate activities have to be undertaken. To return to 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 we will easily become confused. It is therefore a better idea to structure the activities. Preferably they should be arranged such that we can see how each group of activities contributes to the objectives of the business, and how they are related.

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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 result is.
- How we measure if the processes deliver the expected results.
- How the results of one process affect those of another process.

The questions in Figure 2.7 arise constantly in the process-based approach typical of modern IT Service Management. The tools to answer these questions are shown on the right in Figure 2.7.

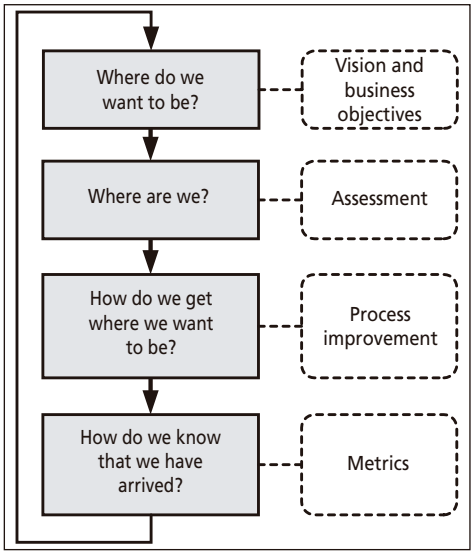

Figure 2.7 A simple process improvement model

2.3.1 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, we can often show that certain activities in the organization are uncoordinated, duplicated, neglected, or unnecessary.

*A **process** is a logically related series of activities conducted toward 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 (Figure 2.8). We can associate the **input** and **output** of each of the processes with **quality characteristics** and **standards** to provide information about the results to be obtained by the process. This produces chains of processes which show what goes into the organization and what the result is, as well as monitoring points in the chains to monitor the quality of the products and services provided by the organization.

The standards for the output of each process have to be defined such that the complete chain of processes meets the corporate objective, if each process complies with its process standard. If the result of a process meets the defined standard, then the process is **effective**. If the activities in the process are also carried out with the minimum required effort and cost, then the process is **efficient**. The aim of process management is to use planning and control to ensure that processes are effective and efficient.

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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.

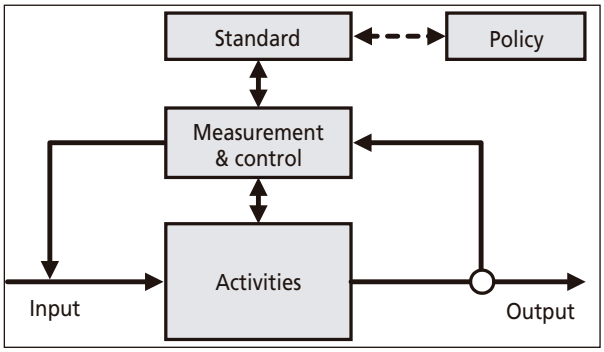

Figure 2.8 Process diagram

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 possibly spend too much on fresh ingredients that do not add value.

The management of the organization can provide control on the basis of the 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. The day-to-day control of the process can then be left to the process manager. The process owner will assess the results based on a report of performance indicators and whether they 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 description of logically related activities, and who carries them out. A procedure may include stages from different processes. A procedure defines who does what, and varies depending on the organization.*

*A set of **work instructions** defines how one or more activities in a procedure should be carried out.*

Figure 2.9 shows the process model based on the ITIL approach which forms the foundation for the IT Service Management processes described in this book.

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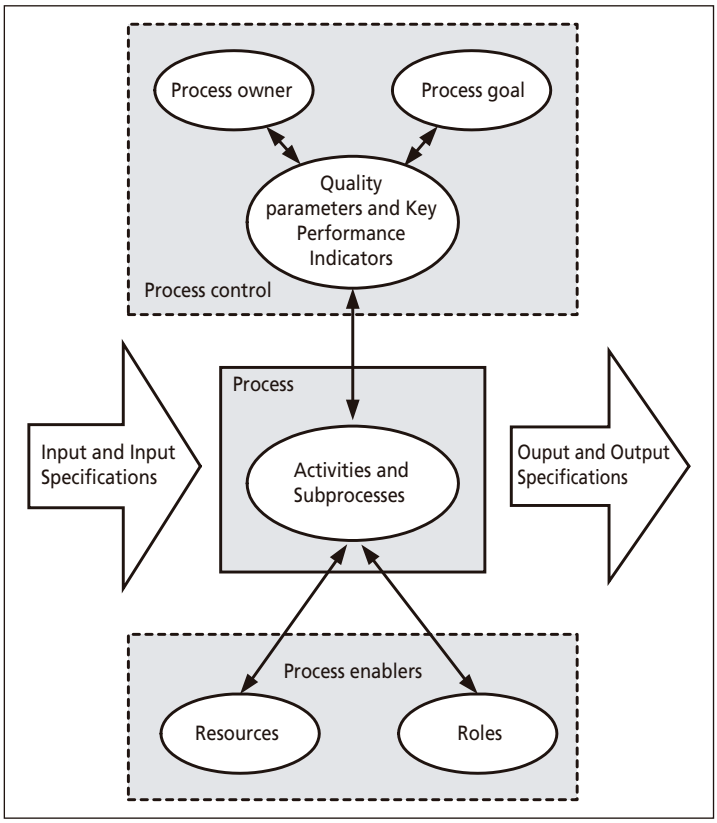

Figure 2.9 Generic ITIL process model

2.3.2 Processes and departments

Most businesses are hierarchically organized. They have departments that are responsible for a group of employees. There are various ways of structuring departments, for example 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 department has to provide users with an interface to access the application.

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

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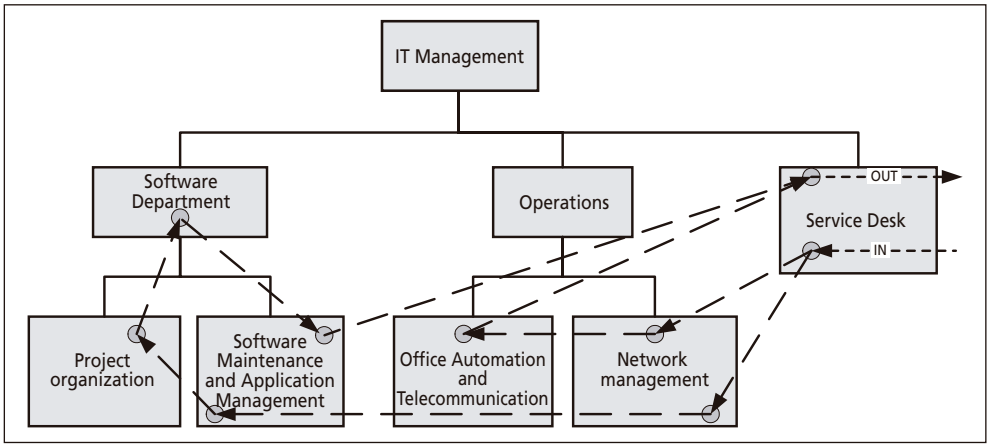

Figure 2.10 Processes and departments (example)

Figure 2.10 shows a basic example of the combinations of activities in a process (indicated by the dashed lines).

2.3.3 IT Service Management

IT Service Management is primarily known as the process and service-focused approach of what was initially known as IT Management. In this chapter we demonstrated that 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 form part of the organization and its policies.

With a process-focused approach we also have to consider the situation within an organization (policies, culture, size, etc.).

ITIL, the best known approach to IT Service Management, does not prescribe the type of organization, but instead describes the relationships between the activities in processes, which are relevant to any organization. This provides a framework for exchanging experiences between organizations. This approach also provides a framework for learning from the experience of dynamic organizations.

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