BRITISH STANDARD

BS 5750-8: 1991
EN 29004-2: 1993
ISO 9004-2: 1991
Incorporating Amendment No. 1

Quality systems —

Part 8: Guide to quality management and quality systems elements for services

The European Standard EN 29004-2:1993 has the status of a British Standard

Committees responsible for this British Standard

The preparation of this British Standard was entrusted by the Quality, Management and Statistics Standards Policy Committee (QMS/-) to Technical Committee QMS/22, upon which the following bodies were represented:

Association for Consumer Research (ACRE)
BEAMA Ltd.
British Quality Association
British Railways Board
British Shipbuilders
British Telecommunications plc
British Valve and Actuator Manufacturers' Association
Ceramic Industry Certification Scheme Ltd.
Chemical Industries Association
Computing Services Association
Consumer Policy Committee of BSI
Contract Flooring Association
Defence Manufacturers' Association
Department of Trade and Industry (National Weights and Measures Laboratory)
Department of Trade and Industry (Standards and Quality Policy Unit — Quality, Design and Education Division)
Electricity Supply Industry in England and Wales
Electronic Engineering Association
Energy Industries Council
GAMBICA (BEAMA) Ltd.
Home Office
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Institute of Quality Assurance
Institute of Trading Strandards Administration
Institution of Civil Engineers
Institution of Electrical Engineers
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Lloyd's Register of Shipping
Medical Sterile Products Association
Ministry of Defence
National House Building Council
Production Engineering Research Association of Great Britain
Society of British Aerospace Companies
Telecommunication Engineering and Manufacturing Association

The following bodies were also represented in the drafting of the standard, through subcommittees and panels:

Association of Consulting Engineers
Association of Consulting Scientists
British Cement Association
British Coal Corporation
British Gas plc
British Industrial Fasteners Federation
British Maritime Technology
British Non-ferrous Metals Federation
British Nuclear Forum
British Nuclear Fuels
British Steel Industry
British Welded Steel Tube Association
Business Equipment and Information Technology Association
Cable and Wireless plc
Chartered Insitute of Management Accountants
Department of Trade and Industry (National Physical Laboratory)
Engineering Equipment and Materials Users' Association
Guildford County College and Technology
Institute of Maintenance and Building Management
Institute of Purchasing and Supply
London Regional Transport
National Association of Plumbing, Heating and Mechanical Services Contractors
PIRA
Post Office
Power Generation Contractors' Assocation (BEAMA) Ltd.
Rotating Electrical Machines Association (BEAMA) Ltd.
Society of Motor Manufacturers and Traders Ltd.
Solvents Industry Association Ltd.
Steel Casting Research and Trade Association
Transmission and Distribution Association (BEAMA) Ltd.

This British Standard, having been prepared under the direction of the Quality, Management and Statistics Standards Policy Committee, was published under the authority of the Standards Board and comes into effect on
30 September 1991

The following BSI references relate to the work on this standard:
Committee reference QMS/22
Draft for comment 90/89100 DC

ISBN 0 580 20048 5

Amendments issued since publication

Amd. No.	Date	Comments
7998	December 1993	Indicated by a sideline in the margin.

Contents

National foreword

This Part of BS 5750 has been prepared under the direction of the Quality, Management and Statistics Standards Policy Committee. It is identical with ISO 9004-2 "Quality management and quality system elements — Part 2: Guidelines for services", published by the International Organization for Standardization (ISO).

In 1993 the European Committee for Standardization (CEN) accepted the text of the International Standard ISO 9004-2:1991 as European Standard EN 29004-2:1993 without modification.

The following Parts of BS 5750 have now been published:

— *Part 0: Section 0.1 Guide to selection and use;*

Section 0.2: Guide to quality management and quality system elements;

— *Part 1: Specification for design/development, production, installation and servicing;*

— *Part 2: Specification for production and installation;*

— *Part 3: Specification for final inspection;*

— *Part 4: Guide to the use of BS 5750-1 "Specification for design/development, production, installation and servicing", Part 2 "Specification for production and installation" and Part 3 "Specification for final inspection and test";*

— *Part 5: Withdrawn see Part 4;*

— *Part 6: Withdrawn see Part 4;*

— *Part 8: Guide to quality management and quality system elements for services;*

— *Part 13: Guide to the application of BS 5750-1 to the development supply and maintenance of software.*

It is envisaged that further Parts of BS 5750 will be produced which will be identical with the following international standards which are currently in preparation.

ISO 9004 Quality management and quality system elements;

— *Part 7*[1)]*: ISO 9004-1 General guidelines;*

— *Part 9: ISO 9004-3 Guide for processed materials;*

— *Part 10: ISO 9004-4 Guide to quality improvement;*

— *Part 11: ISO 9004-5 Guide to the use of quality plans;*

— *Part 12: ISO 9004-6 Guide to configuration management.*

Cross-references

International Standard	Corresponding British Standard
ISO 8402:1986	BS 4778 Quality vocabulary Part 1:1987 International terms (Identical) BS 5750 Quality systems Part 0 Principal concepts and applications
ISO 9000:1987	Section 0.1:1987 Guide to selection and use (Identical)
ISO 9004:1987	Section 0.2:1987 Guide to quality management and quality system elements (Identical)

[1)] Revision of Section 0.2.

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Compliance with a British Standard does not of itself confer immunity from legal obligations.

Summary of pages

This document comprises a front cover, an inside front cover, pages i to iv, the EN title page, pages 2 to 20, an inside back cover and a back cover.

This standard has been updated (see copyright date) and may have had amendments incorporated. This will be indicated in the amendment table on the inside front cover.

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 29004-2

June 1993

UDC 658.562(035)

Descriptors: Quality, management, quality assurance, quality assurance program, generalities, design, implementation

English version

Quality management and quality system elements — Part 2: Guidelines for services

(identical with ISO 9004-2:1991)

Gestion de la qualité et éléments de système qualité —
Partie 2: Lignes directrices pour les services
(identique à ISO 9004-2:1991)

Qualitätsmanagement und Elemente eines Qualitätssicherungssystems —
Teil 2: Leitfaden für Dienstleistungen
(identisch mit ISO 9004-2:1991)

This European Standard was approved by CEN on 1993-05-24. CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the Central Secretariat has the same status as the official versions.

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CEN

European Committee for Standardization
Comité Européen de Normalisation
Europäisches Komitee für Normung

Central Secretariat: rue de Stassart 36, B-1050 Brussels

Foreword

Following the resolution BT 221/1991, ISO 9004-2:1991 *"Quality management and quality system elements — Part 2: Guidelines for services"* was submitted to the unique acceptance procedure.

The result of the UAP was positive.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by December 1993, and conflicting national standards shall be withdrawn at the latest by December 1993.

According to the CEN/CENELEC Internal Regulations, the following countries are bound to implement this European Standard: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, United Kingdom.

Introduction

Quality and customer satisfaction are important subjects receiving increasing attention worldwide. This part of ISO 9004 provides a response to this awareness and seeks to encourage organizations and companies to manage the quality aspects of their service activities in a more effective manner.

This part of ISO 9004 builds on the quality management principles given in the ISO 9000 to ISO 9004 series. It recognizes that a failure to meet quality objectives can have consequences that may adversely affect the customer, the organization and society. It further recognises that it is a management responsibility to ensure that such failures are prevented.

The creation and maintenance of quality in an organization is dependent upon a systematic approach to quality management aimed at ensuring that customer needs are understood and met. The achievement of quality necessitates a commitment to quality principles at all levels in the organization and a continual review and improvement of the established system of quality management based on feedback of the customer's perception of the service provided.

The successful application of quality management to a service provides significant opportunities for

— improved service performance and customer satisfaction,

— improved productivity, efficiency and cost reduction, and

— improved market share.

To achieve these benefits, a quality system for services should also respond to the human aspects involved in the provision of a service by

— managing the social processes involved in a service,

— regarding human interactions as a crucial part of service quality,

— recognizing the importance of a customer's perception of the organization's image, culture and performance,

— developing the skills and capability of personnel, and

— motivating personnel to improve quality and to meet customer expectations.

1 Scope

This part of ISO 9004 gives guidance for establishing and implementing a quality system within an organization. It is based on the generic principles of internal quality management described in ISO 9004:1987 and provides a comprehensive overview of a quality system specifically for services.

This part of ISO 9004 can be applied in the context of developing a quality system for a newly offered or modified service. It can also be applied directly when implementing a quality system for an existing service. The quality system embraces all the processes needed to provide an effective service, from marketing to delivery, and includes the analysis of service provided to customers.

The concepts, principles and quality system elements described are applicable to all forms of service, whether solely of a service character or in combination with the manufacture and supply of a product. This can be shown as a continuum ranging from a situation where the service is directly related to a product to a situation where there is little product involved. Figure 1 illustrates this concept for three types of service.

Figure 1 — Product content in a service continuum

NOTE 1 Equipment or facilities may also be directly involved in providing a service, for example, vending machines or automatic banking machines.

The concepts and principles in this part of ISO 9004 are appropriate to large and small organizations. Although the small service organization will not have, nor need, the complex structure necessary in the larger enterprise, the same principles apply. The difference is simply one of scale.

Primarily, the customer will be the ultimate recipient of the service external to the organization. Frequently though, the customer can be internal within the organization; this is especially so in larger organizations where the customer can be at a subsequent stage in the provisioning process. While this part of ISO 9004 is written principally with respect to external customers, it can also apply to internal customers for overall achievement of the required quality.

The selection of operational elements and the extent to which they are applied depends on such factors as the market being served, the options of the organization, the nature of the service, the service processes and the customer needs.

Annex A is for information only, and gives examples of services to which this part of ISO 9004 may be applied. The examples include service activities inherently performed in product manufacturing industries.

2 Normative references

NOTE Normative references to international publications are listed in annex ZA (normative).

3 Definitions

For the purposes of this International Standard, the definitions given in ISO 8402, together with the following definitions, apply.

NOTE 2 The term "service organization" is also used to denote "supplier", as appropriate.
NOTE 3 To provide clearer guidance, some existing definitions (without notes) are repeated with the source given in brackets.

3.1
organization

a company, corporation, firm, enterprise or association, or pad thereof, whether incorporated or not, public or private, that has its own function(s) and administration

3.2
supplier

an organization that provides a product or a service to a customer

NOTE 4 The supplier is sometines referred to as a "business first party".

3.3
sub-contractor

a supplier to the service organization in a contractual situation

3.4
customer

the recipient of a product or a service

NOTE 5 A customer may be, for example, the ultimate consumer, user, beneficiary or puchaser.
NOTE 6 A customer is sometimes referred to as a "business second party".
NOTE 7 A customer may be a unit within the service organization.

3.5
service

the results generated, by activities at the interface between the supplier and the customer and by supplier internal activities, to meet customer needs

NOTE 8 The supplier or the customer may be represented at the interface by personnel or equipment.
NOTE 9 Customer activities at the interface with the supplier may be essential to the service delivery.
NOTE 10 Delivery or use of tangible product may form part of the service delivery.
NOTE 11 A service may be linked with the manufacture and supply of tangible product.

3.6
service delivery

those supplier activities necessary to provide the service

3.7
quality

the totality of features and characteristics of a product or service that bear on its ability to satisfy stated or implied needs [ISO 8402]

3.8
quality policy

the overall quality intentions and direction of an organization as regards quality, as formally expressed by top management [ISO 8402]

3.9
quality management

that aspect of the overall management function that determines and implements the quality policy [ISO 8402]

3.10
quality system

the organizational structure, responsibilities, procedures, processes and resources for implementing quality management [ISO 8402]

4 Characteristics of services

4.1 Service and service delivery characteristics

The requirements of a service need to be clearly defined in terms of characteristics that are observable and subject to customer evaluation.

The processes that deliver a service also need to be defined in terms of characteristics that may not always be observable by the customer, but directly affect service performance.

Both types of characteristic need to be capable of evaluation by the service organization against defined standards of acceptability.

A service or service delivery characteristic may be quantitative (measurable) or qualitative (comparable), depending on how it is evaluated and whether the evaluation is done by the service organization or the customer.

NOTE 12 Many qualitative characteristics subjectively evaluated by customers are candidates for quantitative measurement by the service organization.

Examples of characteristics that might be specified in requirement documents include:

— facilities, capacity, number of personnel and quantity of materials;

— waiting time, delivery time and process times;

— hygiene, safety, reliability and security;

— responsiveness, accessibility, courtesy, comfort, aesthetics of environment, competence, dependability, accuracy, completeness, state of the art, credibility and effective communication.

4.2 Control of service and service delivery characteristics

In most cases the control of service and service delivery characteristics can only be achieved by controlling the process that delivers the service. Process performance measurement and control are therefore essential to achieve and maintain the required service quality. While remedial action is sometimes possible during service delivery, it is usually not possible to rely on final inspection to influence service quality at the customer interface where customer assessment of any nonconformity is often immediate.

The service delivery process may range from being highly mechanized (as in a directly dialled telephone call) to one that is highly personalized (as in services such as legal, medical or consultancy). The more definable the process, whether by mechanization or by detailed procedures, the greater the opportunity to apply structured and disciplined quality system principles.

5 Quality system principles

5.1 Key aspects of a quality system

Figure 2 illustrates that the customer is the focal point of the three key aspects of a quality system. It also illustrates that customer satisfaction can only be assured when there is harmony of interaction between the management responsibility, the personnel and material resources and the quality system structure.

5.2 Management responsibility

5.2.1 *General*

Management is responsible for establishing a policy for service quality and customer satisfaction. Successful implementation of this policy is dependent upon management commitment to the development and effective operation of a quality system.

5.2.2 *Quality policy*

The responsibility for and commitment to a quality policy for the service organization belongs to the highest level of management. Management should develop and document a quality policy relating to the following:

— grade of service to be provided;

— service organization's image and reputation for quality;

— objectives for service quality;

— approach to be adopted in pursuit of quality objectives;

— role of company personnel responsible for implementing the quality policy.

Management should ensure that the quality policy is promulgated, understood, implemented and maintained.

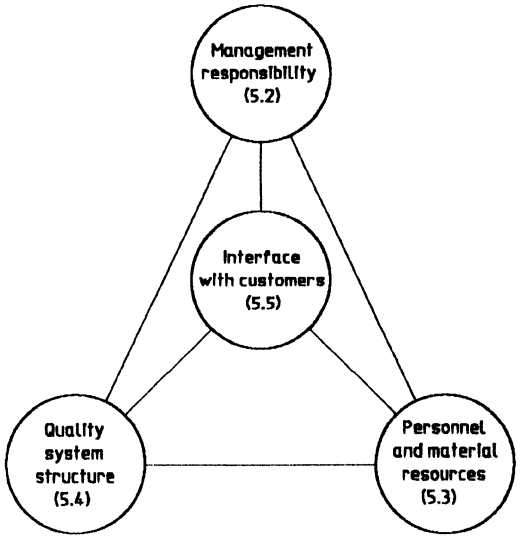

Figure 2 — Key aspects of a quality system

5.2.3 *Quality objectives*

The realization of a quality policy requires the identification of primary goals for establishing quality objectives. Primary goals should include:

— customer satisfaction consistent with professional standards and ethics;

— continuous improvement of the service;

— giving consideration to the requirements of society and the environment;

— efficiency in providing the service.

Management should translate the primary goals into a set of quality objectives and activities. Examples of these are:

— clear definition of customer needs with appropriate quality measures;

— preventive action and controls to avoid customer dissatisfaction;

— optimizing quality-related costs for the required performance and grade of service;

— creation of a collective commitment to quality within the service organization;

— continuous review of service requirements and achievements to identify opportunities for service quality improvement;

— prevention of adverse effects by the service organization on society and the environment.

5.2.4 *Quality responsibility and authority*

To achieve the quality objectives, management should establish a quality system structure for the effective control, evaluation and improvement of service quality throughout all stages of the provision of a service.

General and specific responsibility and authority should be explicitly defined for all personnel whose activities influence service quality. This should include ensuring effective customer/supplier relationships at all interfaces within, and external to, the service organization. The responsibility and authority defined should be consistent with the means and methods necessary for achieving service quality.

Senior management should be responsible for ensuring that the requirements for a quality system are developed. They should retain responsibility or designate a management representative responsible for ensuring that the quality system is established, audited, continually measured and reviewed for improvement.

While personnel with specific designated responsibilities can be instrumental in the attainment of quality, it should be stressed that it is not these personnel who create quality. They are only part of the quality system. The scope of the quality system encompasses all of the functions, and requires the involvement, commitment and effective interworking of all personnel in the service organization to achieve continuous improvement.

5.2.5 *Management review*

Management should provide for formal periodic and independent reviews of the quality system in order to determine its continuing suitability and effectiveness in implementing the quality policy and achieving the quality objectives. Particular emphasis should be placed on the need or opportunity for improvement. The reviews should be carried out by appropriate members of management or by competent, independent personnel reporting directly to senior management.

Management reviews should consist of well-structured and comprehensive evaluations encompassing all relevant sources of information, including:

— findings of service performance analysis; i.e. information on the overall effectiveness and efficiency of the service delivery process in achieving service requirements and customer satisfaction (see **6.4**);

— findings of internal audits on the implementation and effectiveness of all elements of the quality system in meeting stated objectives for service quality (see **6.4.4**);

— changes brought about by new technologies, quality concepts, market strategies and social or environmental conditions.

Observations, conclusions and recommendations reached as a result of a review and evaluation should be submitted in documentary form to management for necessary action in establishing a programme for service quality improvements.

5.3 Personnel and material resources

5.3.1 *General*

Management should provide sufficient and appropriate resources to implement the quality system and achieve the quality objectives.

5.3.2 *Personnel*

5.3.2.1 *Motivation*

A most important resource in any organization is that of the individual members of personnel involved. This is especially important in a service organization where the behaviour and performance of individuals directly impacts on the quality of service.

As a spur to the motivation, development, communication and performance of personnel, management should:

— select personnel on the basis of capability to satisfy defined job specifications;

— provide a work environment that fosters excellence and a secure work relationship;

— realize the potential of every member of the organization by consistent, creative work methods and opportunities for greater involvement;

— ensure that the tasks to be performed and the objectives to be achieved are understood, including how they affect quality;

— see that all personnel feel that they have an involvement and influence on the quality of service provided to customers;

— encourage contributions which enhance quality by giving due recognition and reward for achievement;

— periodically assess the factors which motivate personnel to provide quality of service;

— implement career planning and development of personnel;

— establish planned actions for updating the skills of personnel.

5.3.2.2 *Training and development*

Education brings awareness of the need for change and provides the means whereby change and development can be accomplished.

Important elements in the development of personnel include:

— training executives in quality management, including quality-related costs and evaluation of the effectiveness of the quality system;

— training of personnel (this should not be restricted to those solely concerned with quality responsibilities);

— education of personnel on the service organization's quality policy, objectives and concepts of customer satisfaction;

— a quality-awareness programme which may include instruction and training courses for new entrants, and periodic refresher programmes for longer-serving personnel;

— procedures for specifying and verifying that personnel have received suitable training;

— training in process control, data collection and analysis, problem identification and analysis, corrective action and improvement, team working and communication methods;

— the need to assess carefully the personnel requirements for formal qualifications and give appropriate assistance and encouragement where necessary;

— the performance evaluation of personnel to assess their development needs and potential.

5.3.2.3 *Communication*

Service personnel, especially those directly involved with the customer, should have adequate knowledge and the necessary skills in communication. They should be capable of forming a natural work team able to interact appropriately with external organizations and representatives to provide a timely and smooth running service.

Team activities, such as quality improvement forums, can be effective for improving communication between personnel and can provide an opportunity for supportive participation and cooperation in solving problems.

Regular communication within the service organization should be a feature at all levels of management. The existence of an appropriate information system is an essential tool for communication and for service operations. The methods of communication may include:

— management briefings;

— information exchange meetings;

— documented information;

— information technology facilities.

5.3.3 ***Material resources***

The material resources required for service operations may include:

— service provisioning equipment and stores;

— operational needs, such as accomodation provisions, transport and information systems;

— quality-assessment facilities, instrumentation and computer software;

— operational and technical documentation.

5.4 Quality system structure

5.4.1 ***General***

The service organization should develop, establish, document, implement and maintain a quality system as a means by which stated policies and objectives for service quality may be accomplished. The operational elements of a quality system are described in clause **6**.

The quality system elements should be structured to establish adequate control and assurance over all operational processes affecting service quality.

The quality system should emphasize preventive actions that avoid the occurrence of problems while not sacrificing the ability to respond to and correct failures, should they occur.

5.4.2 ***Service quality loop***

Quality system procedures should be established to specify the performance requirements for all service processes including the three main provisioning processes (marketing, design and service delivery) which can be shown to be operating in a service quality loop, as illustrated in Figure 3.

The quality of service as seen by the customer is directly influenced by these processes as well as by actions arising from those service quality feedback measures which contribute to service quality improvements, namely:

— supplier's assessment of the service provided;

— customer's assessment of the service received;

— quality audits of the implementation and effectiveness of all elements of the quality system.

Quality feedback should also be established between interacting elements in the quality loop.

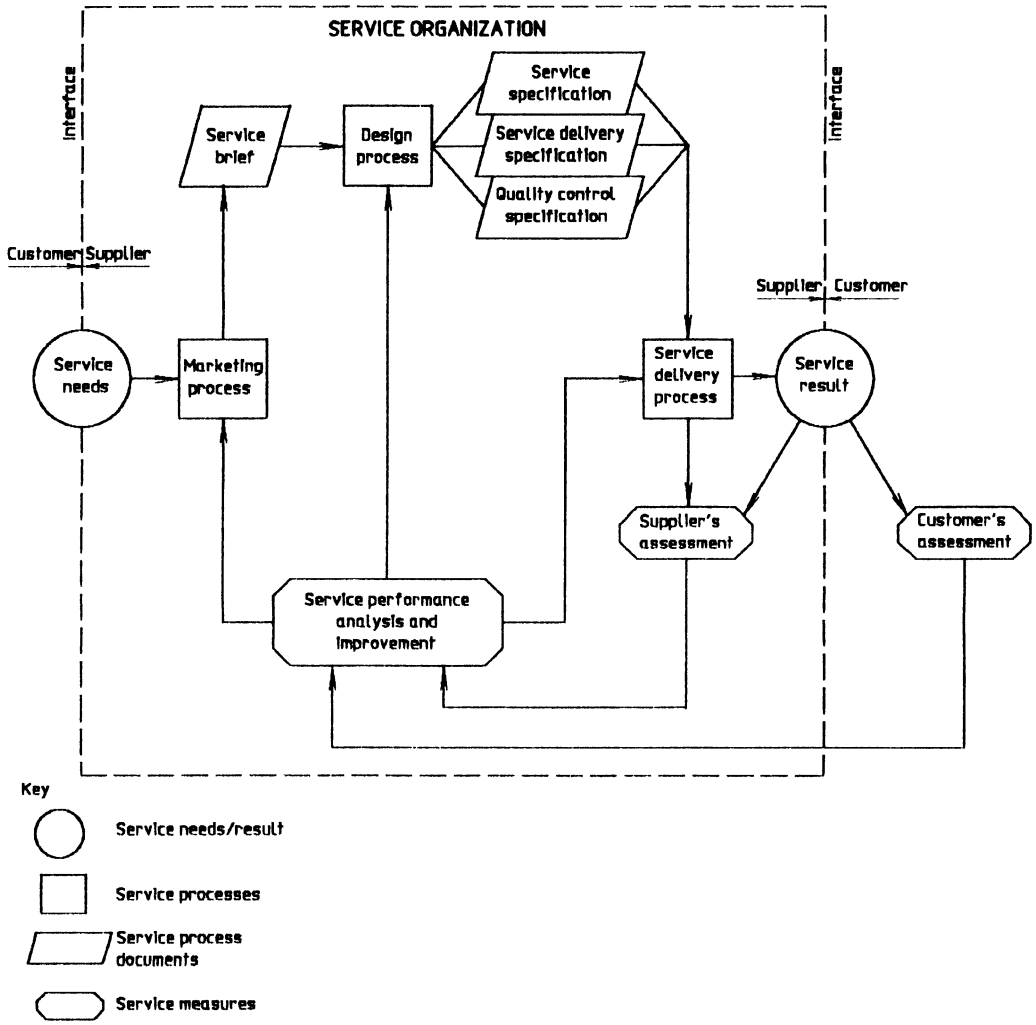

Figure 3 — Service quality loop

5.4.3 *Quality documentation and records*

5.4.3.1 *Documentation system*

All service elements, requirements and provisions incorporated in the quality system should be defined and documented as part of the service organization's overall documentation. Appropriate quality system documentation includes the following.

a) Quality manual: This should provide a description of the quality system as a permanent reference.

It should contain

— the quality policy;

— the quality objectives;

— the structure of the organization, including responsibilities;

— a description of the quality system, including all elements and provisions that form part of it;

— the quality practices of the organization;

— the structure and distribution of the quality system documentation.

b) Quality plan: This should describe the specific quality practices, resources and the sequence of activities relevant to a particular service.

c) Procedures: These are written statements which specify the purpose and scope of activities in the service organization to meet customer needs. They define how the activities are to be conducted, controlled and recorded.

Procedures should be agreed, be accessible to personnel and understood by all those who interface with their operation.

d) Quality records: These provide information

— on the degree of achievement of the quality objectives;

— on the level of customer satisfaction and dissatisfaction with the service;

— about the results of the quality system for review and improvement of the service;

— for analysis to identify quality trends;

— for corrective action and its effectiveness;

— on appropriate sub-contractors' performance;

— on the skills and training of personnel;

— on competitive comparisons.

The quality records should be

— verified as valid;

— readily retrievable;

— retained for a designated period;

— protected from damage, loss and deterioration while in storage.

Management should establish the policy for access to quality records.

5.4.3.2 *Documentation control*

All documentation should be legible, dated (including revision dates), clear, readily identifiable and carry authorization status.

Methods should be established to control the issue, distribution and revision of documents. The methods should ensure that documents are:

— approved by authorized personnel;

— released and made available in the areas where the information is needed;

— understood and acceptable to users;

— reviewed for any necessary revision;

— removed when obsolete.

5.4.4 *Internal quality audits*

Internal quality audits should be performed periodically to verify the implementation and effectiveness of the quality system and adherence to the service specification (see **6.2.3**), the service delivery specification (see **6.2.4**) and the quality control specification (see **6.2.5**).

Internal quality audits should be planned, performed and recorded in accordance with documented procedures by competent personnel who are independent of the specific activities or areas being audited.

Audit findings should be documented and submitted to senior management. Management responsible for the activity being audited should ensure that necessary and appropriate corrective actions are taken in respect or the audit findings.

Implementation and effectiveness of corrective actions resulting from previous audits should be assessed.

NOTE 13 ISO 10011-1 is recommended for further information and guidance on quality audits.

5.5 Interface with customers

5.5.1 *General*

Management should establish effective interaction between customers and the service organization's personnel. This is crucial to the quality of service perceived by the customer.

Management can influence this perception by creating an appropriate image based on the reality of actions taken to meet customer needs. This image, presented by personnel at all levels, has a primary effect on the service organization's relationship with the customer.

Personnel with direct customer contact are an important source of information for the ongoing quality improvement process. Management should regularly review the methods used for promoting contacts with customers.

5.5.2 *Communication with customers*

Communication with customers involves listening to them and keeping them informed. Difficulties in communication or interactions with customers, including internal customers, should be given prompt attention. These difficulties provide important information on areas for improvements in the service delivery process. Effective communication with customers involves:

— describing the service, its scope, its availability and timeliness of delivery;

— stating how much the service will cost;

— explaining the interrelationships between service, delivery and cost;

— explaining to customers the effect of any problems, and how they will be resolved, should they arise;

— ensuring that customers are aware of the contribution they can make to service quality;

— providing adequate and readily accessible facilities for effective communication;

— determining the relationship between the service offered and the real needs of the customer.

The customers' perception of service quality is acquired often through communication with the service organization's personnel and facilities.

NOTE 14 Communication with the customers will be adversely affected by inadequate resources.

6 Quality system operational elements

6.1 Marketing process

6.1.1 *Quality in market research and analysis*

A responsibility of marketing is to determine and promote the need and demand for a service. Useful approaches include surveys and interviews for the collection of market information.

Management should establish procedures for planning and implementing market activities. Elements associated with quality in marketing should include:

— the establishment of customer needs and expectations relevant to the service offered (e.g. consumer tastes, grade of service and reliability expected, availability, unstated expectations or biases held by customers);

— complementary services;

— competitor activities and performances;

— review of legislation (e.g. health, safety and environmental) and relevant national and international standards and codes;

— analysis and review of customer requirements, service data and contract information that has been collected (relevant summaries of the analysed data should be communicated to the design and service delivery personnel);

— consultation with all affected service organization functions to confirm their commitment and ability to meet service quality requirements;

— ongoing research to examine changing market needs, new technology and the impact of competition;

— the application of quality control.

6.1.2 *Supplier obligations*

Supplier obligations to customers may be expressed in an explicit or implicit manner between the service organization and its customers. Explicit supplier obligations such as warranties should be adequately documented. Prior to publication, the documented obligations should be reviewed for consistency with:

— related quality documentation;

— supplier capability;

— relevant regulatory and legal requirements.

These obligations should be referenced in the service brief (see **6.1.3**). Effective liaison with customers is especially important when supplier obligations are formally defined.

6.1.3 *Service brief*

Once a decision has been made to offer a service, the results of the market research, analysis and the agreed supplier obligations should be incorporated into a service brief. This brief defines the customers' needs and the related service organization's capabilities as a set of requirements and instructions that form the basis for the design of a service.

6.1.4 *Service management*

Prior to the development of a service, management should establish procedures for planning, organizing and implementing the launch of the service and, where applicable, its eventual withdrawal.

Management responsibilities should include ensuring that all necessary resources, facilities and technical supports are available against the planned timescales for each process contributing to the service launch.

Included in this planning should be a responsibility for ensuring that service requirements and service delivery requirements each contain explicit provision for safety aspects, potential liabilities and appropriate means to minimize risks to personnel, customers and the environment.

6.1.5 *Quality in advertising*

Any advertisement of a service should reflect the service specification and take account of the customers' perception of the quality of service provided. The marketing function should recognize the liability risks and financial implications of offering exaggerated or unsubstantiated claims for a service.

6.2 Design process

6.2.1 *General*

The process of designing a service involves converting the service brief (see **6.1.3**) into specifications for both the service and its delivery and control, while reflecting the organization's options (i.e. aims, policies and costs).

The service specification defines the service to be provided, whereas the service delivery specification defines the means and methods used to deliver the service. The quality control specification defines the procedures for evaluating and controlling the service and service delivery characteristics.

Design of the service specification, the service delivery specification and quality control specification are interdependent and interact throughout the design process. Flow charts are a useful method to depict all activities, relationships and interdependences.

The principles of quality control should be applied to the design process itself.

6.2.2 *Design responsibilities*

Management should assign responsibilities for service design and ensure that all those who contribute to the design are aware of their responsibilities for achieving service quality. The prevention of service defects at this stage is less costly than correction during service delivery.

Design responsibilities should include:

— planning, preparation, validation, maintenance and control of the service specification (see **6.2.3**), the service delivery specification (see **6.2.4**) and the quality control specification (see **6.2.5**);

— specifying products and services to be procured for the service delivery process (see **6.2.4.3**);

— implementing design reviews for each phase of the service design (see **6.2.6**);

— validating that the service delivery process, as implemented, meets the service brief requirements (see **6.2.7**);

— updating the service specification, the service delivery specification and the quality control specification in response to feedback or other external stimuli, when necessary (see **6.2.8**).

During design of the service specification, the service delivery specification and the quality control specification, it is important to:

— plan for variations in the service demand;

— carry out an analysis to anticipate the effects of possible systematic and random failures and also service failure aspects beyond the supplier's control;

— develop contingency plans for the service.

6.2.3 *Service specification*

The service specification should contain a complete and precise statement of the service to be provided, including:

— a clear description of the service characteristics subject to customer evaluation (see **3.4**);

— a standard of acceptability for each service characteristic.

6.2.4 *Service delivery specification*

6.2.4.1 *General*

The service delivery specification should contain service delivery procedures describing the methods to be used in the service delivery process, including:

— a clear description of the service delivery characteristics that directly affect service performance (see **4.1**);

— a standard of acceptability for each service delivery characteristic;

— resource requirements detailing the type and quantity of equipment and facilities necessary to fulfil the service specification;

— number and skills of personnel required;

— reliance on sub-contractors for purchased products and services.

The service delivery specification should take account of the aims, policies and capabilities of the service organization, as well as any health, safety, environmental or other legal requirements.

6.2.4.2 *Service delivery procedures*

Design of the service delivery process may usefully be achieved by sub-dividing the process into separate work phases supported by procedures describing the activities involved at each phase. Particular attention should be given to the interfaces between separate work phases. Examples of work phases involved in services are:

— providing information about services offered to customers;

— taking the order;

— establishing provisions for the service and delivering the service;

— billing and collecting charges for the service.

Detailed flow charts of the service delivery process can assist in this sub-division.

NOTE 15 The content, appropriate order and completeness of work phases may vary according to the type of service involved.

6.2.4.3 *Quality in procurement*

Purchased products and services may be critical to the quality, cost, efficiency and safety of the services supplied by a service organization. Procurement of products and services should be given the same level of planning, control and verification as the other internal activities. The service organization should establish a working relationship with sub-contractors, including feedback. In this way a programme of continuing quality improvements can be supported and quality disputes avoided or settled quickly.

Procurement requirements should include as a minimum:

— purchase orders, whether set out as descriptions or specifications;

— selection of qualified sub-contractors;

— agreement on quality requirements and quality assurance requirements;

— agreement on quality assurance and verification methods;

— provision for settlement of quality disputes;

— incoming product and service controls;

— incoming product and service quality records.

In selecting a sub-contractor, the service organization should consider:

— on-site assessment and evaluation of the sub-contractor's capability and/or quality system elements needed for quality assurance;

— evaluation of sub-contractor's samples;

— past history with the selected sub-contractor and similar sub-contractors;

— test results of similar sub-contractors;

— experience of other users.

NOTE 16 It is recommended that ISO 9001, ISO 9002 or ISO 9003, as appropriate, be used when purchasing products or services.

6.2.4.4 *Supplier-provided equipment to customers for service and service delivery*

The service organization should ensure that when equipment is provided for use by a customer, this equipment is suitable for its purpose, and that written instructions are given, as required, for its use.

6.2.4.5 *Service identification and traceability*

Where appropriate, the service organization should identify and record the source of any product or service that forms part of the service provided, including personal responsibility for verification and for other service actions throughout the service delivery process to ensure traceability in cases of nonconformity, customer complaint and liability.

6.2.4.6 *Handling, storage, packaging, delivery and protection of customers' possessions*

The service organization should establish effective controls for the handling, storage, packaging, delivery and protection of customers' possessions which the service organization is responsible for, or comes into contact with, during the delivery of the service.

6.2.5 ***Quality control specification***

Quality control should be designed as an integral part of the service processes: marketing, design and service delivery. The specification developed for quality control should enable the effective control of each service process to ensure that the service consistently satisfies the service specification and the customer.

The design of quality control involves:

— identifying the key activities in each process which have a significant influence on the specified service;

— analysing the key activities to select those characteristics whose measurement and control will ensure service quality;

— defining methods for evaluating the selected characteristics;

— establishing the means to influence or control the characteristics within specified limits.

The application of quality control principles to the service delivery process is illustrated in the restaurant service example shown below.

a) A key activity to be identified in a restaurant service would be the preparation of a meal and its effect on the timeliness of the meal being served to a customer.

b) A characteristic of the activity requiring measurement would be the time taken to prepare the ingredients for a meal.

c) A method for evaluating the characteristic would be sample checks of the time taken to prepare and serve a meal.

d) The effective deployment of staff and materials would ensure that the service characteristic of timeliness was maintained within its specified limits.

6.2.6 *Design review*

At the conclusion of each phase of the design of a service, a formal documented review of the design results should be carried out against the service brief.

The design work at the end of each phase should be reviewed so that it is consistent with, and can satisfy the requirements of:

— items in the service specification pertaining to customer needs and satisfaction;

— items in the service delivery specification pertaining to the service requirements;

— items in the quality control specification pertaining to the control of service processes.

Participants at each design review should include representatives of all the functions affecting service quality appropriate to the phase being reviewed. The design review should identify and anticipate problem areas and inadequacies and initiate actions to ensure that:

— the complete service specification and service delivery specification meet customer requirements;

— the quality control specification is adequate to provide accurate information about the quality of service delivered.

6.2.7 *Validation of the service, service delivery and quality control specifications*

New and modified services and their service delivery processes should undergo validation to ensure that they are fully developed and that the service meets the needs of customers under anticipated and adverse conditions. Validation should be defined, planned and completed prior to service implementation. The results should be documented.

Prior to the initial delivery of a service, the following should be reviewed to confirm:

— the service is consistent with customer requirements;

— the service delivery process is complete;

— resources are available to meet the service obligations, particularly materials and personnel;

— that applicable codes of practice, standards, drawings and specifications are satisfied;

— information to customers in the use of the service is available.

Periodic revalidation should be performed to ensure that the service continues to meet the needs of the customer and conforms to the service specification, and to identify potential improvements in the provision and control of the service.

Revalidation should be a planned and documented activity, and should include considerations of actual field experience, impact of modifications in the service and processes, impact of personnel changes, adequacy of procedures, instructions, guides and proposed modifications.

6.2.8 *Design change control*

The service specification, service delivery specification and quality control specification are the basic reference documents for the service and should not be changed without due cause and consideration.

The objective of design change control is to document and manage changes in requirements and procedures, after the initial specifications have been authorized and implemented. This control should ensure that:

— the need for change is identified, verified and submitted for analysis and redesign of the portion of the service affected;

— changes to the specifications are properly planned, documented, approved, implemented and recorded;

— representatives of all functions affected by a change participate in its determination and approve the change;

— the impacts of changes are evaluated to ensure they produce the expected result and do not degrade the quality of service;

— customers are informed when design changes will affect service characteristics and performance.

6.3 Service delivery process

6.3.1 *General*

Management should assign specific responsibilities to all personnel implementing the service delivery process, including supplier assessment and customer assessment.

The provision of a service to customers entails:

— adherence to the prescribed service delivery specification;

— monitoring that the service specification is met;

— adjusting the process when deviations occur.

6.3.2 ***Supplier's assessment of service quality***

Quality control should form an integral part of the operation of the service delivery process. This includes:

— measurement and verification of the key process activities to avoid undesirable trends and customer dissatisfaction;

— self inspection by service delivery personnel as an integral part of the process measurements;

— a final supplier assessment at the interface with the customer to provide a supplier perspective of the quality of service delivered.

6.3.3 ***Customer's assessment of service quality***

Customer assessment is the ultimate measure of the quality of a service. Customer reaction may be immediate, or it may be delayed and retrospective. Often subjective evaluation will be the sole factor in a customer's assessment of the service provided. Customers seldom volunteer their assessment of service quality to the service organization. Dissatisfied customers often cease to use or purchase services without giving notice that would permit corrective action to be taken. Reliance on customer complaints as a measure of customer satisfaction can lead to misleading conclusions.

NOTE 17 Customer satisfaction should be consistent with the professional standards and ethics of the service organization.

Service organizations should institute an ongoing assessment and measurement of customer satisfaction. These assessments should seek positive as well as negative reactions and their likely effect on future business.

The evaluation of customer satisfaction should focus on the extent to which the service brief, specifications and the service delivery process meet the customer needs. A service organization often thinks that it is supplying a good service but the customer may not agree, indicating inadequate specifications, processes or measures.

A comparison should be made of the customer's assessment with the supplier's own perception and assessment of the service provided to evaluate the compatibility of the two quality measures and any need for appropriate action for service quality improvement.

6.3.4 ***Service status***

The status of the work done at each phase of the service delivery process should be recorded to identify the achievement of the service specification and customer satisfaction.

6.3.5 ***Corrective action for nonconforming services***

6.3.5.1 *Responsibilities*

Identification and reporting of nonconforming services is the duty and responsibility of each individual in the service organization. Every effort should be made to identify potential service nonconformities before customers are affected. Responsibilities and authority for corrective action should be defined in the quality system.

6.3.5.2 *Identification of nonconformity and corrective action*

When a nonconformity is detected, action should be taken to record, analyse and correct it. Frequently there will be two stages of corrective action: first, an immediate positive action to satisfy the needs of the customer; second, an evaluation of the root cause of the nonconformity to determine any necessary longer-term corrective action to prevent recurrence of the problem.

Longer-term corrective action should be appropriate to the magnitude and effect of the problem. When implemented, the corrective actions should be monitored to ensure they are effective.

6.3.6 ***Measurement system control***

Procedures should be established to monitor and maintain the system used for service measurement. The controls include personnel skills, measurement procedures and any analytical models or software used for measuring and testing. All measuring and testing, including customer satisfaction surveys and questionnaires, need to be tested for validity and reliability. The use, calibration and maintenance of all measuring and test equipment used in providing or assessing services should be controlled to provide confidence in decisions or actions based on measurement data. Measurement error should be compared with requirements and appropriate action taken when precision and/or bias requirements are not achieved.

NOTE 18 See ISO 10012-1 for guidance on quality assurance requirements for measuring equipment.

6.4 Service performance analysis and improvement

6.4.1 *General*

A continual evaluation of the operation of the service processes should be practised to identify and actively pursue opportunities for service quality improvement. To implement such evaluations, management should establish and maintain an information system for the collection and dissemination of data from all relevant sources. Management should assign responsibilities for the information system and for service quality improvement.

6.4.2 *Data collection and analysis*

Data will be available from measures of the service operation by means of:

— supplier assessment (including quality control);

— customer assessment (including customer reaction, customer complaints, requested feedback information);

— quality audits.

Analysis of these data will measure achievement of service requirements and indicate opportunities for improving service quality and the effectiveness and efficiency of the service provided.

To be effective and efficient, data collection and analysis need to be purposeful, disciplined and planned operations, not left to chance or operated haphazardly.

The identification of systematic errors, their cause and prevention should be a fundamental aim of data analysis. The root cause of error is not always obvious but should be pursued. This includes the potential for human error, which is seldom prompted in a random manner, more often there is an underlying cause. Too often errors attributed to personnel or customers actually arise from flaws in the service operation related to complex operations or to inadequate procedures, environment, working conditions, training, instructions or resources.

6.4.3 *Statistical methods*

Modern statistical methods can assist in most aspects of data collection and application, whether it be to gain a better understanding of customer needs, in process control, capability study, forecasting, or measurement of quality to assist in making decisions.

6.4.4 *Service quality improvement*

There should be a programme for continuously improving the service quality and the effectiveness and efficiency of the complete service operation, including an effort to identify:

— the characteristic which if improved would most benefit the customer and the service organization;

— any changing market needs that are likely to affect the grade of service to be provided;

— any deviations from the specified service quality due to ineffective or insufficient quality system controls;

— opportunities for reducing cost while maintaining and improving the service quality provided. (This requires systematic methods for estimating the quantitative costs and benefits.)

The activities of service quality improvement should address the need for both short-term and longer-term improvement and include:

— identifying relevant data for collection;

— data analysis and giving priority to those activities having the greatest adverse impact on service quality;

— feedback of results of the analysis to operational management with recommendation for immediate service improvement;

— reporting periodically to senior management for a management review of long-term quality improvement recommendations (see **5.2.5**).

Members from different parts of the service organization working together may be able to offer fruitful ideas that could be directed towards improving quality and reducing cost. Management should encourage personnel at all levels to contribute to programmes for quality improvement, with recognition for their effort and participation.

Annex A (informative)
Examples to which this part of ISO 9004 may be applied

Hospitality services

Catering, hotels, tourism, entertainment, radio, television, leisure.

Communications

Airports and airlines, road, rail and sea transport, telecommunications, postal, data.

Health services

Medical staff/doctors, hospitals, ambulances, medical laboratories, dentists, opticians.

Maintenance

Electrical, mechanical, vehicles, heating systems, air conditioning, buildings, computers.

Utilities

Cleansing, waste management, water supply, grounds maintenance, electricity, gas and energy supply, fire, police, public services.

Trading

Wholesale, retail, stockist, distributor, marketing, packaging.

Financial

Banking, insurance, pensions, property services, accounting.

Professional

Building design (architects), surveying, legal, law enforcement, security, engineering, project management, quality management, consultancy, training and education.

Administration

Personnel, computing, office services.

Technical

Consultancy, photography, test laboratories.

Purchasing

Contracting, inventory management and distribution.

Scientific

Research, development, studies, decision aids.

NOTE 19 Manufacturing companies also provide internal services in their marketing, delivery systems and after-sales activities.

Annex B (informative)
Cross-reference of quality system elements and clauses

Clause (or sub-clause) in ISO 9004-2:1991	Title	Corresponding clause (or sub-clause) in ISO 9004:1987
4	Characteristics of service	**7.2**
4.1	Service and service delivery, characteristics	**7.2**
4.2	Control of service and service delivery, characteristics	**11.4**
5	Quality system principles	**5**
5.1	Key aspects of a quality system	**5.1.1**
5.2	Management responsibility	**4**
5.2.2	Quality policy	**4.2**
5.2.3	Quality objectives	**4.2**, **6.19**
5.2.4	Quality responsibility and authority	**5.2.2**
5.2.5	Management review	**5.5**
5.3	Personnel and material resources	**5.2.4**
5.3.2	Personnel	**18**
5.3.2.1	Motivation	**18.3**
5.3.2.2	Training and development	**18.1**, **18.2**
5.3.2.3	Communication	**7.3**
5.3.3	Material resources	**5.2.4**
5.4	Quality system structure	**4.4**, **5.2.1**
5.4.2	Service quality loop	**5.1**
5.4.3	Quality documentation and records	**5.2.5**, **5.3**, **17**
5.4.3.1	Documentation system	**5.3.2**
5.4.3.2	Documentation control	**17.2**
5.4.4	Internal quality audits	**5.4**
5.5	Interface with customers	**7.3**
5.5.2	Communication with customers	**7.3**
6	Quality system operational elements	**5**
6.1	Marketing process	**7**
6.1.1	Quality in market research and analysis	**7.1**, **19**
6.1.2	Supplier obligations	**8.2.4**
6.1.3	Service brief	**7.2**
6.1.4	Service management	**8.7**
6.1.5	Quality in advertising	**0.4.2.2**
6.2	Design process	**8**
6.2.2	Design responsibilities	**8.2**

Clause (or sub-clause) in ISO 9004-2:1991	Title	Corresponding clause (or sub-clause) in ISO 9004:1987
6.2.3	Service specification	**8.1**, **8.2**, **8.3**
6.2.4	Service delivery specification	**10**
6.2.4.2	Service delivery procedures	**10.1**
6.2.4.3	Quality in procurement	**9**, **12.1**
6.2.4.4	Supplier-provided equipment to customers for service and service delivery	**13.3**
6.2.4.5	Service identification and traceability	**11.2**, **19**
6.2.4.6	Handling, storage, packaging, delivery and protection of customers' possessions	**16**
6.2.5	Quality control specification	**12.2**
6.2.6	Design review	**8.5**, **8.5.2**
6.2.7	Validation of the service, service delivery and quality control specifications	**8.4**, **8.5.3**, **8.7**, **8.9**
6.2.8	Design change control	**8.8**
6.3	Service delivery process	**10**, **12.3**
6.3.2	Supplier's assessment of service quality	**12**
6.3.3	Customer's assessment of service quality	**7.3**
6.3.4	Service status	**11.7**
6.3.5	Corrective action for nonconforming services	**11.8**, **14**, **15**
6.3.5.1	Responsibilities	**15.2**
6.3.5.2	Identification of nonconformity and corrective action	**14**, **15**
6.3.6	Measurement system control	**11.3**, **13**
6.4	Service performance analysis and improvement	**16.3**
6.4.2	Data collection and analysis	**15.5**
6.4.3	Statistical methods	**20**
6.4.4	Service quality improvement	**6**

Annex C (informative)
Bibliography

[1] ISO 9001:1987, *Quality systems — Model for quality assurance in design/development, production, installation and servicing.*

[2] ISO 9002:1987, *Quality systems — Model for quality assurance in production and installation.*

[3] ISO 9003:1987, *Quality systems — Model for quality assurance in final inspection and test.*

[4] ISO 10011-1:1990, *Guidelines for auditing quality systems — Part 1: Auditing.*

[5] ISO 10011-2:1991, *Guidelines for auditing quality systems — Part 2: Qualification criteria for quality systems auditors.*

[6] ISO 10011-3:1991, *Guidelines for auditing quality systems — Part 3: Management of audit programmes.*

[7] ISO 10012-1:1991[2)], *Quality assurance requirements for measuring equipment — Part 1: Management of measuring equipment.*

[2)] To be published.

Annex ZA (normative)
Normative references to international publications with their relevant European publications

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies (including amendments).

Publication	Year	Title	EN/HD	Year
ISO 8402	1986	*Quality — Vocabulary*	EN 28402	1991
ISO 9000	1987	*Quality management and quality assurance standards — Guidelines for selection and use*	EN 29000	1990
ISO 9004	1987	*Quality management and quality system elements — Guidelines*	EN 29004	1990

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Publication(s) referred to

See national foreword.

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