ISO HANDBOOK

Second edition
2018-11

The Integrated Use of Management System Standards (IUMSS)

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Foreword

This Handbook was written at the request of the ISO Technical Management Board for organizations seeking guidance on how to integrate requirements of multiple ISO standards into an organization's management system, both effectively and efficiently.

Since the publication of the first edition of this Handbook in 2008, there have been a substantial number of changes in both ISO and non-ISO management system standards, affecting all types of organizations. These include the introduction of the ISO High Level Structure, provided in ISO/IEC Directives Part 1, Clause SL.9. The Handbook has been updated to account for the changes.

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.

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Introduction

General

It is recognized that organizations will have some form of a management system. Whether the system is formal or informal in nature is dependent on the scope and context of the organization.

Many organizations will continually reassess their scope and the context in which they operate as their organization evolves in alignment with the changing needs and expectations of their interested parties.

When the context and scope of an organization changes, this is a useful trigger for the organization to learn from others to ensure that the requirements influencing their business processes are integrated and support the organization's objectives.

This Handbook uses the phrase 'integrated management system' to refer to the outcome of the process of integrating requirements from multiple management system standards into a singular management system within an organization.

The process for the updating of the Handbook was guided by the participation of voluntary organizations in answering a questionnaire on their integrated management systems. These organizations are representative of countries across the globe. This Handbook makes reference to this questionnaire as 'the Survey' with results shown in Appendix B.

The challenges faced by an organization in developing an integrated management system will vary based on the size and maturity of the organization.

Having an integrated management system can assist in maintaining a sustainable business model through changing environments.

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Layout of this Handbook

This Handbook contains three chapters, as illustrated in Figure 1:

- Chapter 1 describes the fundamentals of a management system and how it links an organization's strategies, plans, and operations.
- Chapter 2 describes the structure and content of different management system standards and their application.
- Chapter 3 describes how an organization integrates the requirements of multiple management system standards into their management system.

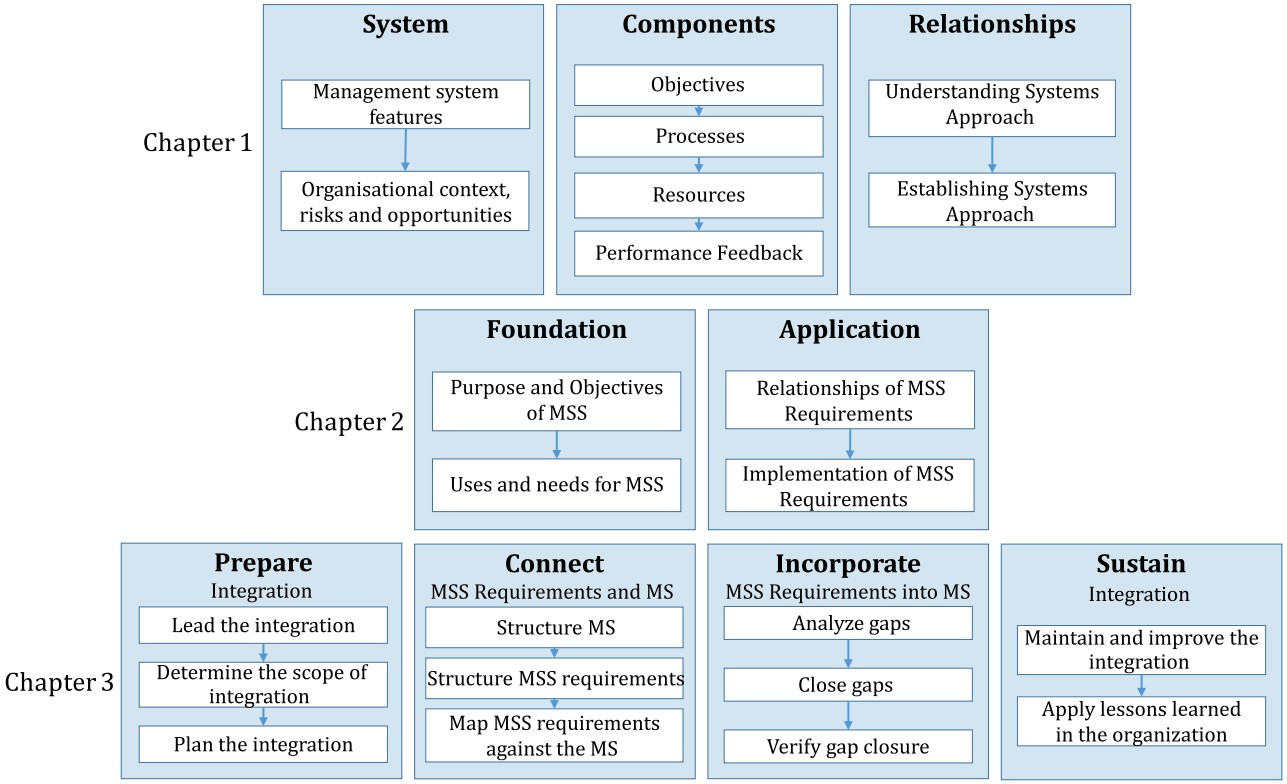


Figure 1: Chapter Content Diagram

It also contains two annexes:

- Annex A details an extended generic example of "Jim the Baker" designing, implementing and integrating new requirements as the business evolves and grows.
- Annex B details the graphical representation of Survey answers.

Each chapter follows a specific layout and acts as signposts for action.

Guiding question(s) – Prompts for the reader to think about the subject matter covered in the section and how it relates to their organization.

Overview – Foundational elements outlining the subject matter.

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Approach – A practical guide to applying the subject matter.

Case(s) in Point – Illustration of the subject matter as applied in different real-world organizational contexts. The case studies have been edited for clarity and are illustrative only.

"Jim the Baker" – Illustration of the subject matter through the use of a generic example. 

Practice questions – Prompts for the reader to apply the principles and methods to their own situation.

How to use this handbook?

The handbook is intended to help organizations understand and apply management system standards, MSS, and the framework to implement a single management system or for integrating multiple management systems.

This Handbook has been designed so that the reader can start at any chapter depending on the context of the organization and the problem which the reader is attempting to solve. For example, in an organization already using one or more management system standards, a reader may simply move to Chapter 3 for guidance on the integration of the requirements of those or additional standards into the organization's management system. Alternatively, if the reader's organization wishes to improve and have a greater understanding of its management system through the implementation of one or more management system standards, they may begin reading at Chapter 1 or 2.

The reader may use Figure 1 Chapter Content Diagram to establish the most appropriate sections with which to start.

This handbook does **NOT**:

- Provide a specific structure for an integrated management system, either as a requirement or as a guideline;
- Give preference to any standard;
- Contain any auditable requirements or additional obligations;
- Give preference to an individual organization's approach or practice, as described in any case study.

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Chapter 1: Management system

The chapter sets out the purpose and components of a management system. Then the chapter describes how an organization's management system fits into and is related to their business context. This understanding is the foundation of an integrated approach to the management system.

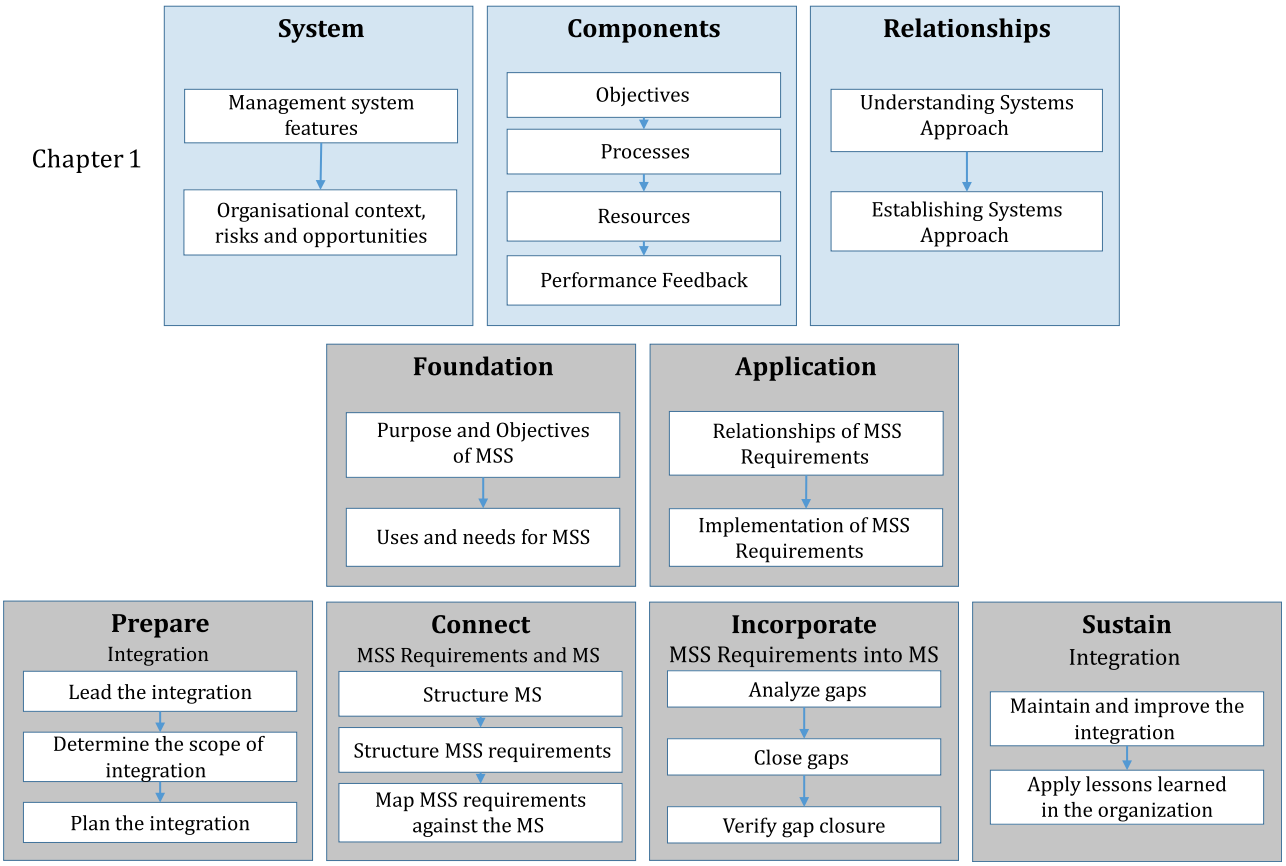


Figure 2: Chapter Content Diagram

By the end of this chapter, the reader should be able to define the interrelationships between an organization and their management system.

1.1 Management system features

Guiding questions

- What is a management system?
- Why is it important?
- How do you know if you have a management system?
- What are the main features of a management system?

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Overview

An organization exists to satisfy the needs and expectations of their interested parties. This is achieved through the presence of a management system. This Handbook uses the definition of a management system as being a set of interrelated or interacting elements of an organization to establish policies and objectives, and processes to achieve those objectives. See ISO/IEC Directives Part 1, Clause SL.9 *High Level Structure*.

Organizations have differing operating models with varying levels of complexity. Based on this complexity, the scope of the management system may apply to a sub-set of an organization or the entire organization. When integrating multiple standards into the management system it is important to consider the scope of that management system.

The foundational principle of a management system is an understanding of the context in which an organization operates. An organization gains this understanding by examining its external issues and internal issues that determine their success and sustainability.

The organization plans their processes in consideration of their external and internal issues. They then implement the plan, monitor the efficiency and effectiveness based on data, and make appropriate adjustments. The management system should be documented to ensure continual improvement activities and retention of organizational knowledge.

An organization that follows and improves its management system will likely achieve performance improvements faster than those that continue to follow 'business as usual' without regularly identifying, prioritizing and implementing improvements.

Approach

For an organization to be effective and efficient in carrying out its activities, it needs to, first and foremost, understand its environment and market in which it operates, including the organization's competitive position. Then, the organization needs to pull together the processes, resources, tools, and work force into one coherent and functioning management system. This allows the system to produce the desired and saleable products or services. Each element of the organization is a process and must understand the interrelationship of the various processes and parts of the organization.

Whether an organization is small or large, simple or complex, the environment in which it functions influences the design and implementation of its management system. Regardless of whether the management system is formally defined and documented or less formal, the needs, objectives, products, services, processes, size and structure of the organization changes over time. As such, a management system will also need to be agile, adaptable and responsive to these changes.

Survey responses (see Annex B, Q1 and Q2) show that organizations of diverse sizes have integrated standards into their management system.

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Jim the Baker

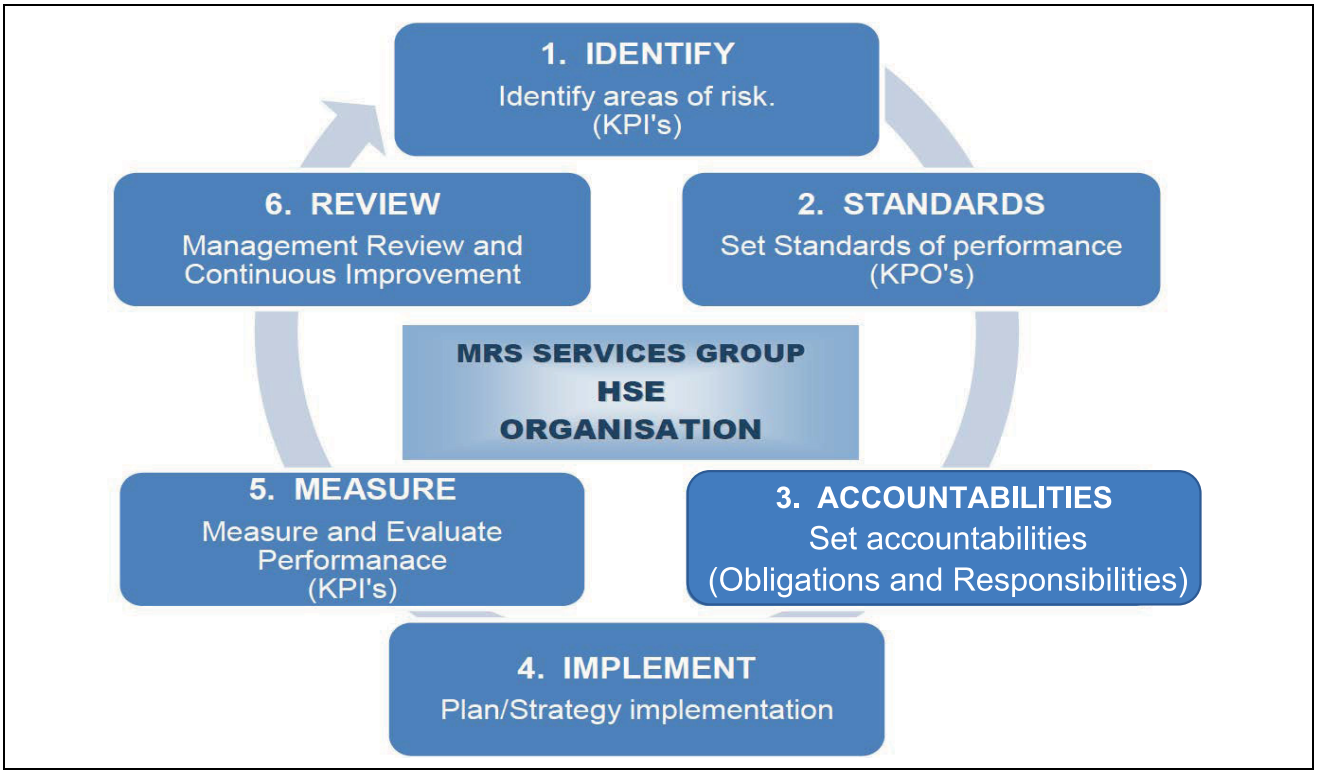


A.1.1

Cases-In-Point

MRS Group Limited

Schematic of the management system supporting the Health, Safety and Environment function of MRS Group Limited:

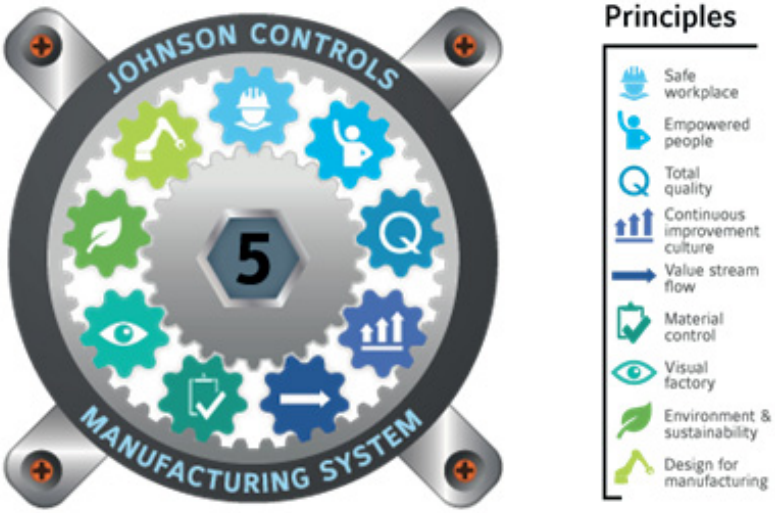


Johnson Controls

An illustration of the "Johnson Controls Manufacturing System (Principles)":

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"The Johnson Controls Manufacturing System (JCMS) is a key element of the Manufacturing platform within the overall Johnson Controls Operating System

- *JCMS has a maturity model at its core that is based upon nine manufacturing principles*
- *JCMS is the way that all 130+ manufacturing locations around the world are expected to perform and defines the expectations for excellence in manufacturing*
- *The maturity model within JCMS provides a roadmap for the plants to deploy and execute manufacturing practices and governing behaviors across five levels of maturity, within each of the nine principles*
- *JCMS provides a standardized approach and expectations for all manufacturing locations, regardless of their individual maturity at the start of the JCMS journey"*

Practice questions

- How have you defined the scope of your management system?
- What are the internal issues affecting your management system?
- What are the external issues affecting your management system?
- How is your management system documented?

1.2 Organizational context, risks and opportunities

Guiding questions

- How does your organization's context influence its management system?
- How does your organization address uncertainty in its business planning?
- Who are your organization's interested parties?

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Overview

When considering its context, the organization needs to understand both the internal and external issues, which influence the organization's purpose, objectives and its sustainable success, such as:

- The needs and expectations of interested parties.
- External issues such as political stability, economic and competitive environment, cultural and social norms, technological advancement, environmental protection and preservation, and legal compliance that needs to be addressed.
- Internal issues such as leadership, management, communications, competencies, and the like.
- Understanding their operating environments and the way the organization differentiates and competes.

The organization's management system is impacted by the needs and expectations of various interested parties. Determining the needs and expectations is a key step in the process of developing the organization's objectives. This can involve balancing competing and, sometimes, conflicting needs of various interested parties.

As the organization considers their context, the determination of their risks and opportunities provides valuable inputs into the design, implementation, maintenance and improvements of the management system.

There are a wide range of tools and techniques available to determine and address risks and opportunities in an organizational context. These should be chosen to suit the context of the organization.

Approach

There are many common techniques for identifying and analysing internal and external issues impacting an organization's management system. These include force field analysis, environmental scanning and benchmarking, Strengths - Weaknesses - Opportunities - Threats (SWOT), and Political-Economic-Societal-Technological- Legal-Environment (PESTLE) (e.g., see ISO/TS 9002:2016). Regardless of the method or tool, it is important for the organization to take into consideration these contextual, external and internal issues, and the identified high-level risks and opportunities.

Jim the Baker



A.1.2

Cases-In-Point

FCC Construction

"FCC Construction Policy" supports their management system with the strategic objectives and interested parties:

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FCC Construction Policy

"This policy and the principles of action outlined herein must be understood and applied by all persons within this company when carrying out their activities."
"We are committed to continuously improving the Management System and complying with legal requirements,both those to which the organisation subscribes as well as the applicable regulation."

Quality

The actions conducted by FCC Construcción are intended to permanently improve the construction sector. Therefore, necessary measures are established to:

- Strengthen and enhance the **international leadership position** within the sector.
- Guarantee **client satisfaction**.
- Ensure staff receive the level of **training** necessary to continually improve their work performance.
- **Meet client requirements** and those stipulated by the law.
- Guarantee working conditions that facilitate **satisfaction and safety of workers**.
- Achieve **profitability** that guarantees remuneration corresponding to the capital employed and the greatest distributed profit.

Environment

The actions conducted by FCC Construcción are focused on respect for the environment by:

- Complying with regulations, laws and other **applicable commitments** undertaken by the Company.
- Continuously improving by **analysing and minimising the environmental incidences** which arise as a result of the Company's activity, contamination prevention actions, biodiversity protection and conservation, waste reduction and optimisation of resources consumption.
- The **involvement** of the parties concerned (internal staff, clients and subcontractors) in environmental management.

R&D&I

The leading position of FCC Construcción is consolidated through innovative activities in line with the most significant breakthroughs in the sector, in terms of:

- **Innovation of technology and processes** linked to its main activity.
- **Actively participating** in initiatives that are focused on the following lines of action:
  - Underground construction
  - Materials
  - Transport networks
  - Building and sustainable refurbishment
  - Prevention of risks at work
  - Environment
  - Process management
  - Marine works
  - Sustainable construction
  - Energy efficiency

Information security

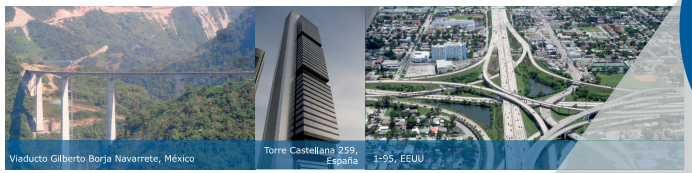
FCC Construcción safeguards information as a strategic resource in our daily activity:

- **Preserving the confidentiality,** integrity and availability of information.
- **Identifying precautionary measures** which are proportional to the value of the assets to protect, their level of exposure, and the impact of possible security breaches.
- **Making all FCC Construcción staff. aware of the FCC Group's internal information security policies.**

Vision

We want to be the international benchmark construction company regarding the provision of solutions focused on citizen well-being, societal progress and sustainable development.

A **diversified and integrated company, committed** to its employees and respected for its ability to generate value and innovate in response to social needs.


Viaducto Gilberto Borja Navarrete, México

Torre Castellana 259, España

I-95, EEUU


Ciudad de la justicia de Barcelona


Puente Vidin Calafat, Bulgaria


Puerto de Açu, Brasil

Mission

To create value for the company and for our shareholders by providing the necessary services and management for: **designing, constructing and operating** infrastructure and services which **efficiently, sustainably and safely contribute to the well-being of people.**



Values

- **Commitment**
- Efficiency
- Excellence
- Respect for the environment
- Looking after people
- Integrity
- Teamwork
- Innovation and use of the most adequate technology.

Providers

With regard to providers, FCC Construcción shall ensure that:

- They wish to form part of the core of **stable collaborative companies**.
- **First-class companies** in their specialties are included on the list of classified providers.
- There is necessary transparency in relationships with **providers** so as to promote mutual **trust**.


Estadio Nacional de Varsovia

Employees

With regard to providers, FCC Construcción shall ensure that:

- FCC professionals feel p**roud to belong to the Company.**
- Employees **want to continue working** for the Company.
- There are **no cases of internal discrimination**, depending on the organisation that provides the services.

Prevention of Risks at Work

The actions conducted by FCC Construcción are intended to protect the safety of workers, therefore conditions are established which are necessary for:

- Conducting work projects with a **high level of safety.**
- **Prevention integration** in decision-making at all levels of the company's hierarchy.
- **Planning, organising and implementing** a monitoring process suitable for prevention, which minimises situations of risk on the works.
- **The involvement of the parties concerned** (internal staff, clients and subcontractors) in prevention management.
- Promoting **healthy working environments,** as well as **healthy worker habits both** in the workplace and in non-professional settings. Promoting healthy working environments, as well as healthy worker habits both in the workplace and in non-professional settings.

Clients

The actions conducted by FCC Construcción concerning clients are intended to:

- Carefully manage **client relationships**.
- **Expand geographical areas** of action with clients from other strategic countries.
- Thereby, aiming to **diversify** into other additional strategic sectors of construction activity.
- All of the above with the **utmost respect for and consideration** of the impacted communities, indigenous people and cultural heritage.

Miguel Jurado
Chairman of FCC Construcción

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Specialty Fasteners

Specialty Fasteners' consideration of the context of the organization, including the mapping of their stakeholders and interested parties to the needs of the business. Their SWOT and PESTEL templates follow as inputs to their Business Plan on a Page with a goal to integrate ISO 45001 within their QMS.

Specialty Fasteners Stakeholders and Interested parties	Stakeholders and Interested Parties needs, expectations and Interests in the business													
	Financial Probity	Intellectual Capital	Environmental Aspects and Impacts	Owner/ Shareholder Value	Ethical Behaviour	R&D, NPD, Innovation	Board Strategy and Plans	Occ Health & Safety	Information & Cyber Security	Risk and Loss Control	Social Responsibility	Brand and Reputation	Training & Development	Third Party Attestation
Investor / Shareholder / Owner														
Management														
Employees														
Local community														
Customers / Clients														
Suppliers														
Government														
Technology Alliance Partners														
Consultants / Advisors														
Industry Associations														
Universities & Technical colleges														
Regulators														

SpecFast Internal Factors SWOT Analysis					
SWOT	Description	Ranking	Actions to take	Responsibility	Date
Strengths (to defend)					
Weaknesses (respond to)					
Opportunities (to consider)					
Threats (assess risks)					

SpecFast External Factors and Strategic Arena PESTEL Analysis						
PESTEL	Description	Effect on the Organisation	Ranking	Actions Required	Responsibility	Date
Political Issues						
Economic Issues						
Societal Issues						
Technology Issues						
Environmental Issues						
Legislative Issues						

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Practice questions

- How do you ensure the organization's strategy is relevant and adaptive in responding to the markets within its context?
- How have risks been determined and addressed?
- How have opportunities been determined and capitalized upon?

1.3 Components of a Management System

In every management system, there are several essential components for it to function. These are:

- Objectives
- Processes
- Organizational structure and resources
- Performance feedback

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1.3.1 Objectives

Guiding questions

- Are there objectives in place that address the needs of the organization's interested parties?
- How do these objectives relate to the organization's management system?

Overview

An organization starts with an idea to accomplish their objectives. In pursuing those objectives an organization is dependent on several interested parties. However, objectives cannot be viewed in isolation. When objectives are considered in the context of the organization, the results are likely to be far more beneficial to the organization. The organization's challenge is to understand how to set objectives that match their business context. Prioritization of competing objectives and the impact on planning and resources can be complex. This results in the need for effective communication.

Approach

Objectives should be an output from the organization's planning processes, supporting the integrated management system. The objectives then need to be cascaded throughout the organization. Planning for the deployment of the strategy reflected in the objectives is imperative to the overall success of the management system.

The Survey identified a range of metrics utilized by organizations with integrated management systems (see Annex B, Q20). The key aspects are that metrics should be chosen and aligned based on the context in which the organizational objectives have been set and that they be consistent throughout the organization.

Jim the Baker



A.1.3.1

Cases-In-Point

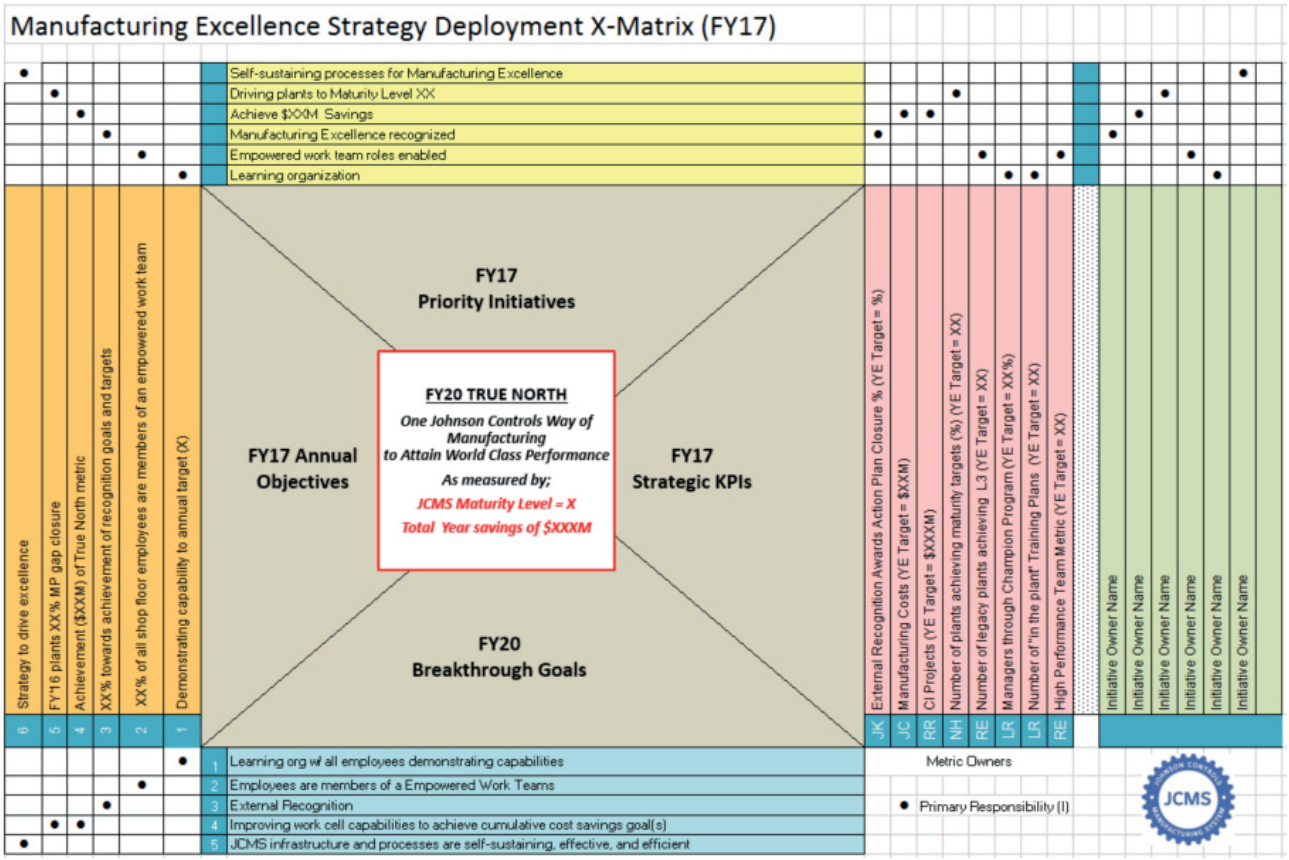
Johnson Controls

One approach in setting objectives is given in the case study of Johnson Controls. Johnson Controls utilizes a process based on Hoshin Kanri style of planning. First, the process involves an Environmental Scan, which encapsulates the issues affecting the context of Johnson Controls and their interested parties to develop a strategy.

Secondly, a Plan Deployment Matrix is developed to determine the long term and annual objectives, which are fulfilled through the creation of annual projects. In order to ascertain the progress and impact of the projects, metrics are chosen and aligned to these objectives. The projects are monitored on a continual basis. In the case of Johnson Controls formal project teams report out monthly.

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"The Johnson Controls Manufacturing Excellence team at the corporate-level utilizes a strategy deployment matrix approach, based on Hoshin Kanri planning practices

a. *Develop strategic projects on the annual basis that cascade from the multi-year strategic goals for the Manufacturing Excellence team*

b. *Based upon a Hoshin Kanri approach to planning and cascading strategic plans into deployable projects*

c. *Specific strategic metrics are determined to assure that projects are achieving the desired impact*

d. *Regular reviews are conducted monthly to assure that projects are on track to achieving metrics and mitigating actions are taken, as appropriate*

e. *This process has been used and refined over several years and is embedded into the management practices of the Manufacturing Excellence team"*

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Orbital Gas Systems Ltd

The first two paragraphs in the Orbital Gas Systems Ltd's "Quality, Environmental, Health and Safety Policy Statement":



ORBITAL

QUALITY, ENVIRONMENTAL, HEALTH AND SAFETY POLICY STATEMENT

Our foremost objective is to satisfy Clients with a high quality engineering service capable of designing, building and maintaining product and service that will consistently meet their quality, safety, environmental and reliability needs. We aim to achieve those needs in a safe, responsible, sustainable and environmentally sound way, in accordance with our QHSE and Ethical policies and procedures. Quality, Health, Safety and the Environment are considered to be of paramount importance. Orbital will actively promote and administer a strong Quality, Health, Safety, Environmental and Ethical culture amongst our staff and our sub-contractors.

To assure these objectives are realized, we have established an Integrated Management System incorporating the requirements of the current revisions of ISO9001 & ISO/TS29001 for Quality Management, ISO14001 for Environmental Management, and OHSAS18001 for Health & Safety Management.

Practice questions

- What is your organization's strategy and direction?
- How do your objectives align with the strategy and direction?
- How are your objectives defined and articulated?
- How are your objectives linked to your organization's interested parties?

1.3.2 Processes

Guiding questions

- What are the processes used for product and service realization, support, and management of the organization?
- How are they interrelated?
- How are the processes documented?

Overview

All work in an organization occurs through its processes. Therefore, an organization should have a deep understanding of the timing, interdependences, interactions, and interfaces within the processes of the organization's management system. Product and service realization processes provide the means to achieve the organization's objectives and therefore form the backbone of the organization's management system. When seeking to understand the need for integration it is equally important to understand those processes supporting the product and services realization processes.

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Processes need to be both efficient and effective in transforming inputs into outputs. The output then needs to meet interested parties' requirements. Maximizing process efficiency and effectiveness is a fundamental concept for a successful organization. Where possible, processes will have a 'verb and a noun' like Make Product or Deliver Service. It is recommended that the processes do not carry names of areas or departments of the organization.

Approach

Processes are in place for every organization. For a single or integrated management system, they need to be described and related in some form, for example the Suppliers-Inputs-Process-Outputs-Customers (SIPOC) and/or "turtle" diagrams, flowcharts/process maps and value chain diagrams.

Process performance, its measures, ownership and resources need to be captured and represented within a management system. Combining the process requirements is an effective approach in designing and developing an integrated management system. The Survey results (see Annex B, Q15) show a variety of process frameworks and approaches used.

Jim the Baker



A.1.3.2

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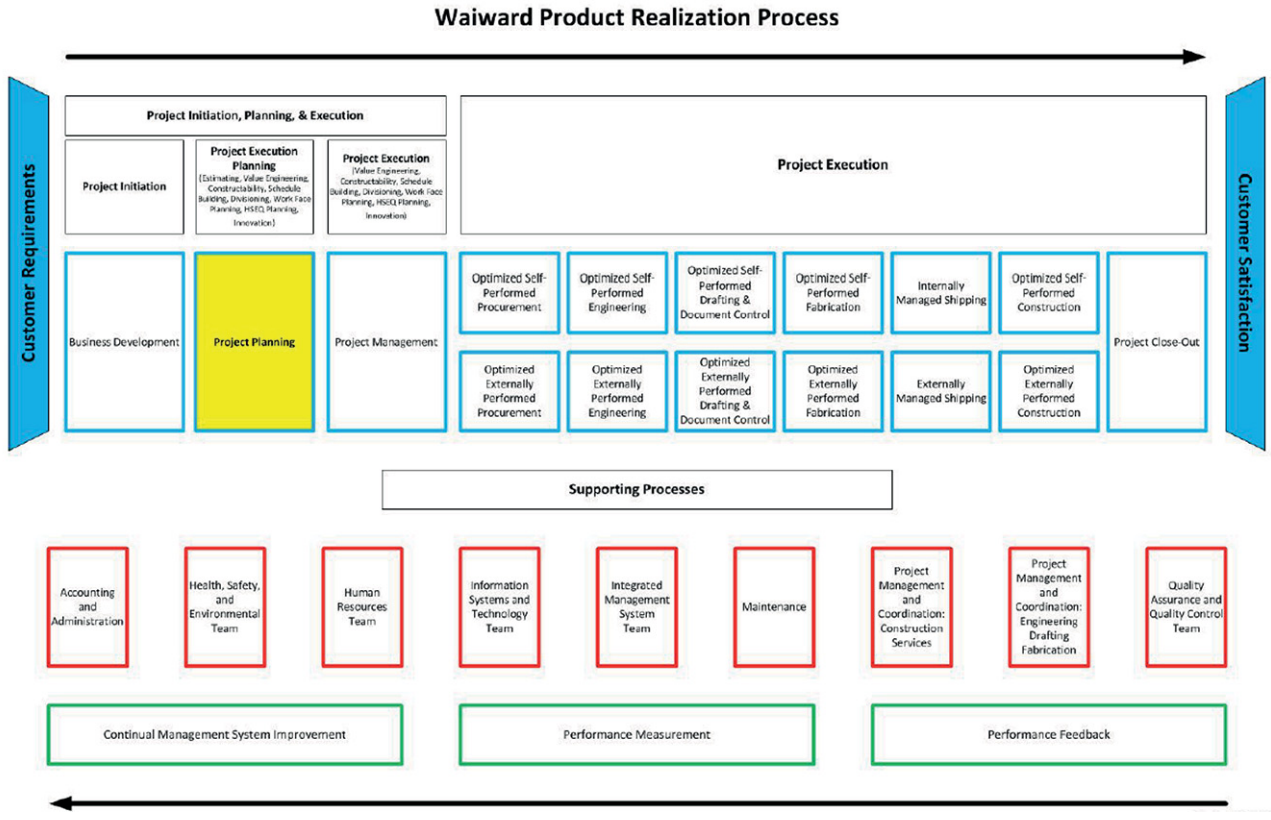
Cases-In-Point

Waiward Steel

Interrelationship between "Product Realization" and "Supporting" processes from the "Integrated Management Systems Manual" of Waiward Steel:

3.1.2 Product Realization Processes

The Product Realization Process Map below identifies key Business Processes. Each is a key process step in our "Product Realization Process", which creates the products and services sought by our customers. The business process steps include:

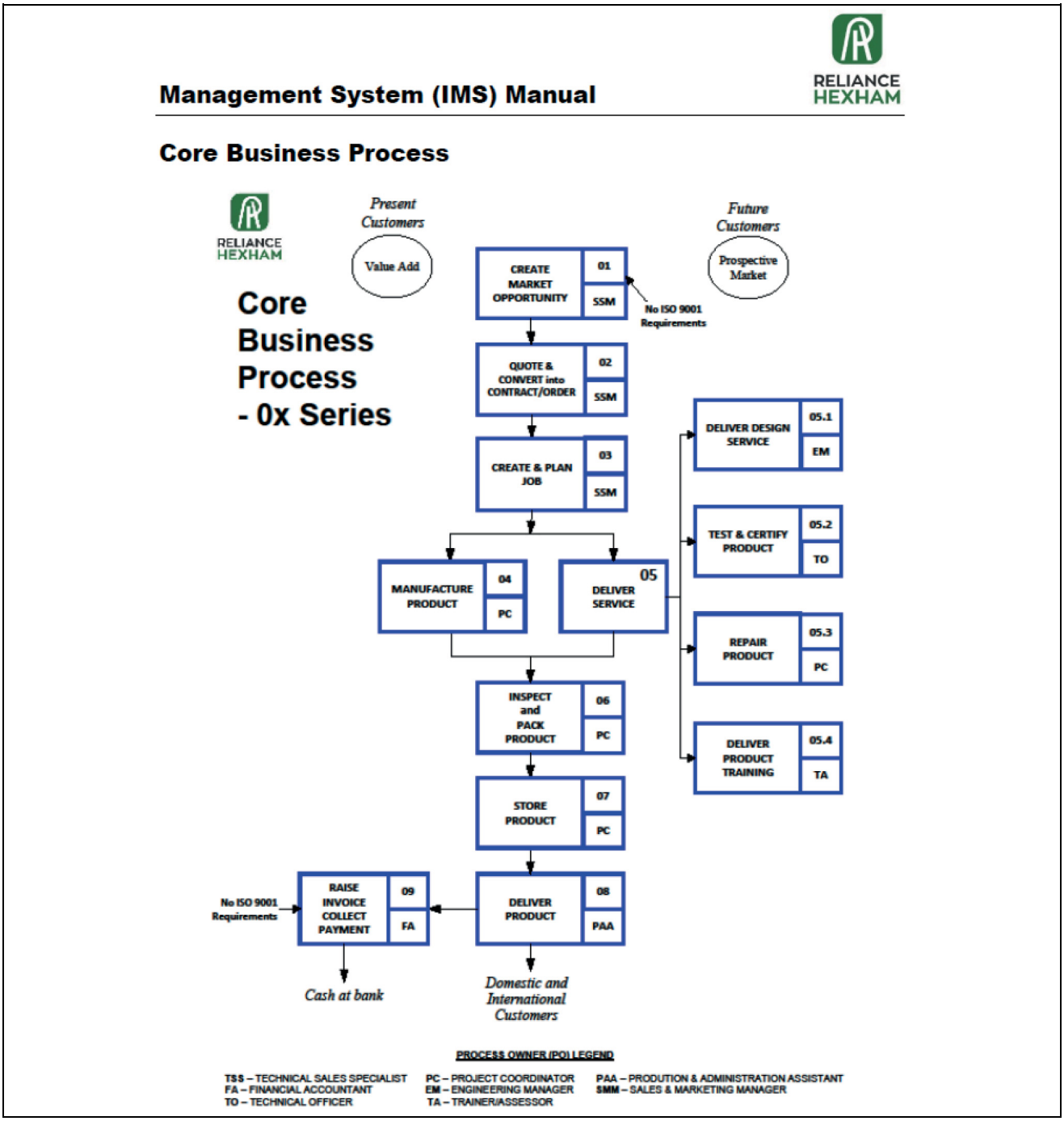


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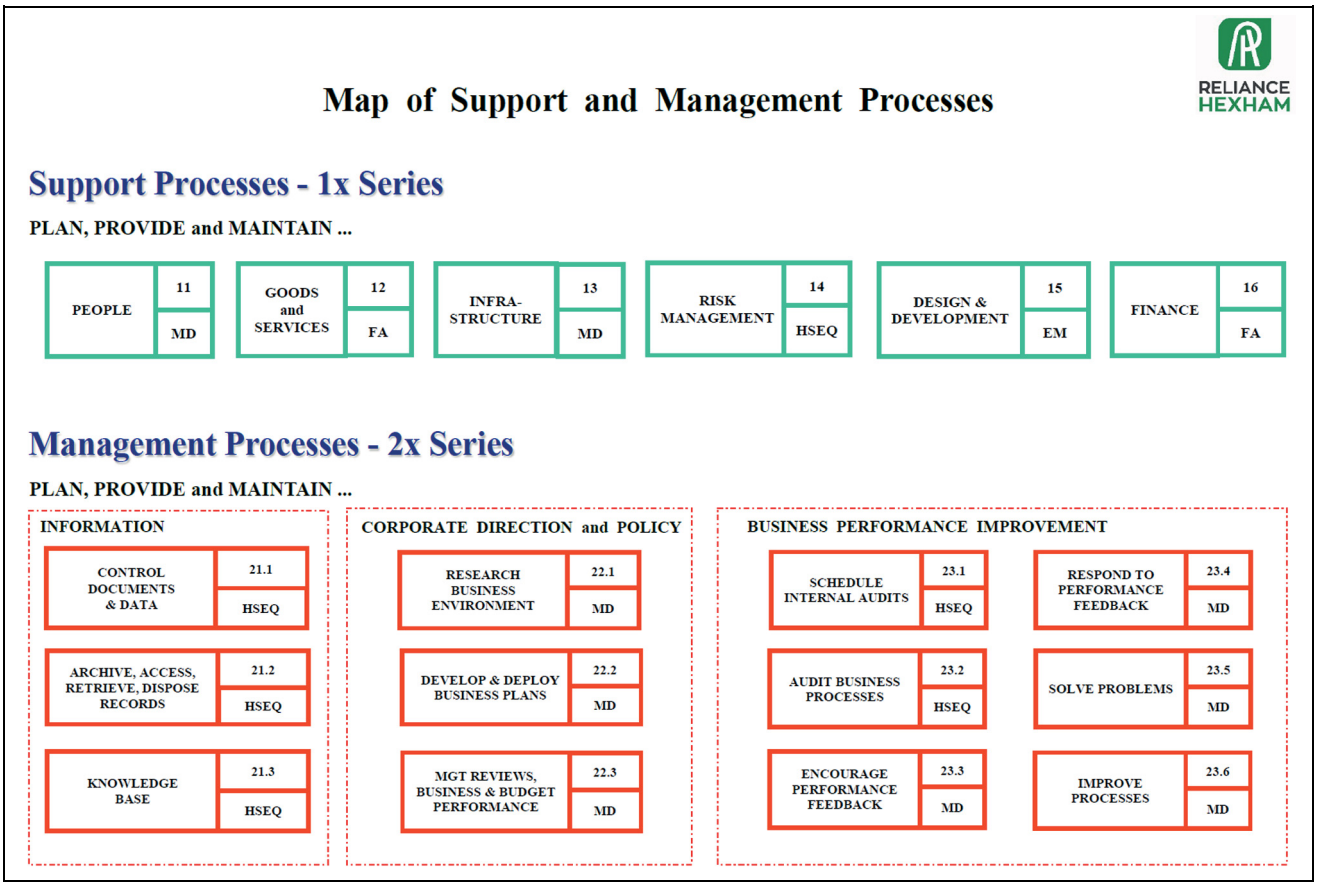
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Reliance Hexham

Reliance Hexham's "Core Business Process" interfaces and relationship with "Support Processes" and "Management Processes" is shown in two parts.



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Practice questions

- How have you defined the interactions of your organization's processes?
- What is the process for realizing your products and services?
- How does your organization define the differing service, manufacturing, test and delivery processes and procedures?
- What are the support processes?

1.3.3 Organizational structure and resources

Guiding questions

- How does the organizational structure support the achievement of their objectives?
- How does the organization approach their use of resources?
- How does your organization define and communicate the roles and responsibilities of their human resources?

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Overview

The organizational planning process is an integral part of the overall management system. Careful consideration of the external and internal issues will allow the organization to develop a robust strategy to meet the needs of the interested parties. Cascading the strategy into organizational planning leads to the design and improvement of the management system to provide sustainable performance.

The organizational structure and resources of the organization directly impact the ability of the organization to design, implement, maintain, and improve their management system. Further, the organizational structure and resources must be aligned directly to their objectives through the defined and assigned process owners and managers.

Approach

The specific structure of the management system is dependent on the context of the organization. Smaller or less complex organizations may not utilize a formal structure. Larger or more complex organizations have a greater need for a more formal structure. This becomes apparent as a means for execution and control of the components of the management system in a coordinated manner.

The organization uses a variety of resources to accomplish its objectives and to meet the expectations of its interested parties. These resources form an integral part of the organization's management system and include:

- People (job roles, responsibilities, authorities, etc.),
- Materials (raw materials, graded products, by products, etc.),
- Information (measurements, monitoring, feedbacks, etc.),
- Infrastructure (machinery, equipment, operating conditions, employee welfare, etc.),
- Finances,
- Organizational knowledge, and
- Other resources (e.g. knowledge and skills, time and space for improvement projects, etc.).

An effective and efficient management system looks to balance these in an integrated way and appropriately structures its management system.

An organization that is more effective and efficient in delivering on the objectives is more successful. They may take the following into consideration:

- establish the functions, roles and responsibilities of everyone within the organization;
- determine the responsibility and accountability of the IMS;
- clarify the decision-making processes;
- ensure effective coordination of the organization's activities;
- enhance and clarify different communication channels;
- structure information exchange;

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- monitor and analyze the organization's activities effectively;
- co-ordinate various resources;
- deploy strategies and initiatives;
- identify, acquire, and deploy resources.

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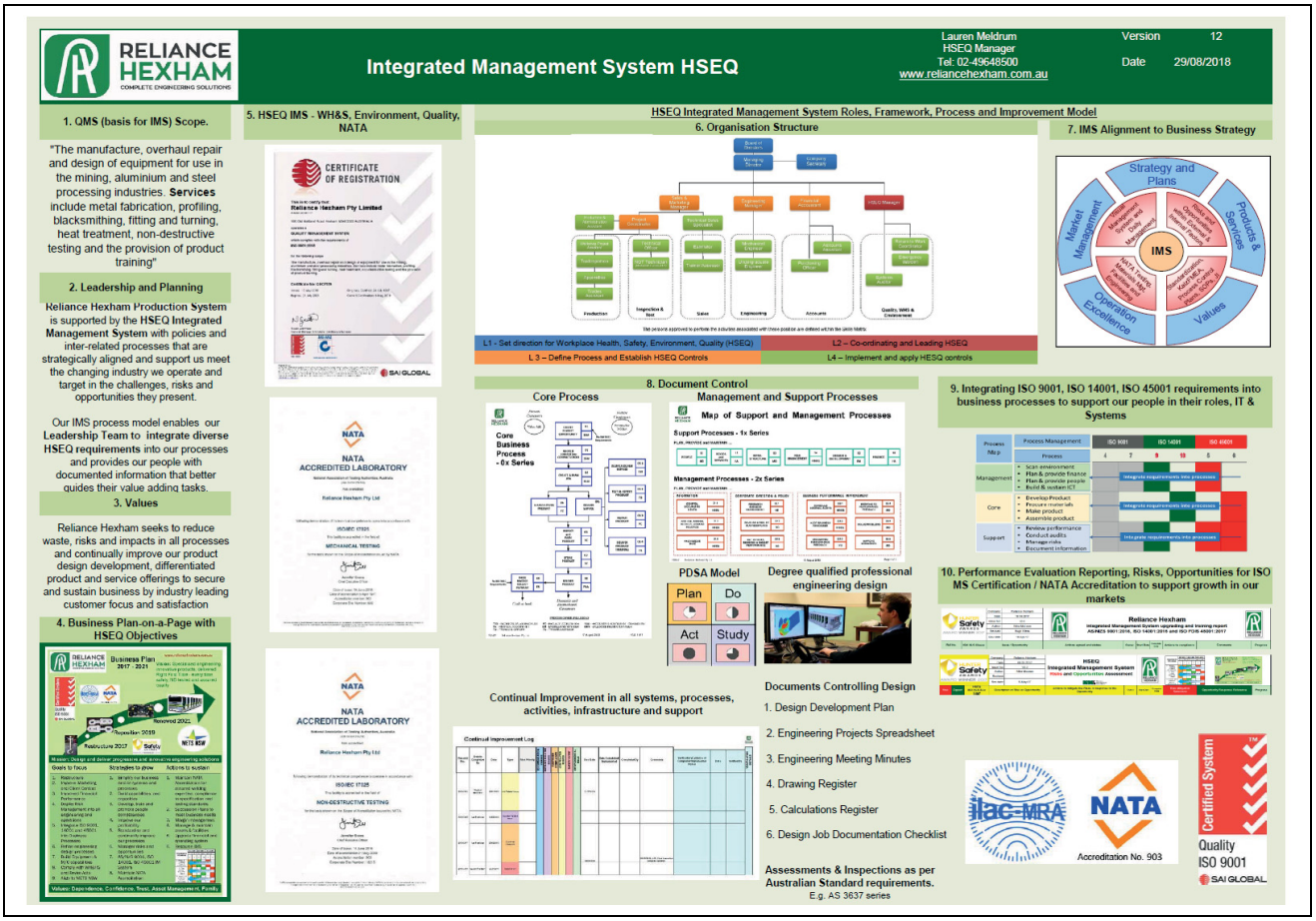


A.1.3.3

Cases-In-Point

Reliance Hexham

The organizational structure, roles and levels built around its processes within HESQ management system and including NATA accreditation in Reliance Hexham:



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MRS

Alignment of resources and responsibilities to objectives from the MRS' "HSE Management System" document.

> **3.1.3. Set Accountabilities / Responsibilities- (Step 3)**
>
> We will identify and provide the necessary resources to meet our HSE objectives. SG-HSE-PRO-1.02 – Roles and Responsibilities will include clear definition of **WHO** will be accountable for the realisation of KPO's. This will include clear accountabilities within individual standards and procedures where contractors and/or suppliers are involved.
>
> When defining our HSEQ accountabilities we will identify and include our legal obligations, duties and responsibilities.
>
> **3.1.4 Implementation – (Step 4)**
>
> In achieving our objectives and targets we will allocate sufficient resources and provide support to facilitate progression. Each department will apply the HSEQ procedures wherever relevant to their activities and processes.
>
> A communication structure will be developed and maintained that will facilitate the consultative process. A cross-section of the workforce will be encouraged to become involved and participate so that we can utilise the collective knowledge and experience of the entire team to generate the best possible results.

Practice questions

- How are resources determined, acquired, and deployed?
- How do you coordinate the use and deployment of resources?
- How are the major organizational initiatives and strategies resourced?
- Are there process owners who have cross-functional responsibility for the major initiatives of the organization?

1.3.4 Performance feedback

Guiding questions

- How does your organization determine their expected process outputs?
- How does your organization monitor and measure whether processes are effective?
- How does your organization monitor and measure whether processes are efficient?

Overview

All management systems must consider the methods in which the organization obtains feedback on their performance. There are objectives at both strategic and tactical level. The organization should be able to adapt the deployment and implementation of their management system to continue to meet their objectives.

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The monitoring of performance alone is not sufficient. There is a need to determine and take the appropriate actions to continually improve and drive towards achieving the objectives of the organization. Taking ownership and accountability of the feedback is facilitated through effective communication and resolution of actions.

Approach

The organization needs to monitor and measure performance at all levels of the organization to determine their performance relative to established objectives. Understanding performance through analysis of data allows the organization to learn and develop actions for improvement and increasing organizational knowledge.

For an integrated management system, it is important that the scorecard and inherent key performance indicators and other metrics for specific processes do not sub-optimize the overall performance.

Jim the Baker



A.1.3.4

Cases-In-Point

CEPSA

An illustration of CEPSA's "Process Management" including process ownership and methods for calculating process performance.

CEPSA

Gestión por Procesos del Sistema de Calidad
Process Management of the Quality System

PROCESO / PROCESS	P.FP.SR	**PROPIETARIO / OWNER**	CCP LUBRICANTES FABRICACION SAN ROQUE

INDICADORES DE PROCESO / PROCESS KPIs

REF.	NOMBRE / NAME	FORMA DE CÁLCULO / CALCULATION WAY	PERIODIC.	R. ACTUACIÓN / R. OPERATION	R. MEDICIÓN / R. MEASURING	OBJ.
01	Preparaciones Bien a la Primera	Dato mensual. Anual dato promedio	Mensual	CCP LUBRICANTES FABRICACION SAN ROQUE	CCP LUBRICANTES FABRICACION SAN ROQUE	N
02	Cumplimiento plan de fabricación - Envasado	(Tm Reales / Tm Programadas en el Plan Teórico)*100. Plan teorico sin descontar prodcutos que no se pueden envasar por falta de aditivos, bases, accesorios...) en el periodo indicado	Mensual	CCP LUBRICANTES FABRICACION SAN ROQUE	HSE CALIDAD LUBRICANTES	N
03	Cumplimiento Plan de fabricación - Mezcla	(Tm Reales / Tm Programadas)*100.	Mensual	CCP LUBRICANTES FABRICACION SAN ROQUE	HSE CALIDAD LUBRICANTES	N
04	Eficiencia Global de Envasado	Promedio de eficiencia en el envasado para todas las líneas de envasado	Mensual	CCP LUBRICANTES FABRICACION SAN ROQUE	HSE CALIDAD LUBRICANTES	N
05	Desglose Aceite Grupo	Tm que se destinan a aceite Grupo / Tm actividad de Mezcla	Mensual	CCP LUBRICANTES FABRICACION SAN ROQUE	HSE CALIDAD LUBRICANTES	N
06	Desglose del aceite Slop	Tm que se destinan a aceite Slop / Tm actividad de Mezcla	Mensual	CCP LUBRICANTES FABRICACION SAN ROQUE	HSE CALIDAD LUBRICANTES	N

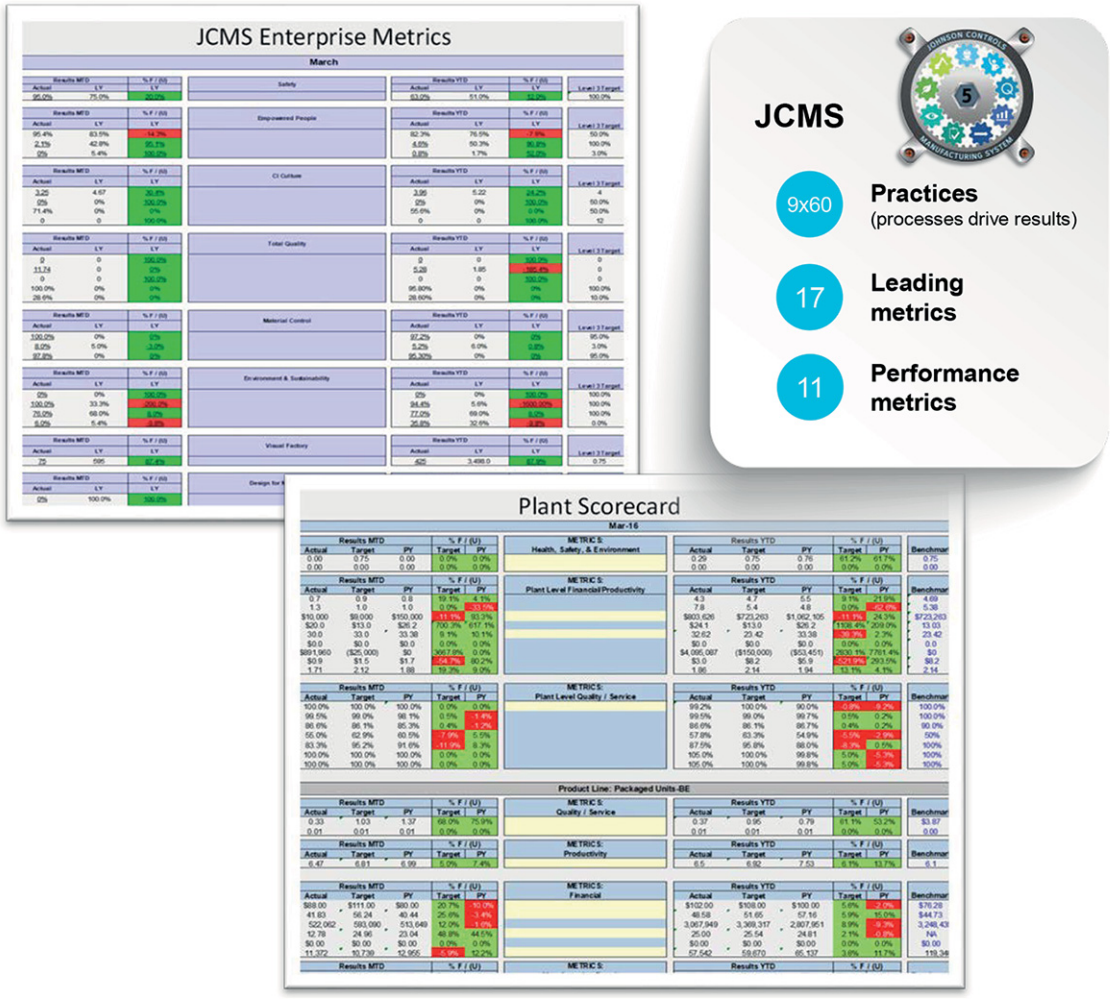
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Johnson Controls

The Johnson Controls case study details the process for how an organization may standardize the analysis and resolution of actions through a cascading plant scorecard. This is achieved through having common metrics developed and standardized at enterprise, business unit and cross-functional specific metrics levels.

Johnson Controls utilizes a monthly coordinated schedule for monitoring their ongoing performance across the enterprise. Having a standardized scorecard allows the organization to readily analyse and compare at any level.



"Within the Johnson Controls Manufacturing System (JCMS) there are key metrics that have been identified to drive the expectations for performance across the manufacturing system

- *Leading Metrics – Metrics that measure the extent of process deployment and execution*
- *Performance Metrics – Metrics that measure the performance due to the deployment and execution of the manufacturing system*
- *The JCMS key metrics are linked directly during regular reviews to the individual business unit metrics that are expressed at the plant*
- *The expectation is that the JCMS "process drives performance"*

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Practice questions

- How does your organization review its performance?
- How is the performance reviewed in terms of frequency and sequence between parts of the organization?
- How is feedback provided and implemented?
- How do you ensure accountability through the feedback process to drive the organization's objectives?

1.4 Understanding the relationships of management system components

1.4.1 Understanding the systems approach

Guiding questions

- What is meant by relationships and linkages in an organization's management system?
- How do linkages impact the effectiveness of the management system?
- How do the documented information and metrics fit within the management system?

Overview

Organizations operate through many formal or informal arrangements that are interlinked to achieve the organization's objectives. This includes the framework of processes and resources used to ensure that an organization can achieve its objectives. In a systems approach, the processes that make up the framework are not isolated or independent, rather, they are linked, measured and have feedback with means to evaluate performance.

Analysis of the individual components of the management system is important to explain how they work. Integration of the components reflects the systems approach. This integration includes comprehending the interaction among the processes, resources and performance feedback as they work together to achieve the objectives.

A systematic approach includes understanding the interaction of the processes which support the product and service realization process, such as planning, finance, accounting, purchasing, supply chain, and many others. Ensuring the support processes work effectively with the product and service realization processes requires the monitoring of process performance. Most organizations document their processes, for example, by using flowcharting, text documents, or other methods. A variety of such documents used is shown in Survey (see Annex B, Q19).

Approach

Viewing the organization as a system can lead to conclusions that are different as compared to analyzing the individual components of the system. The case studies demonstrate that taking the systems view has many advantages for the organization in seeking to improve and achieve its objectives.

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The case studies also show that there are benefits to utilizing a systems approach through the linkage of their processes within the management system, for removing redundancies and gaining synergies.

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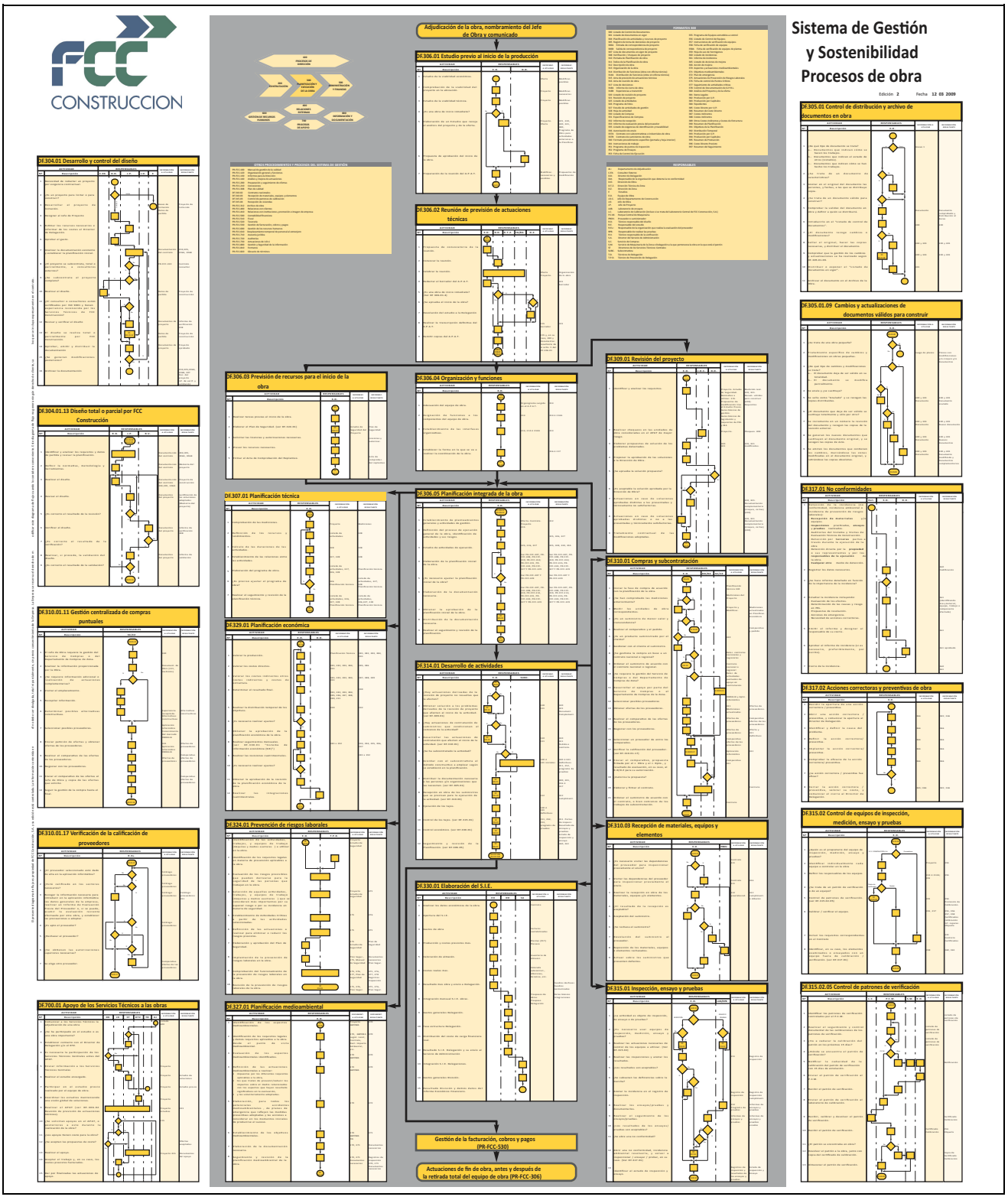
A.1.4.1

Cases-In-Point

FCC Construction

An additional systems approach taken by FCC Construction is demonstrated in their case study where they show interconnected process maps. This graphically represents the entire management system and includes the relationships between their objectives, processes and resources.

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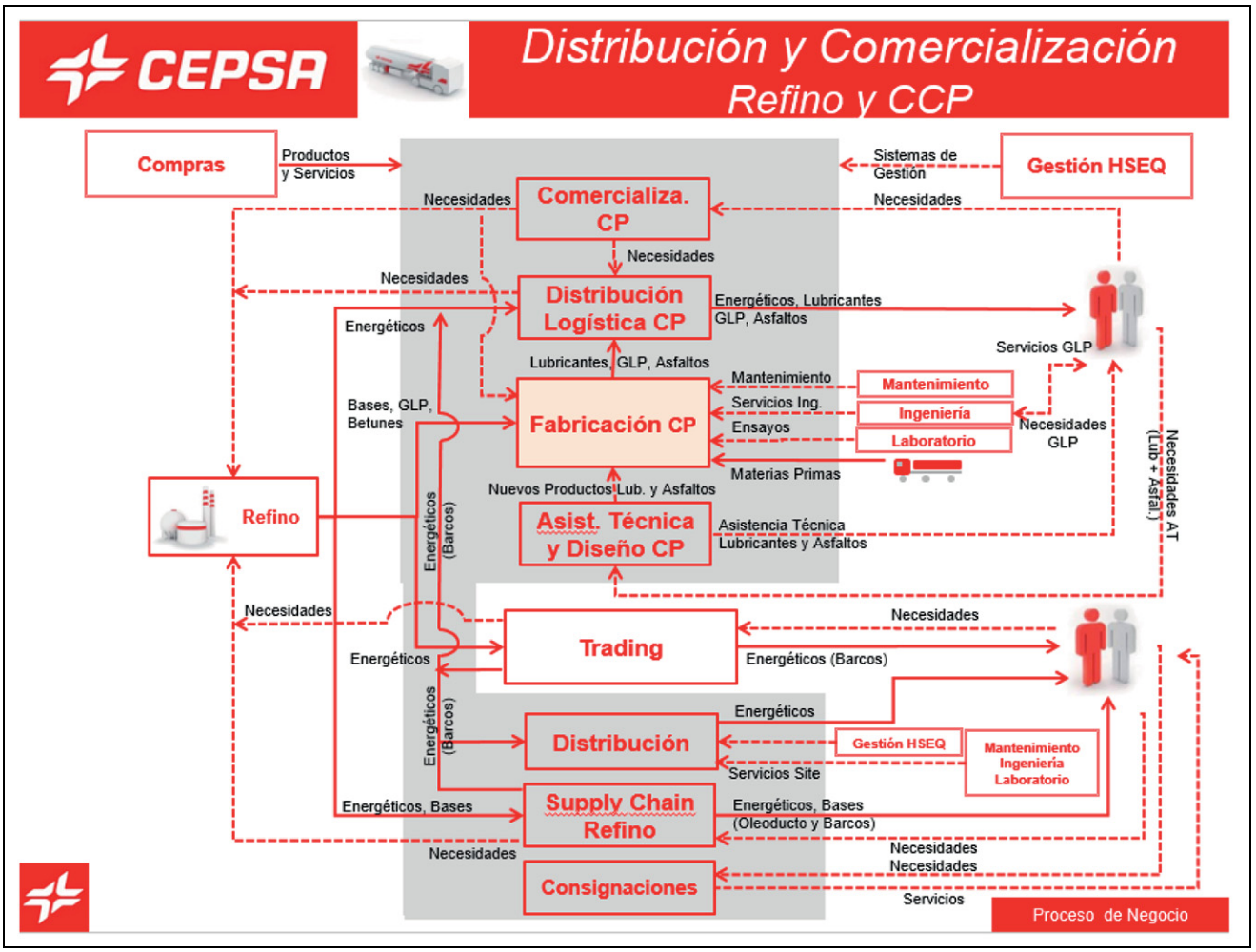


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CEPSA

CEPSA's illustration of the relationships of management system components.



Practice questions

- When reviewing the process model for your organization, are there multiple management systems?
- How are the processes integrated?
- How have you determined the relationships between the processes?
- Where are the redundancies or non-value-adding processes?
- How could you link requirements to your organizational processes?

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1.4.2 Establishing a systems approach

Guiding questions

- How are management processes used to control your organization?
- How is the management system used to support the organization's business activities and processes*?*

Overview

To establish a systems approach, the organization needs to understand how its system works and how success is measured. This includes an understanding of the relationship between the objectives, processes, resources and performance measures. Once there is a clear understanding, the organization can clearly design, implement, maintain and improve their management system.

How a system responds to issues is an indicator of the level of continual improvement and the overall performance of the system. The concept of the systems approach is a key element when considering the integrated use of management system standards.

Approach

The definition and analysis of the processes and their linkages provides a foundation for the management system. Using this foundation, the organization can examine the opportunities for synthesis of all the major components of the management system to achieve objectives more effectively and efficiently.

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A.1.4.2

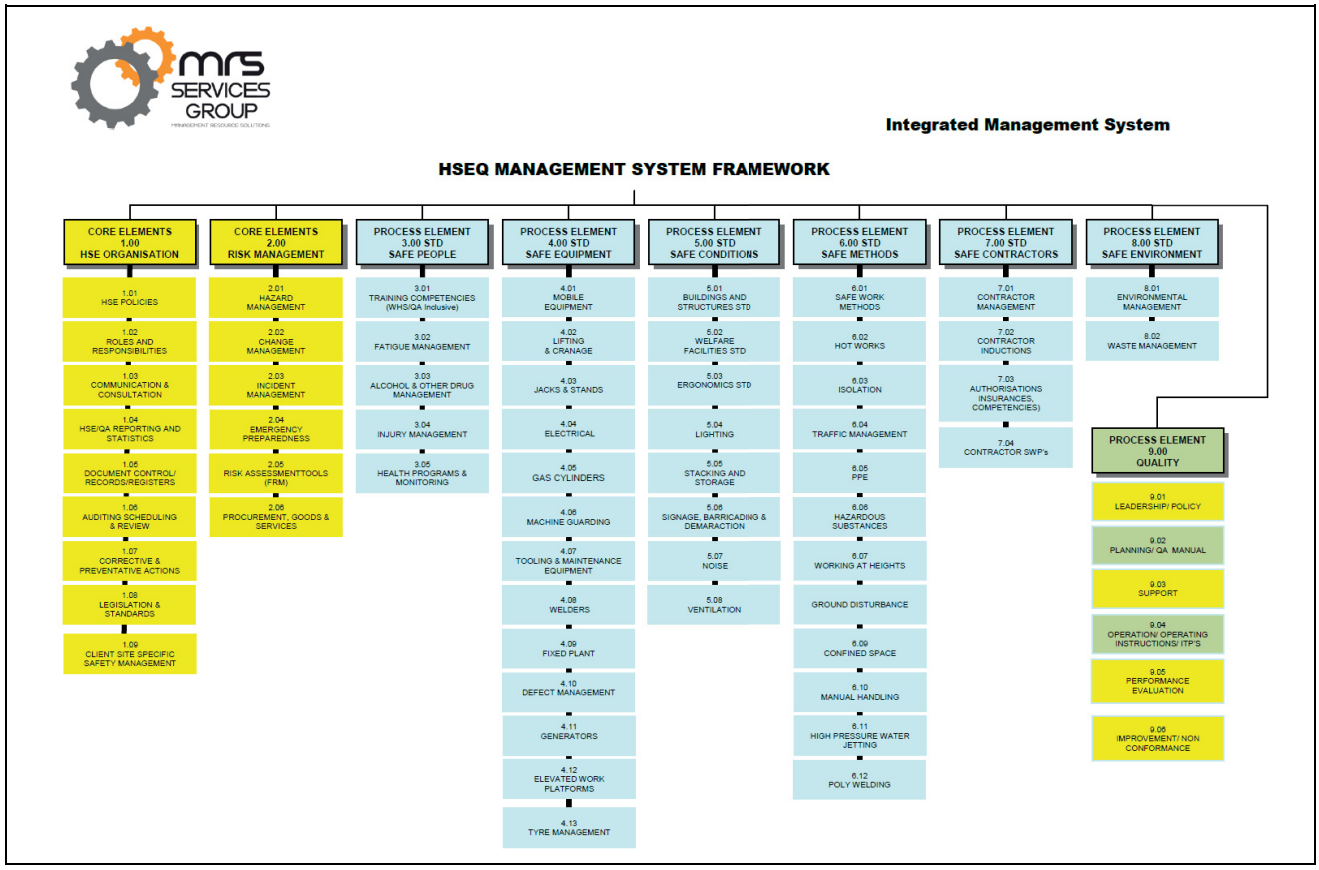
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Cases-In-Point

MRS

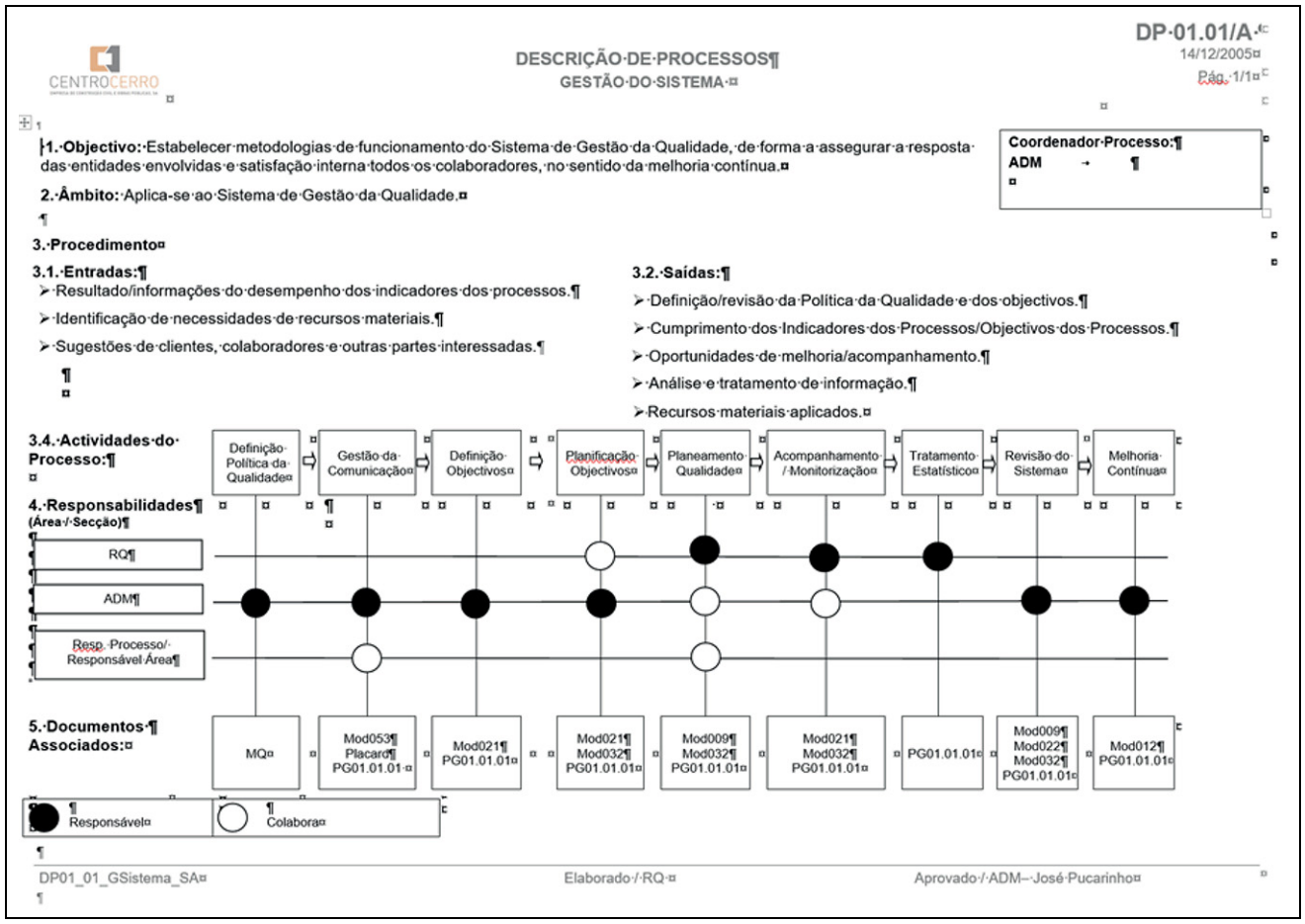
An illustration of the MRS' "HSEQ Management System Framework":



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Centro Cerro

The Centro Cerro case study illustrates a method for a company to connect different processes and resources across the management system, for example, from establishment of policy objectives through planning to continual improvement. The graph below also shows responsibilities across a broad range of activities.



Practice questions

- How do the supporting processes of your management system interact with the product and service realization processes of your organization?
- How well are they integrated into the overall management system?
- How do they relate to the objectives, interested party requirements, and the use of resources and other components of the management system?

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Chapter 2: Management System Standards

A management system standard is a set of structured requirements that provide an organization with the capability to meet the specific purpose of the standard, such as the establishment of environmental, energy, information security, asset or risk management systems. These standards have different objectives and they affect multiple interested parties.

This chapter describes the content of management system standards and their relationship with the organization's existing management system.

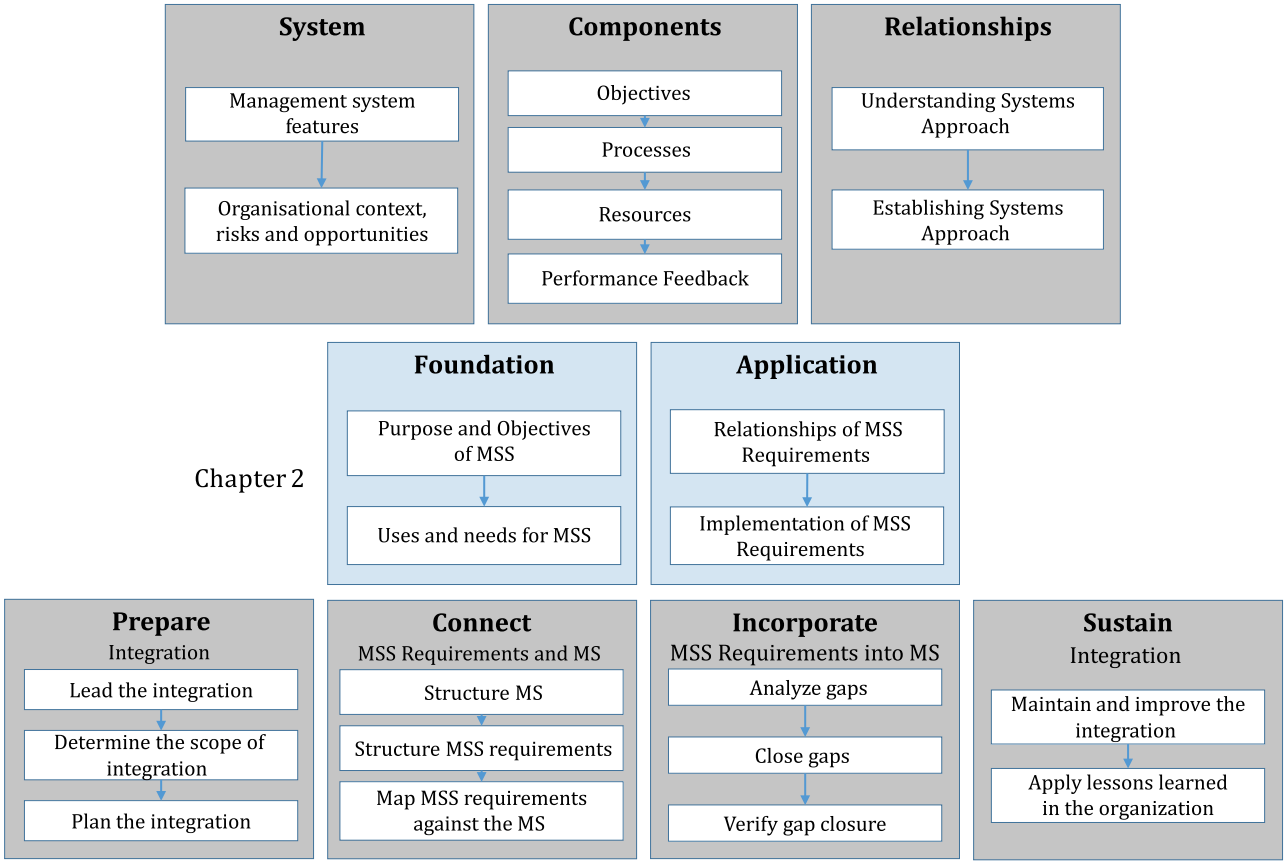


Figure 3: Chapter Content Diagram

One of the most significant changes to ISO management systems standards in recent years is the development of the High-Level Structure (HLS) that all these standards are to be based upon. Therefore, it is important to have a general understanding of this HLS when the organization is implementing ISO management system standards.

The HLS provides a common structure, some common text, terms and definitions for management system standards. For reference, the following is the clause structure taken from the HLS:

1. *Scope*
2. *Normative references*
3. *Terms and definitions*
4. *Context of the organization*

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5. *Leadership*
6. *Planning*
7. *Support*
8. *Operation*
9. *Performance evaluation*
10. *Improvement*

All ISO management system standards that are revised or written since its publication are required to follow this structure.

This commonality may make it easier for the organization to read and understand the management system standards. It may also make it easier for the users during analysis and implementation of management system standard requirements to identify their commonalities and differences.

For example, the following table shows excerpts from clause 5.1 of four ISO management system standards with highlighted commonalities.

ISO 9001	ISO 14001	ISO 27001	ISO 45001
5.1 Leadership and commitment	**5.1 Leadership and commitment**	**5.1 Leadership and commitment**	**5.1 Leadership and commitment**
"Top management shall demonstrate leadership and commitment with respect to the quality management system by: … c) ensuring the integration of the quality management system processes and requirements into the organization's business processes;"	"Top management shall demonstrate leadership and commitment with respect to the environmental management system by: … c) ensuring the integration of the environmental management system processes and requirements into the organization's business processes;"	"Top management shall demonstrate leadership and commitment with respect to the information security management system by: … c) ensuring the integration of the information security management system processes and requirements into the organization's business processes;"	"Top management shall demonstrate leadership and commitment with respect to the OH&S management system by: … c) ensuring the integration of the OH&S management system processes and requirements into the organization's business processes;"

It should be noted that it is not necessary, or intended, for the organization to adapt their processes or documents to the HLS. Rather, they should follow their strategic objectives and operating processes.

The remainder of this Chapter sets out to elaborate on the purposes and objectives of standards, the uses and needs of standards and finally the application of the standards to your management system.

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2.1 Purpose and objectives of management system standards

Guiding questions

- Which standards have you deployed in your organization?
- Why are standards necessary for my organization?
- Which standards relate to the needs and expectations of interested parties?

Overview

Successful organizations understand the need to control their important activities. The primary purpose of a management system standard is to provide a framework enabling the organization to accomplish this objective. Another purpose is to meet the needs and expectations of the organization's interested parties and improve.

Approach

Management system standards provide a tool to enable a systematic and verifiable approach to organizational control in an environment that encourages good business practices. The Survey results show that organizations already have multiple standards deployed in their organization (see Annex B, Q12). This highlights that organizations are using these to provide a framework for analysis and implementation of internationally recognized good business practices. Some common requirements of management system standards generally apply to all organizations:

- Management and employee responsibility, authority and accountability;
- Competence and awareness;
- Planning and deployment of resources;
- Internal and external communication;
- Risk evaluation and impact on objectives;
- Performance review related to organizational objectives;
- Internal audits;
- Control of documented information.

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A.2.1

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Cases-In-Point

Informatica El Corte Ingles

In their response to the survey, Informatica El Corte Ingles listed three implemented standards, namely ISO 9001, ISO 20000-1 and ISO 27001 and one regulation. Their response to the survey question: "How did you show the relationship of your organization's processes to the requirements on an ISO or non-ISO MSS?" was:

> *"ISO 20000-1 establishes very clearly which processes you need to comply with, and the minimum requirements for each of them."*

Tradeco

Tradeco's response to the survey question "What external ISO or non-ISO Standards are integrated within your management system":

> *"ISO 9001, ISO 14001 and OHAS 18001"*

Plexus Corp

Plexus Corp's response to the survey question "What external ISO or non-ISO Standards are integrated within your management system":

> *"ISO 9001, AS9100, ISO 13485, TL9000, ISO 14001, OSHAS 18001, ATEX, IRIS, ISO 50001,"*

Practice questions:

- Is the authority and responsibility of management and employees known and understood?
- Are there differences in your organizational objectives that have been developed for your deployed standards?
- How are the requirements of these standards communicated?
- How are they monitored?

2.2 Uses and needs for management system standards

Guiding questions

- When are management system standards necessary for your organization?
- Which management system standards should you use?
- What are the risks and opportunities to integrate multiple management system requirements?

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Overview

Management system standards identify requirements that are of importance because of the potential risks to the organization. Failing to address these risks may be an obstacle to the organization's ability to satisfy its interested parties, and to meet its objectives.

Management system standards focus on a topic or theme that applies to a functional aspect of an organization, such as quality, environment, safety, security and energy or to industry specific requirements.

Management system standards tell the organization what is required, but typically do not address how to fulfil the requirement. This is for the organization to determine.

The decision to apply a management system standard to an organization is typically determined by customer and other interested parties' demands, or by an organization's internal need for systematic control and improvement.

Organizational, interested parties or customer needs drive the implementation of management system standards.

These decisions may include implementation of multiple management system standards. Since individual management system standards focus on different scopes and objectives, this may lead to separate implementation of the standards in the organization. This Handbook encourages the integrated use of multiple management system standards.

Approach

Organizations may determine which management system standards are necessary, based on industry, global and societal influence. For example, ISO 9001 is one of the most widely known standards for Quality Management. ISO 14001 was developed as a standard for environmental management. There are many other widely-used and recognized management systems standards, including:

- ISO 37001 – Anti-bribery,
- ISO 45001 – Occupational Health and Safety, and
- ISO 50001 – Energy management

Several industries have developed management system standards which contain requirements that are specific to a that industry. Examples of such standards, sometimes referred to as sector specific, include:

- TL 9000 – Telecommunications,
- AS 9100 - Aerospace,
- IATF 16949 – Automotive, and
- SA 8000 – Social Responsibility

The decision to choose a management system standard or to implement multiple standards is driven by the objectives of the organization.

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A.2.2

Cases-In-Point

Orbital Gas Systems

Orbital Gas Systems, operating within the infrastructure industry, responded as follows to the survey question "What are the Standards used to achieve?":

"Clients will not do business with us unless we have certification to ISO 9001, ISO 14001 and Achilles UVDB Verify"

Waiward Steel

Waiward Steel, operating within the manufacturing industry, responded as follows to the survey question "What are the Standards used to achieve?":

"At first, it was due to customer demand. Now, they are used as part of a continual improvement platform"

Aurecon

Aurecon, operating within the engineering services industry, responded as follows to the survey question "What are the Standards used to achieve?":

"Standardisation across the business and implement continuous improvements"

Practice questions

- Where is the demand for a management system standard coming from?
- How will application of a management system standard improve business value?
- How will application of a standard help your organization to meet interested parties' needs?

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