



ICAO

INTERNATIONAL CIVIL AVIATION ORGANIZATION

A UN SPECIALIZED AGENCY

AIM RBIS Project
OVERVIEW OF ISO 9001:2015

QMS Go-team assistance



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AIM RBI

QMS Go-team assistance

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OBJECTIVES



Highlighting the Importance of QMS for AIS



Introducing ISO Standards and Understanding ISO 9001



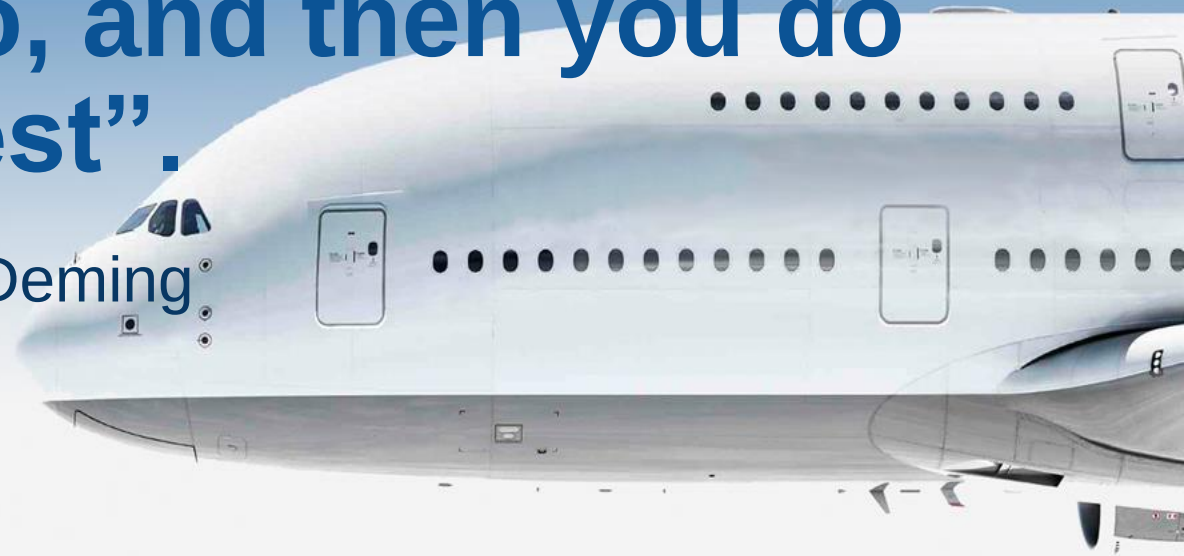
Exploring Fundamental Concepts of ISO 9001:2015



Structural Overview of ISO 9001:2015

“It is not enough to do your best; You must know what to do, and then you do your best”.

W. Edwards Deming



01

IMPORTANCE OF QMS FOR AIS



- ➔ Annex 15 implies need for QMS:
 - ✓ “Corrupt or erroneous Aeronautical Information or data can potentially affect safety of air navigation”
- ➔ Basic Aeronautical Information Characteristics including
 - ✓ Adequacy
 - ✓ Availability
 - ✓ Timeliness
- ➔ Must be guaranteed as assurance for air navigation safety

- ➔ Annex 15 specifies quality requirements for aeronautical data. It recommends the introduction of Quality Management Systems (QMS) to implement quality management at each stage of Aeronautical Information Management (AIM).
- ➔ Quality requirements must be consistent with the ISO 9001:2015 Standard.

QUALITY MANAGEMENT SYSTEMS

A management system that directs and controls an organisation with regards to quality.

02

ABOUT ISO



**The word “ISO” comes
from Greek word “isos”
which means “Equal”**



ABOUT ISO

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- ISO stands for International Organization for Standardization
- Non-governmental organization established in 1947
- Headquarters in Geneva Switzerland
- Has a membership of 167 national standards bodies



International
Organization for
Standardization

ISO TODAY

- 169 **Members** representing ISO in their country. There is only one member per country.

- 24921 **International standards** covering almost all aspects of technology, management and manufacturing.

- 820 **Technical committees and subcommittees** to take care of standards development.

→ Examples:

- ISO 9001 – Quality Management Systems
- ISO 14001 – Environmental Management System (EMS)
- ISO 22001 – Food Safety Management (FSM)

→ Among the 24921 standards, Quality Management System (QMS) is most popular and widely implemented.

03

ISO 9001



What is ISO 9001?



ISO is the world's most popular and most used standard for Quality Management Systems



International consensus on good management practice



Focused on meeting customer requirements and other interested parties



Covers any organization – whatever the size, industry and culture

ISO 9000 is a series, or family of quality management standards.
The standards are as follows:



ISO 9000:2015:
Quality Management
Systems -
Fundamentals and
Vocabulary



ISO 9001:2015:
Quality Management
Systems -
Requirements



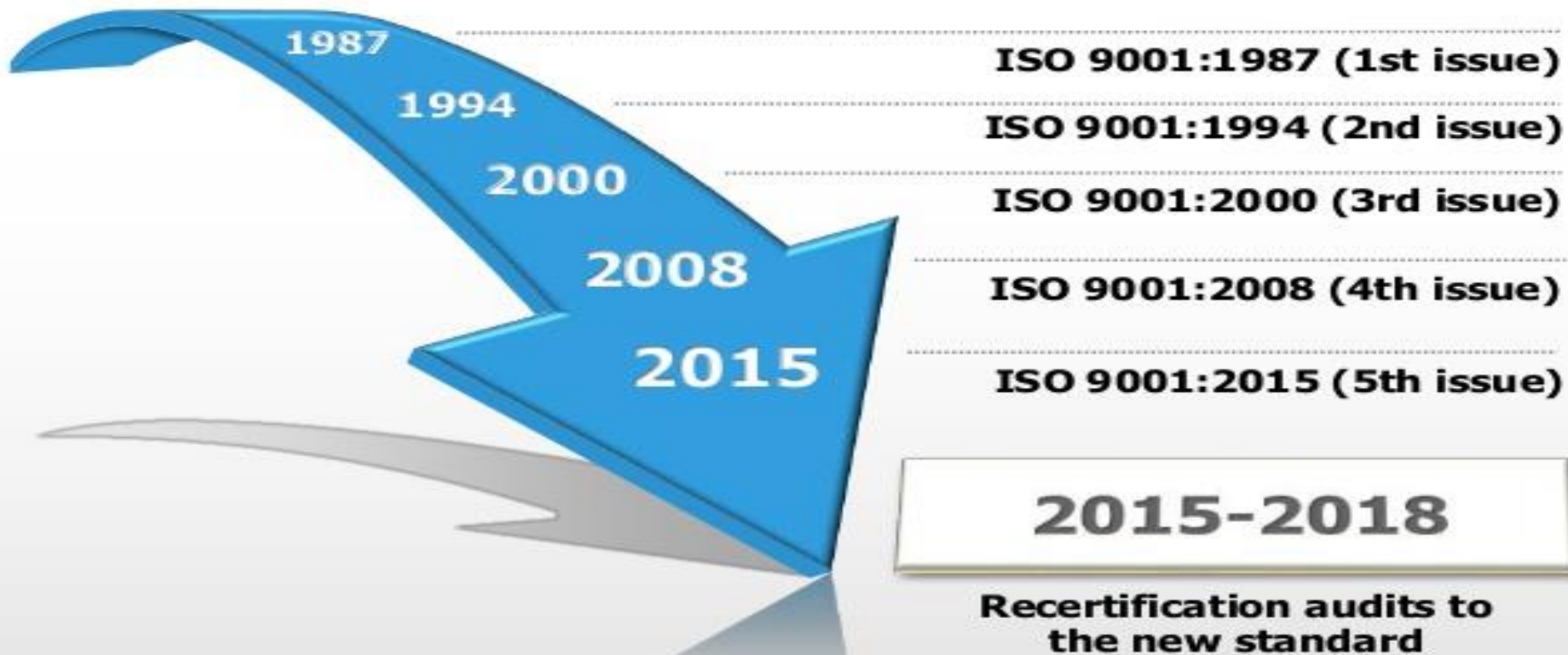
ISO 9004:2018: Quality
Management - Quality
of an Organization -
Guidance to Achieve
Sustained Success

How ISO 9001 Standard Works

- ➔ Identifies **what** requirements you must meet.
- ➔ Does not identify **how** you meet the requirements.
- ➔ Every quality management system is unique and allows flexibility.
- ➔ Allows management to “stay in the driving seat”.

Development of ISO 9001

Quality Management System (QMS)



Why the need for Quality Management System?

- ICAO compliance
- Improves company image
- Achieve customer satisfaction
- Consistent quality of AIS output
- Ensure that the data management processes are carried out such that the integrity of the data is not jeopardized at any point in the process
- Avoid high cost of poor performance



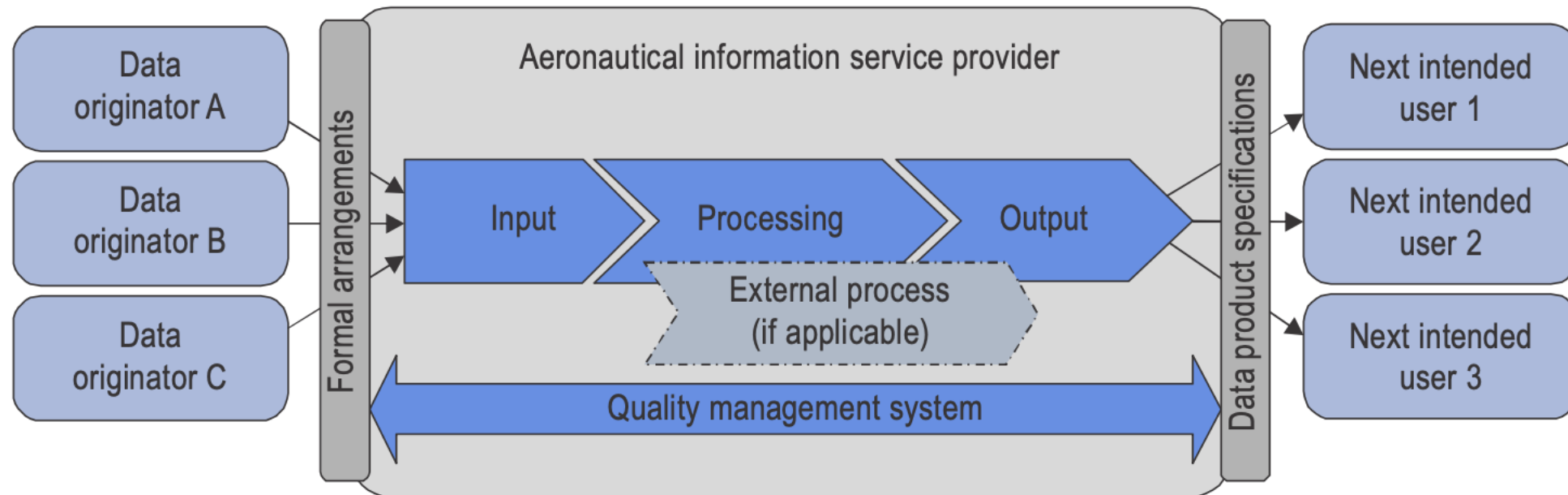
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FUNDAMENTAL CONCEPTS OF ISO 9001



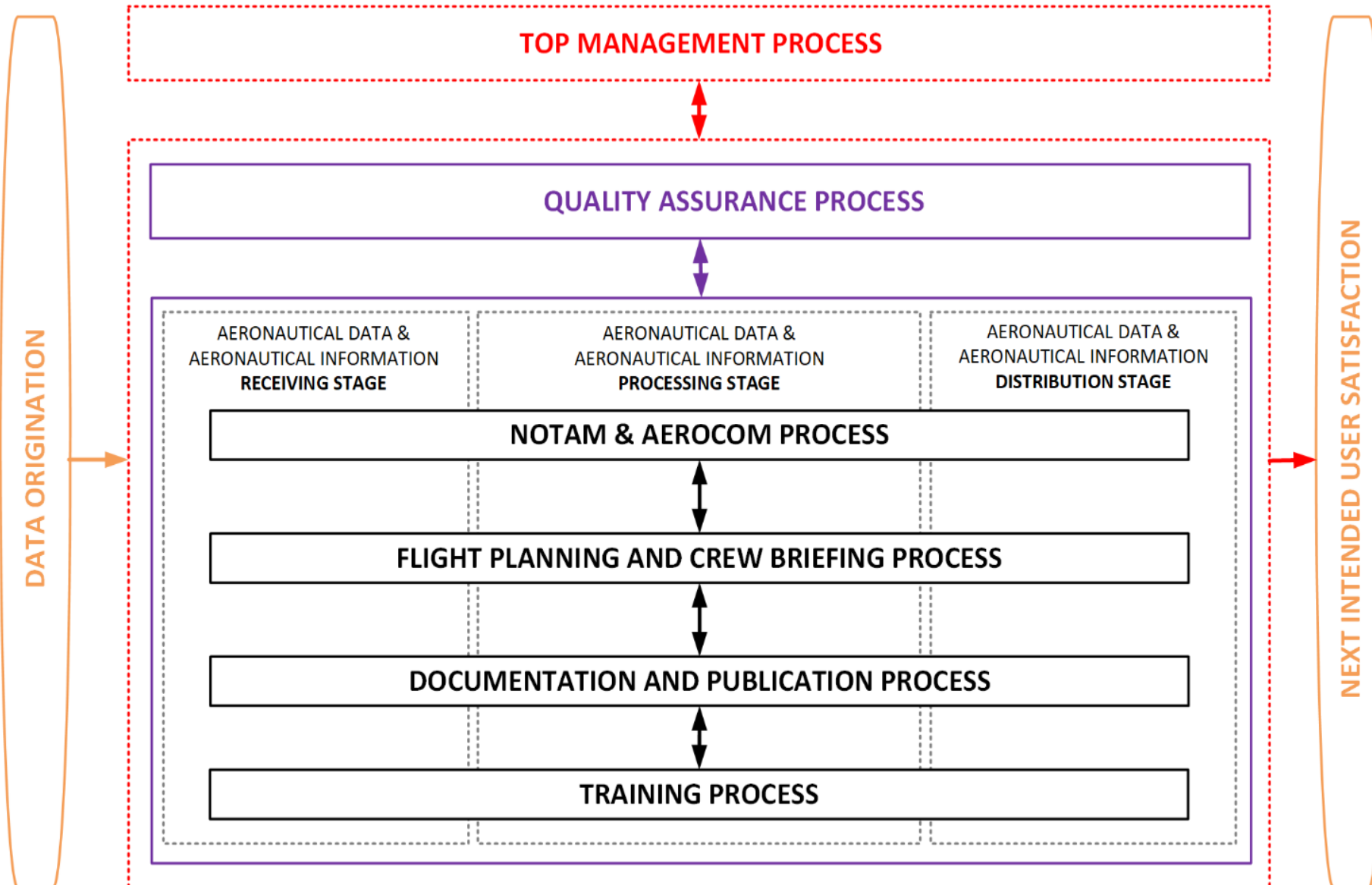
- ➔ The quality management system requirements specified in ISO 9001:2015 are complementary to requirements for products and services.
- ➔ This International Standard employs the process approach, which incorporates the Plan-Do-Check-Act (PDCA) cycle and risk-based thinking.

→ The process approach enables an organization to plan its processes and their interactions.



FUNDAMENTAL CONCEPTS OF ISO 9001

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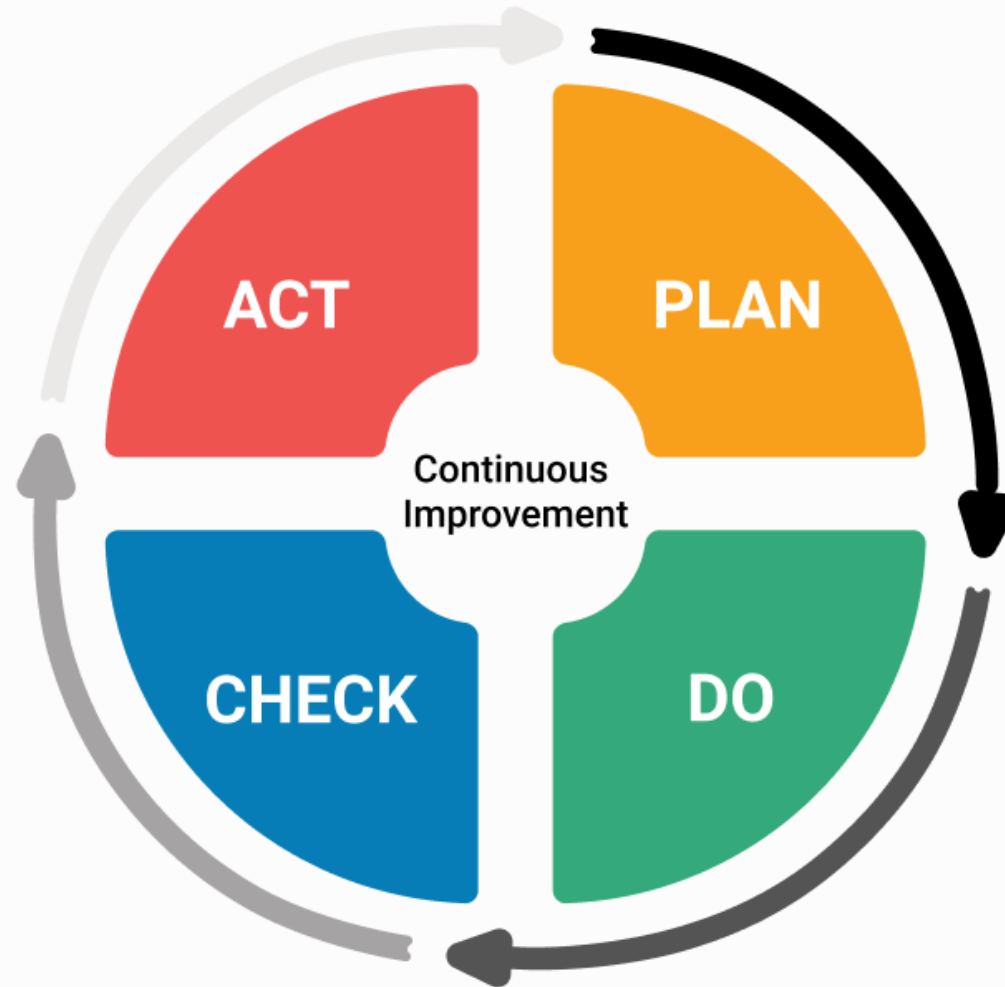


An Example of AIS Process Interaction Diagram

- ➔ The PDCA cycle enables an organization to ensure that its processes are adequately resourced and managed, and that opportunities for improvement are determined and acted on.
- ➔ Plan: Determine what needs to be done and how it should be done.
- ➔ Do: Implement the planned activities.
- ➔ Check: Monitor the effectiveness of processes implemented.
- ➔ Act: Take action to improve the performance of the QMS

FUNDAMENTAL CONCEPTS OF ISO 9001

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➔ Risk-based thinking enables an organization to determine the factors that could cause its processes and its quality management system to deviate from the planned results, to put in place preventive controls.

05

STRUCTURE OF ISO 9001:2015



OVERVIEW OF MAIN FEATURES OF ISO 9001:2015

- ✓ 7 Principles
- ✓ 7 Main Clauses
- ✓ 28 Sub clauses
- ✓ 25 Documented Information
- ✓ 38 Sub-sub clauses



STRUCTURE OF ISO 9001:2015

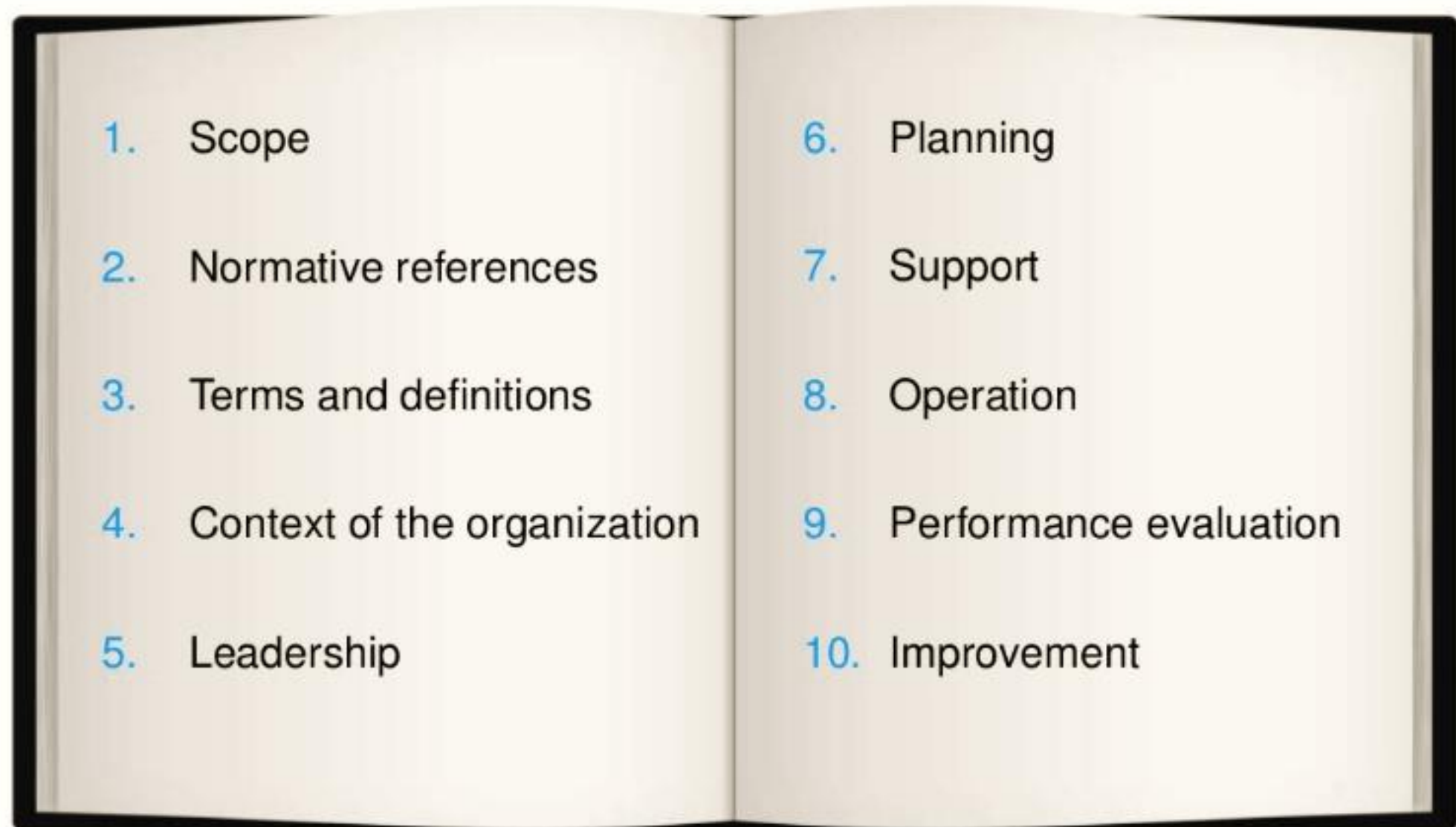
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Principles of ISO 9001:2015

ISO 9001 IS BUILT ON SEVEN QUALITY MANAGEMENT PRINCIPLES



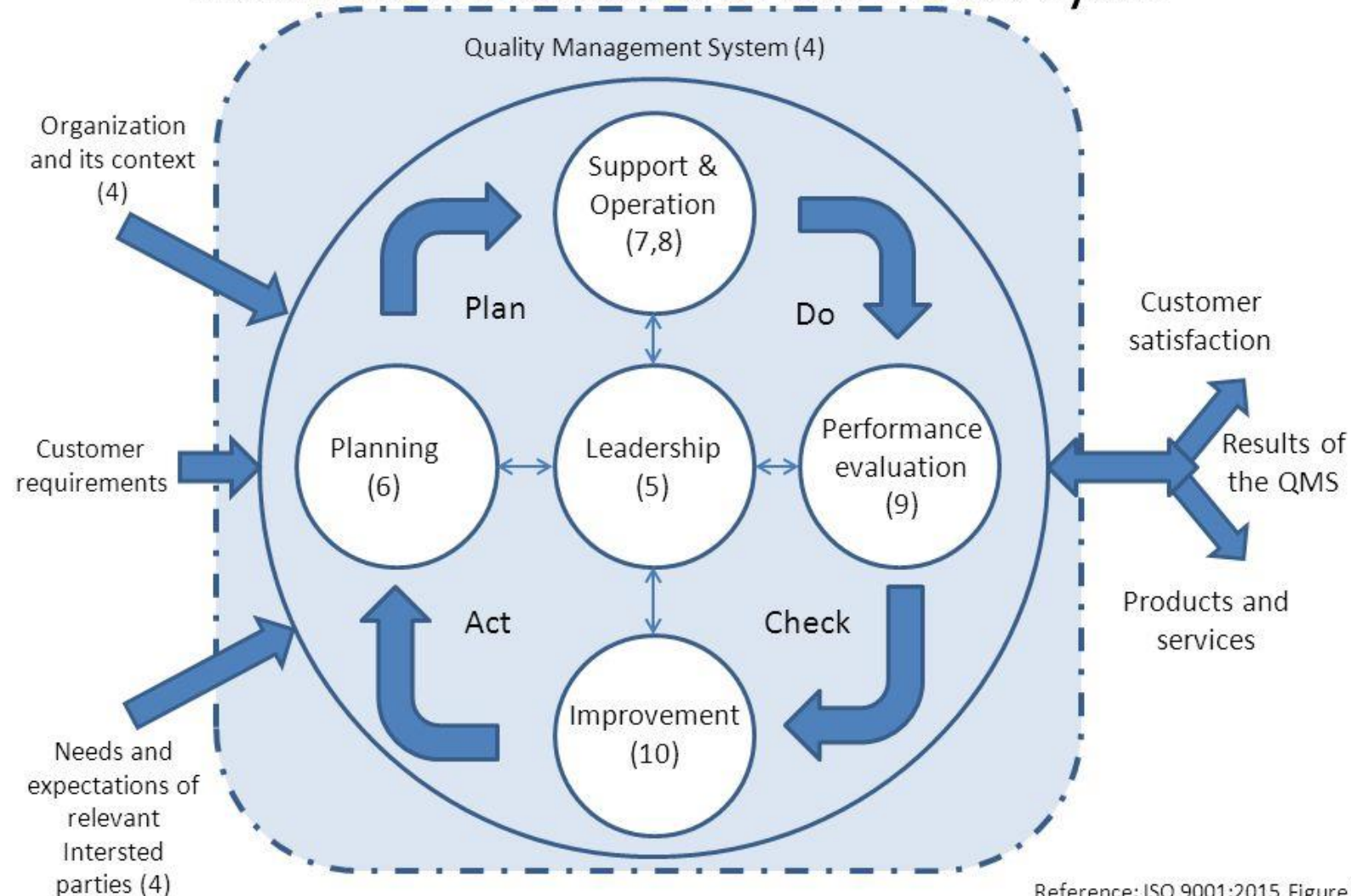


PLAN			DO		CHECK	ACT
4. Context of the organization	5. Leadership	6. Planning for the QMS	7. Support	8. Operation	9. Performance evaluation	10. Improvement
4.1 Understanding the organization and its context	5.1 Leadership and commitment	6.1 Actions to address risks and opportunities	7.1 Resources	8.1 Operational planning and control	9.1 Monitoring, measurement, analysis and evaluation	10.1 General
4.2 Understanding the needs and expectations of interested parties	5.2 Quality policy	6.2 Quality objectives and planning to achieve them	7.2 Competence	8.2 Determination of requirements for products and services	9.2 Internal audit	10.2 Nonconformity and corrective action
4.3 Determining the scope of the QMS	5.3 Organizational roles, responsibilities and authorities	6.3 Planning of changes	7.3 Awareness	8.3 Design and development of products and services	9.3 Management review	10.3Continual improvement
4.4 QMS and its processes			7.4 Communication	8.4 Control of externally provided products and services		
			7.5 Documented information	8.5 Production and service provision		
				8.6 Release of products and services		
				8.7 Control of nonconforming process outputs, products and services		

STRUCTURE OF ISO 9001:2015

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Representation of the structure of ISO 9001:2015 Standard in the PDCA cycle



Reference: ISO 9001:2015 Figure 2

“In the race for Quality, there is no finish line”.

David Kearns





Thank You!

- ➔ **Audit** – Systematic, independent and documented process for obtaining audit evidence and evaluating it objectively to determine the extent to which the audit criteria are fulfilled.
- ➔ **Characteristic** – Distinguishing feature.
- ➔ **Conformity** – The fulfilment of a specified requirement.
- ➔ **Continual Improvement** – A recurring activity to improve or enhance some aspect of a process, product or service.

- ➔ **Correction** – Action to eliminate a detected non-conformity. A correction can be made in advance of, in conjunction with or after a corrective action. It can include rework or regrade.
- ➔ **Corrective Action** – Any remedial action taken to eliminate the cause of a non-conformity that has occurred and prevent recurrence of the non-conformity.
- ➔ **Effectiveness** – The extent to which the outcomes have fulfilled requirements.
- ➔ **Interested Party** – A person or organisation that has a vested or perceived interest in the organisation.

- ➔ **Management System** – Set of Interrelated or interacting elements of an organisation to establish policies and objectives and processes to achieve those objectives.
- ➔ **Measurement** – The process or act of comparing results with requirements.
- ➔ **Monitoring** – The systematic process of observing and tracking activity performance.

➔ **Quality** - The characteristics of a product, service or process that determine its ability to satisfy stated or implied needs.

Note: This is a subjective term. Each person, organisation or sector will have its own definition.

➔ **Quality Management** - Coordinated activities to direct and control an organisation with regard to quality.

➔ **Quality Objective** - A quality related outcome to be achieved.

- ➔ **Requirement** – Need or expectation that is stated, generally implied or obligatory.
- ➔ **Risk** – The effect of uncertainty on an expected result.
- ➔ **Service** – An intangible output performed at the interface between the organisation and the customer.