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Secretariat: SA

Quality management — Guidance for quality tools and their application

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Management de la qualité — Recommandations pour les outils qualité et leur mise en oeuvre

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Foreword

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The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO document should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see ~~www.iso.org/directives~~www.iso.org/directives).

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This document was prepared by Technical Committee ISO/TC 176, *Quality management and quality assurance*, ~~-~~Subcommittee SC 3, *Supporting technologies*.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at ~~www.iso.org/members.html~~www.iso.org/members.html.

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Introduction

The quality of products and services delivered by an organization is achieved through the processes and procedures that constitute a quality management system (QMS). The function of a QMS is, in broad terms, to enable and ensure that the resulting products and services meet the desired objectives.

Quality tools are an integral element of a QMS. This ~~standard~~document seeks to familiarize users with a range of quality tools that potentially have useful applications in a QMS as described by ISO 9001~~:~~, and to assist in the selection of quality tools appropriate to the task at hand.

In this ~~standard~~document, the term "quality tool" is synonymous with "quality techniques". The range of tools that could be cited is vast. Therefore, the focus of this ~~standard~~document is on tools that have seen successful application in a wide range of activities in diverse sectors, and to draw attention to some that ~~may~~can be relatively less known to some users. ~~–~~ Statistical techniques are addressed in a separate standard, ISO 10017.

This ~~standard~~document provides a brief description of each of the selected tools to assist the user in determining whether the tool has beneficial application in a particular context~~; however, the standard does provide~~. The document also provides instruction on how the tool ~~may~~can be used.

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Quality management — Guidance for quality tools and their application

1 Scope

This document gives guidance on the selection and application of tools that can be used in a quality management system to:

a) characterize a process or a variable;

b) facilitate problem solving;

c) highlight areas for improvement;

d) improve effectiveness.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 9000, *Quality management systems — Fundamentals and vocabulary*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 9000 and the following apply.

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at ~~https://www.iso.org/obp~~https://www.iso.org/obp

— IEC Electropedia: available at ~~https://www.electropedia.org/~~https://www.electropedia.org/

3.1
quality tool
quality technique
method or procedure ~~(3.2)~~ to perform an operation to achieve a quality objective ~~(3.3)~~

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4 Quality tools

4.1 General

The quality tools described in this document have been arranged in approximate alignment with the sequence of the quality system requirements of ISO 9001. This structure is intended to help the user and does not imply priority. A listing of the tools in relation to the Plan-Do-Check-Act (PDCA) approach is provided in Annex A.

Annex B gives examples of how quality tools are used ~~in combination~~together as storyboards.

Annex C provides ~~a quick reference tool for guiding~~an overview of quality tools to guide their appropriate application.

4.2 Review

Each frequently used quality tool is reviewed, as applicable, including:

— a short explanation of the tool and its use within a quality system;

— how the quality tool is normally used;

— reasons to use the quality tool and guidance on its effective use.

Less frequently used tools which ~~may~~can be of interest are listed at the end of each ~~section~~clause as "Other relevant tools~~"~~".

~~Note:~~ NOTE References to the bibliography are shown by figures square brackets (e.g. [27~~]~~].)

5 Strategy

5.1 SWOT analysis ~~[30, 31, 32, 33]~~

Strengths, weaknesses, opportunities and threats (SWOT) analysis[30-33] is a tool designed to help develop strong business strategy by consideration of key strengths, weaknesses, opportunities and threats faced when implementing the intended strategy.

SWOT is used:

— to review the impact of external and internal factors;

— to prioritize action;

— to help identify strategic options, i.e. the risks and problems to solve;

— to determine the positive points that need to be maintained, the opportunities that should be considered, and the internal and external issues that present challenges;

— to identify areas and actions to eliminate weakness.

SWOT analysis is used to: