

THE HISTORY OF ISO 9001 SERIES UP TO ISO 9001:2000

Radosław WOLNIAK

Politechnika Śląska, Wydział Organizacji i Zarządzania; rwolniak@polsl.pl, tel.: +48534538177

Abstract: Nowadays ISO 9001 standards are highly widespread in the business world. Many international organization use it in its everyday business practice to standardize and manage their business processes. This paper concentrate on the history of ISO 9001 standard. There is an description of first two versions on the mentioned standards – ISO 9001:1994 and ISO:2000. The aim of the paper is to analyze first years of the ISO 9001 systems from its beginning up to ISO 9001:2000 version of the standards.

Keywords: ISO 9001, quality standards, standardization, quality management, quality management systems, ISO 9001 history.

1. Introduction

The ISO 9000 series is a subset of the family of ISO/TC 176 standards (ISO story, 2018). It consists of the four standards referenced in clause 0.1 ISO 9000:2015 (Wolniak, 2013; Ligarski, 2013; Ligarski, 2014; Łuczak, and Wolniak, 2016; Wolniak, 2017a; Wolniak 2017b; Sułkowski, and Wolniak, 2018). The ISO 9000 family of quality managements systems standards are designed to help organizations ensure that they meet the needs of customers and other stakeholders while meeting statutory and regulatory requirements related to product or service (Poksińska, et al. 2002; Gębczyńska, and Wolniak, 2018; Horodecka, and Wolniak, 2015, Juszczak-Wiśniewska, and Ligarski, 2015a; Juszczak-Wiśniewska, and Ligarski, 2015b; Juszczak-Wiśniewska, and Ligarski, 2016; Wolniak, and Skotnicka, 2006; Wolniak, and Skotnicka-Zasadzień, 2010; Wolniak, and Sułkowski, 2015; Wolniak, 2013; Wolniak, 2014; Wolniak, 2016; Wolniak, 2017).

After the war Japan took quality assurance to another level. Japan formed the Japanese Industrial Standards Committee (JIS) in 1946 (Ścierski 2011; Wolniak, 2011; Wolniak, and, Sułkowski, 2015; Wolniak, and Sułkowski, 2016; Wolniak, and Hąbek, 2015). This committee created JIS standards and allowed certified JIS manufactures to bear the JIS mark. The JIS mark was the first certification quality management standard. Japanese companies'

participation was voluntary. To receive the JIS mark, the company passed a certification inspection (ISO 9001 Overview, 2018).

The aim of the paper is to analyze first years of the ISO 9001 systems from its beginning up to ISO 9001:2000 version of the standards.

2. First years of ISO 9001

ISO 9000 standard was first published in 1987 by International Organization for Standardization (ISO). The standard was based on the BS 5750 series standards from British Standard Institution (BSI) that were proposed to ISO in 1979. But the history of the standard is longer. It can be traced back to the publication of government procurement standards such as United States Department of Defense MIL-Q-9858 standard in 1959, and the United Kingdom's Defense Standard 05-21 and 05-24. Large organization which supplied government procurement agencies often had to comply with a variety of quality assurance requirements for each contract awarded which led the defense industry to adopt mutual recognition of NATO AQUAP, MIL-Q and Defense Standards. Eventually ISO 9000 series was adopted as a suitable option, instead of forcing contractors to adopt multiple, and often similar requirements (Stamatis, 1995).

The Canadian CSA Z 299 series of standards were issued in the mid 1970's and the British standard BS 5750 was issued in 1979. These offered 4 and 3 levels of quality management systems, respectively. In December 1979 the United States issued the ANSI/ASQC Z-1.15, Generic Guidelines for quality systems. This was a menu of quality management elements, and each organization chose the elements they felt were helpful, allowing for almost an infinite degree of tailoring. The increase in international trade stimulated the development of internationally recognized quality management standards. It was feared that a mosaic of different national standards would be a barrier to international trade. The ISO Technical Committee (TC) 176 had its first meeting in 1980.

The first standard issued by TC 176 was ISO 8402, which standardized quality management terminology. The committee was faced with adopting a three level scheme, as the British had done, a four level scheme as the Canadians had done, or issuing comprehensive guidelines as the United States had done. In 1987, in a practical act of diplomacy, they issued ISO 9001, 9002 and 9003 establishing three different levels of quality management system. They also issued ISO 9004, which is a set of comprehensive guidelines (Frequently asked, 2018; Juran, 1995).

In the 1970's many major organizations published their own quality management standards (for example Ford's Q101, the Ministry of Defense's 05-20 series, etc.) which introduced the idea that confidence in a product could be gained from an approved quality

management system and quality manuals. By the late 70's it was decided that, for the first time, there would be a national standard on what constituted a quality system. BS5750 was developed from the earlier BS5179 guidelines but was firmly based around Ministry of Defence (MoD) requirements and terminology (ISO 9000 history, 2018).

First versions of the quality ISO 9000 standards was created in 1987 year and was based mainly on BS-5750 series, its notes and commentaries (Stamatis, 1995). This series comprises ISO 9000 which embraces ISO 9001, ISO 9002, ISO 9003 and ISO 9004. These standards were as follows (International, 2018):

- ISO 8402:1986 Quality – Vocabulary.
- ISO 9000. Quality Management and Quality Assurance Standard – Guidelines for Selection and Use.
- ISO 9000-2. Quality Management and Quality Assurance Standards – Part 2: Generic Guidelines for the Application of ISO 9001, ISO 9002 and ISO 9003.
- ISO 9000-3. Quality Management and Quality Assurance Standards – Part 3: Guidelines for the Application of ISO 9001 to the Development, Supply and Maintenance of Software.
- ISO 9001. Quality Systems – Model for Quality Assurance in Design / Development, Production, Installation and Servicing.
- ISO 9002. Quality Systems – Model for Quality Assurance on Production, Installation and Servicing.
- ISO 9003. Quality System – Model for Quality Assurance in Final Inspection and Test.
- ISO 9004:1987. Quality Management and Quality System Elements – Guidelines.
- ISO 10011-1. Guidelines for Auditing Quality Systems – Part 1: Auditing.
- ISO 10011-1. Guidelines for Auditing Quality Systems – Part 2: Qualification criteria for quality systems auditors.

3. ISO 9001:1994

ISO 9001:1994 emphasized quality assurance via preventive actions, instead of just checking final product, and continued to require evidence of compliance with documented procedures. As with first edition, the disadvantage was that companies tended to implement its requirements by creating shelf-loads of procedure manuals, and becoming burdened with an ISO bureaucracy.

The version of series in revision from 1994 contained following standards (International, 2018):

- ISO 8402:1994 Quality management and quality assurance – Vocabulary.
- ISO 9001:1994 Quality systems - Model for quality assurance in design, development, production, installation and servicing. The structure of the standard is presented in the table 1.
- ISO 9002:1994. Quality systems – Model for quality assurance in production, installation and servicing.
- ISO 9003:1994. Quality systems – Model for quality assurance in final inspection and test.
- ISO 9004-1:1994 Quality management and quality system elements – Part 1: Guidelines.
- ISO 9004-2:1994. Quality Management and Quality System Elements – Part 2: Guidelines for Services.
- ISO 9004-3:1993 Quality management and quality system elements – Part 3: Guidelines for processed materials.
- ISO 9004-4:1993 Quality management and quality system elements – Part 4: Guidelines for quality improvement.

Table 1.

The structure of ISO 9001:1994

Lp.	Point
1.	Scope
2.	Normative references
3.	Terms and definitions
4.	Quality management systems
4.1.	Management responsibility
4.2.	Quality system
4.3.	Contract review
4.4.	Design control
4.5.	Document and data control
4.6.	Purchasing
4.7.	Control of customer supplied product
4.8.	Product identification and tracability
4.9.	Process control
4.10.	Inspection and testing
4.11.	Control of inspection, measuring and test equipment
4.12.	Inspection and test status
4.13.	Control of non-conforming product
4.14.	Corrective and preventative action
4.15.	Handling and storage, package preservation and delivery
4.16.	Control of quality records
4.17.	Internal quality audits
4.18.	Training
4.19.	Servicing
4.20.	Statistical techniques

Source: on basis: ISO 9001:1994. Quality systems – Model for quality assurance in design, development, production, installation and servicing.

4. ISO 9001:2000

The next version of quality standards dates back to 2000. In this year many of the standards in the ISO 9000 family was discontinued following of the publication of the new edition of the basic standards: ISO 9000, ISO 9001 and ISO 9004. The original 9002 and 9003 standards were merged with ISO 9001. ISO 9000-1 was merged with ISO 8402 and designated as ISO 9000. ISO 9004-1, ISO 9004-2, ISO 9004-3 and ISO 9004-4 were merged and designated ISO 9004. ISO 10011-1, ISO 10011-2 and ISO 10011-3 on auditing were merged with auditing standards for environmental management. the new standard was designated ISO 19011. The members of the ISO 900 family in 2000 were as follows (Salvendy, 2001; International, 2018):

- ISO 9000:2000. Quality Management Systems – Fundamentals and Vocabulary. This International Standard describes fundamentals of quality management systems, which form the subject of the ISO 9000 family, and defines related terms.
- ISO 9001:2000. Quality Management Systems – Requirements. ISO 9001:2000 specifies requirements for a quality management system where an organization: needs to demonstrate its ability to consistently provide product that meets customer and applicable regulatory requirements, and aims to enhance customer satisfaction through the effective application of the system, including processes for continual improvement of the system and the assurance of conformity to customer and applicable regulatory requirements. All requirements of this International Standard are generic and are intended to be applicable to all organizations, regardless of type, size and product provided. Where any requirement(s) of this International Standard cannot be applied due to the nature of an organization and its product, this can be considered for exclusion. The structure of the ISO 9001:2000 there is in the table 2.
- Where exclusions are made, claims of conformity to this International Standard are not acceptable unless these exclusions are limited to requirements within clause 7, and such exclusions do not affect the organization's ability, or responsibility, to provide product that meets customer and applicable regulatory requirements.
- ISO 9004:2000. Quality Management Systems – Guidelines for Performance Improvements. This International Standard provides guidelines beyond the requirements given in ISO 9001 in order to consider both the effectiveness and efficiency of a quality management system, and consequently the potential for improvement of the performance of an organization. When compared to ISO 9001, the objectives of customer satisfaction and product quality are extended to include the satisfaction of interested parties and the performance of the organization. This International Standard is applicable to the processes of the organization and consequently the quality management principles on which it is based can be deployed

throughout the organization. The focus of this International Standard is the achievement of ongoing improvement, measured through the satisfaction of customers and other interested parties. This International Standard consists of guidance and recommendations and is not intended for certification, regulatory or contractual use, nor as a guide to the implementation of ISO 9001.

- ISO 19011: Guidelines for Auditing Management Systems.

Table 2.

The structure of ISO 9001:2000.

Lp.	Point
1.	Scope
2.	Normative references
3.	Terms and definitions
4.	Quality management systems
4.1.	General requirements
4.2.	Documentation requirements
4.2.1.	General
4.2.2.	Quality manual
4.2.3.	Control of documents
4.2.3.	Control of records
5.	Management responsibility
5.1.	Management commitment
5.2.	Customer focus
5.3.	Quality policy
5.4.	Planning
5.4.1.	Quality objectives
5.4.2.	Quality management system planning
5.5.	Responsibility, authority and communication
5.5.1.	Responsibility and authority
5.5.2.	Management representative
5.5.3.	Internal communication
5.6.	Management review
5.6.1.	General
5.6.2.	Review input
5.6.3.	Review output
6.	Resource management
6.1.	Provision of resources
6.2.	Human resources
6.2.1.	General
6.2.2.	Competence, training and awareness
6.3.	Infrastructure
6.4.	Work environment
7.	Product realization
7.1.	Planning of product realization
7.2.	Customer-related processes
7.2.1.	Determination of requirements related to the product
7.2.2.	Review of requirements related to the product
7.2.3.	Customer communication
7.3.	Design and development
7.3.1.	Design and development planning
7.3.2.	Design and development inputs
7.3.3.	Design and development outputs
7.3.4.	Design and development review
7.3.5.	Design and development verification

cont. table 2

7.3.6.	Design and development validation
7.3.7.	Control of design and development changes
7.4.	Purchasing
7.4.1.	Purchasing process
7.4.2.	Purchasing information
7.4.3.	Verification of purchased product
7.5.	Production and service provision
7.5.1.	Control of production and service provision
7.5.2.	Validation of processes for production and service provision
7.5.3.	Identification and traceability
7.5.4.	Customer property
7.5.5.	Preservation of product
7.6.	Control of monitoring and measuring equipment
8.	Measurement, analysis and improvement
8.1.	General
8.2.	Monitoring and measurement
8.2.1.	Customer satisfaction
8.2.2.	Internal audit
8.2.3.	Monitoring and measurement of processes
8.2.4.	Monitoring and measurement of product
8.3.	Control of nonconforming product
8.4.	Analysis of data
8.5.	Improvement
8.5.1.	Continual improvement
8.5.2.	Corrective action
8.5.3.	Preventive action

Source: on basis: ISO 9001:2000. Quality management systems – Requirements.

5. Conclusion

This paper concentrated on the history of ISO 9001 systems. We described the overview about the genesis of this systems and systems on which the ISO 9001 standard was based. Also there is an description of first two versions on the mentioned standards – ISO 9001:1994 and ISO:2000. There is in the paper analysis of the main differences of the standard and the characteristic of substandard consistent on ISO 9001 standards family.

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