Effective Quality Management Systems Workshop

Dr Ali AL-Zubaidi CQP, FCQI, Evr/Ing., CEng



House Keeping

- 4 Hours Duration with 15 Minutes Break in between
- 2 hours Presentation Followed by Debate & Discussions
- No Smoking
- No Mobiles
- Emergency Situations
- No Photographs only at the end
- No Certificates Issued



Background & Forward

- Education
- Work Experience
- Professional Memberships
- Management Systems Experience
- Why this Workshop?
- Listen very carefully and think
- You do not have to agree, but use logic in putting your point forward-----



- Effective understanding of concepts of "Quality" & "Quality Management Systems"
- Role, structure, and purposes of ISO standards
- Difference between Quality Management Systems & ISO 9001 standard
- Effective practices of quality management systems implementation
- Misunderstandings of what quality management systems are about
- Impact of "Certification" and "Accreditation" mal-practices



O. Breaking the Mould!!





What is "Quality"?

- Different people had viewed "quality" differently.
 Meeting specifications?
 - Fitness for purpose?
 - Creating documentation?
 - Conforming to set documentation (procedures)?
 Achieving certification against ISO 9001 standard?
 - >What do you think??
- Concept of "Quality" existed for many years.
- Developed over time especially over last 100 years.
- Need to standardise understanding of the concept.

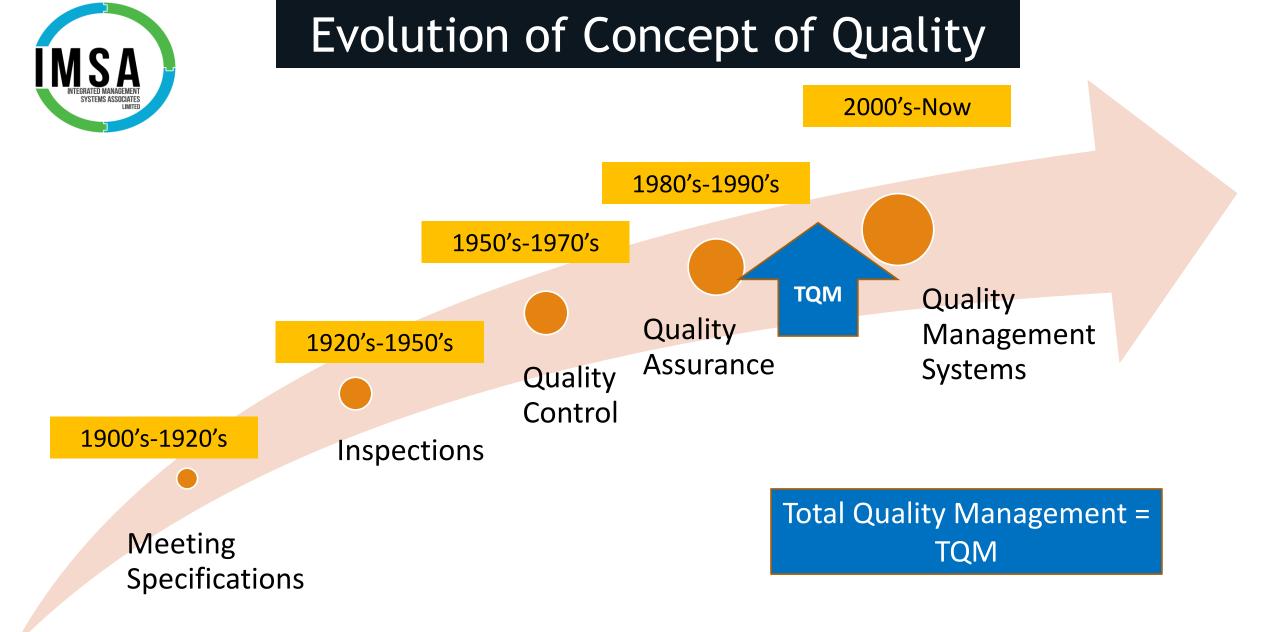


What is "Quality" really about?

Quality is not just about:
 Creating documentation
 Following procedures
 Receiving certificates

Quality is <u>definitely</u> about:
 Effective & efficient outcomes (outputs)
 Stakeholders satisfaction
 Safe operations & products
 Minimising waste, errors & rework

1. Development of concept of Quality





Quality Concepts (ISO 9000:2015 / 2000)

Quality Control "<u>Part</u> of quality management focused on <u>fulfilling</u> quality requirements."

Quality Assurance

"<u>Part</u> of **quality management** focused on providing <u>confidence</u> that the quality <u>requirements</u> will be fulfilled."

Quality Management

"<u>Coordinated</u> activities to <u>direct</u> and <u>control</u> an organisation with regard to quality."







Customer /

Stakeholders

Quality Degree to which a set of inherent <u>characteristics</u> fulfils <u>requirements</u>.

Characteristic Distinguishing feature.

Requirement

Need or other expectation that is stated, generally implied or obligatory.

Organisation



2. What is a Quality Management System?



Management Systems Concepts (ISO 9000:2015)

Set of <u>interrelated</u> or <u>interacting</u> elements (processes)

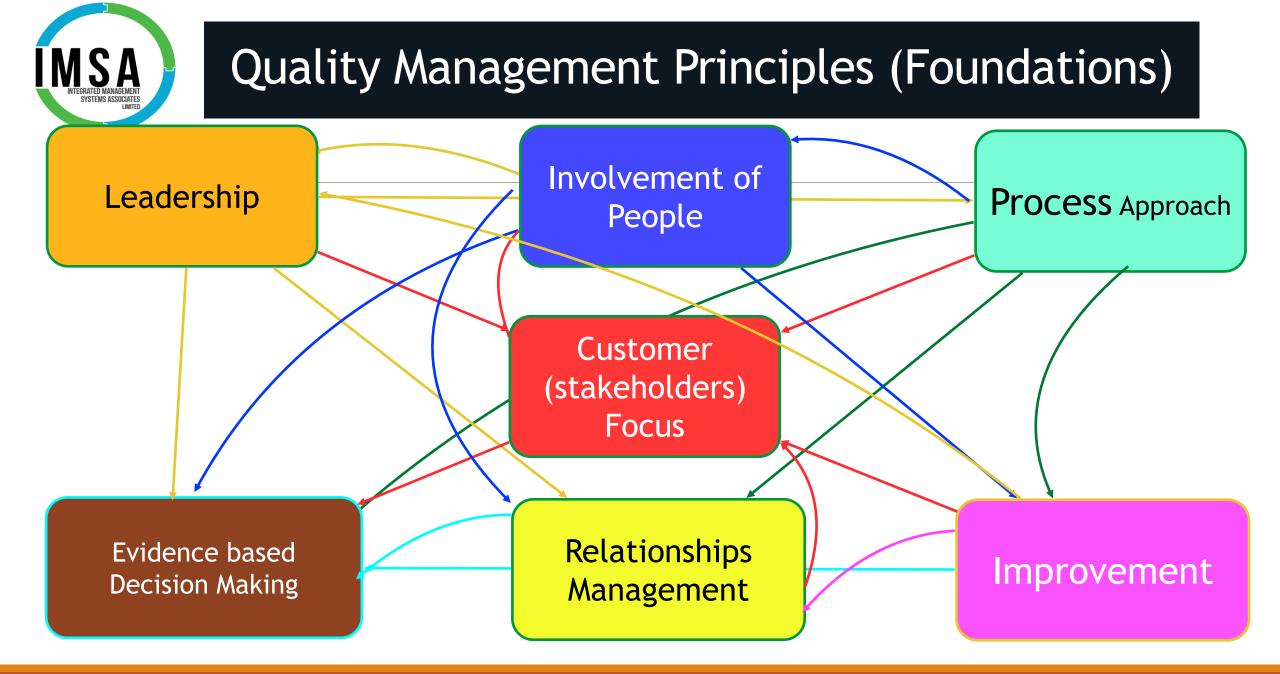
Management System

Management **NOT** Administration

Set of interrelated or interacting elements of an organisation to establish <u>policies</u> and <u>objectives</u> and <u>processes</u> to <u>achieve</u> those objectives

XXX* Management System

Part of management system with regard to XXX * where XXX could be Quality, Environmental, Occupational Health & Safety, Process Safety, Energy and even better "Integrated".





Quality Management System Implementation

- A quality management system should be dynamic; evolving over time through concept of continual improvement.
- Every organisation has its own operational activities; these need to be planned and managed in a systemic way.
- Developing quality management systems enables organisation to focus on activities that really add value to it and its stakeholders.
- Such a system provides framework for planning, executing, monitoring, reviewing and improving performance.



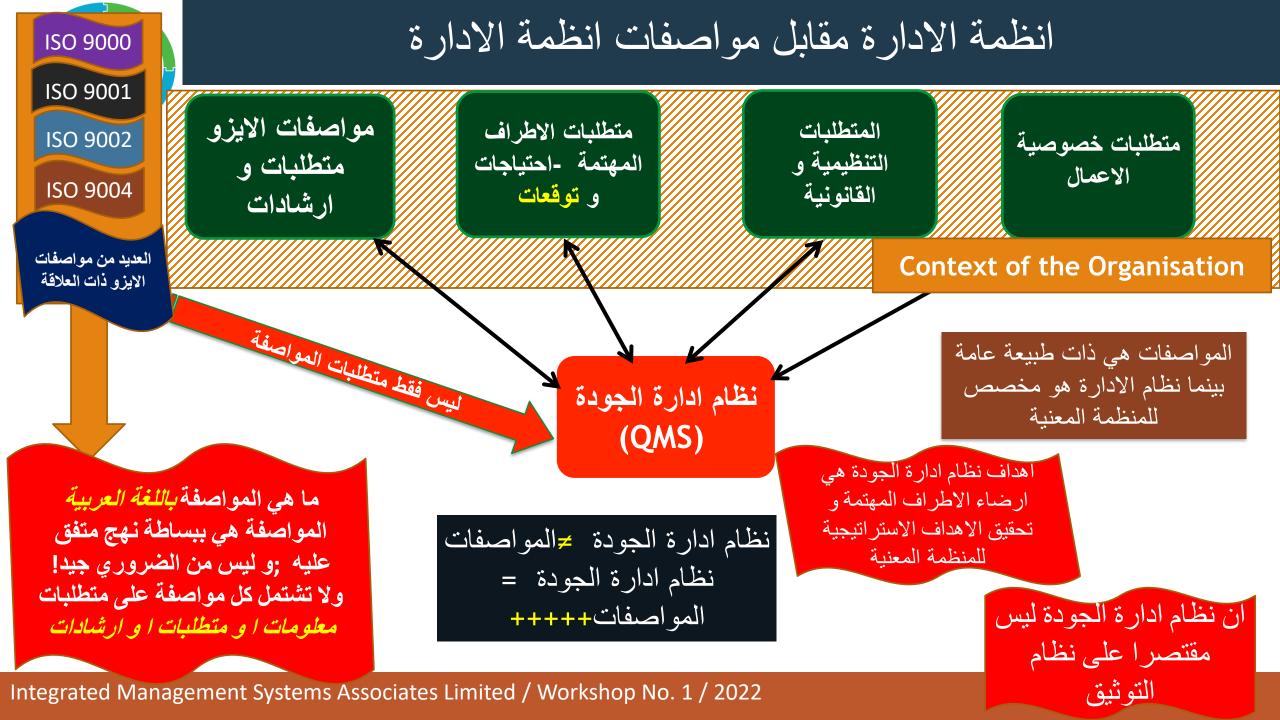
What is a standard?

"Document, established by **consensus** and approved by a recognized body, that provides, for common and repeated use, information, requirements, guidelines or characteristics for activities or their results, aimed at the achievement of the optimum degree of order in a given context."

- ISO International Standards designed to help ensure products and services are safe, reliable and of required "quality".
- Should be considered as strategic tools to reduce costs by minimizing waste.
- Should enable access to new markets and facilitate free and fair global trade.

Standards should be seen as providing a "Model" to follow or a starting point to arrive at what is needed.

ISO 9001 effective Quality Management System





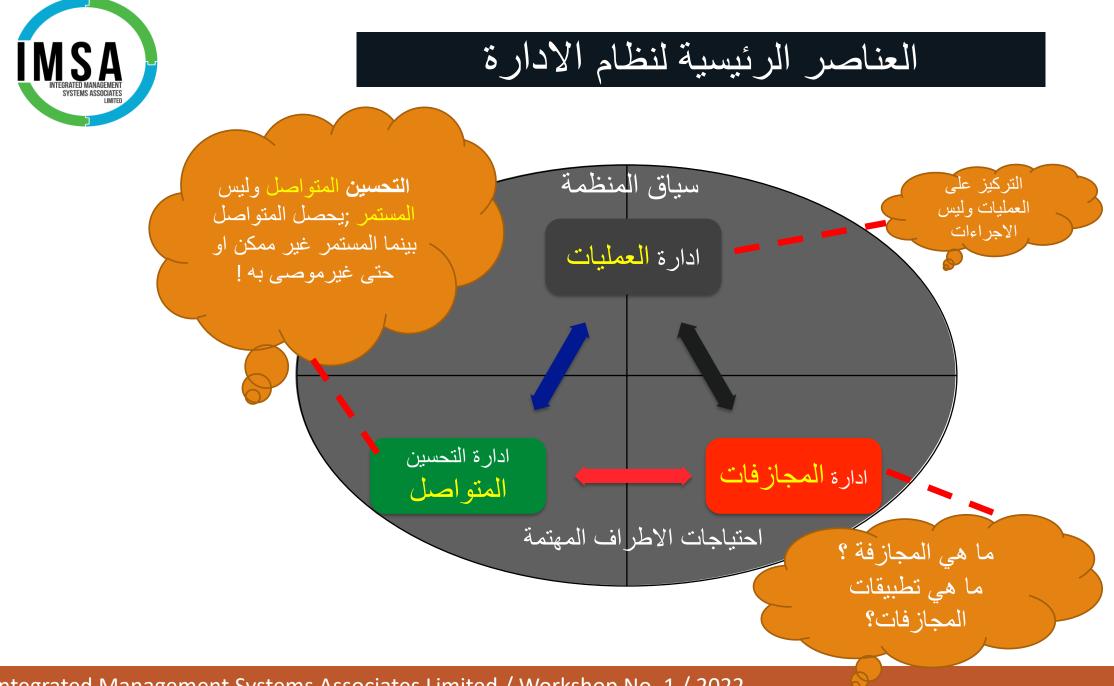
Quality Management Systems (QMS) Standards

ISO 9000:2015 Quality Management Systems - Fundamentals and Vocabulary

ISO 9001:2015 Quality Management Systems - Requirements (shall)

ISO/TS 9002: 2016 Quality Management Systems - Guidelines (should) for the application of ISO 9001:2015

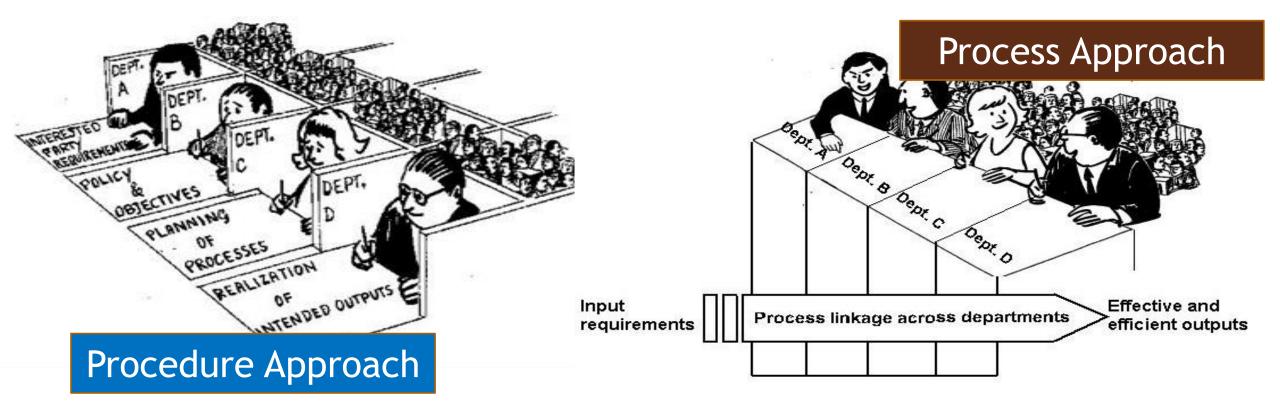
ISO 9004:2018 Quality Management Systems - Quality of an Organisation - Guidance (should) to achieve sustained success

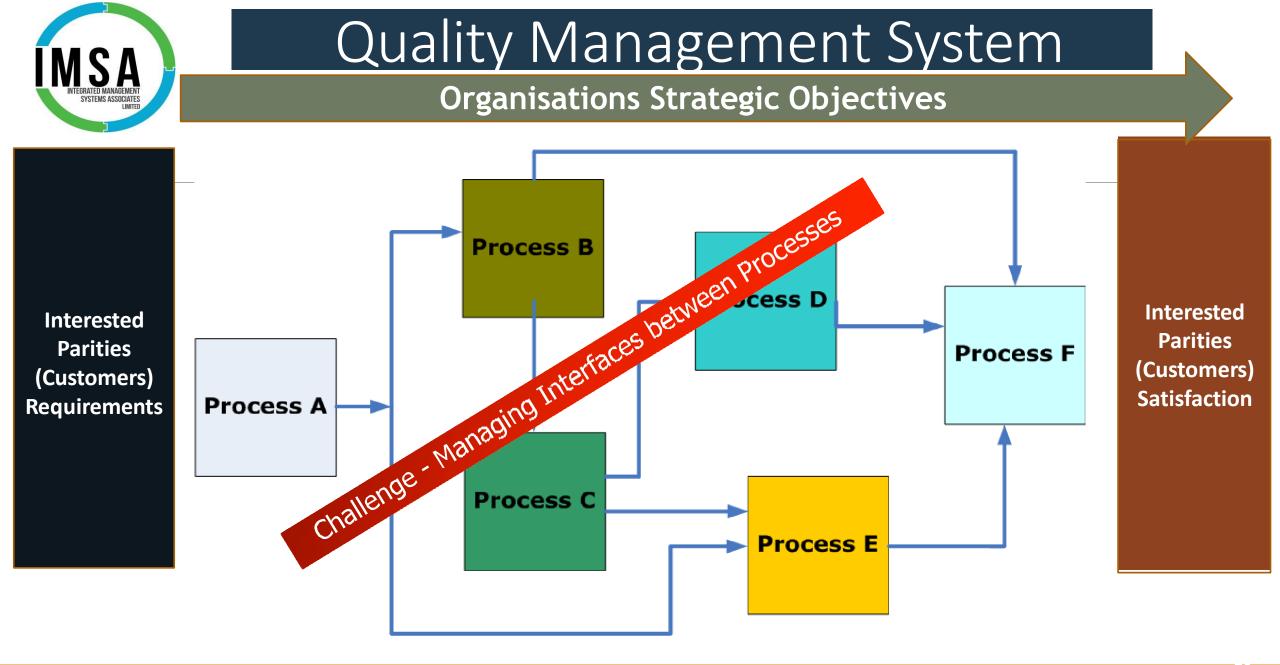


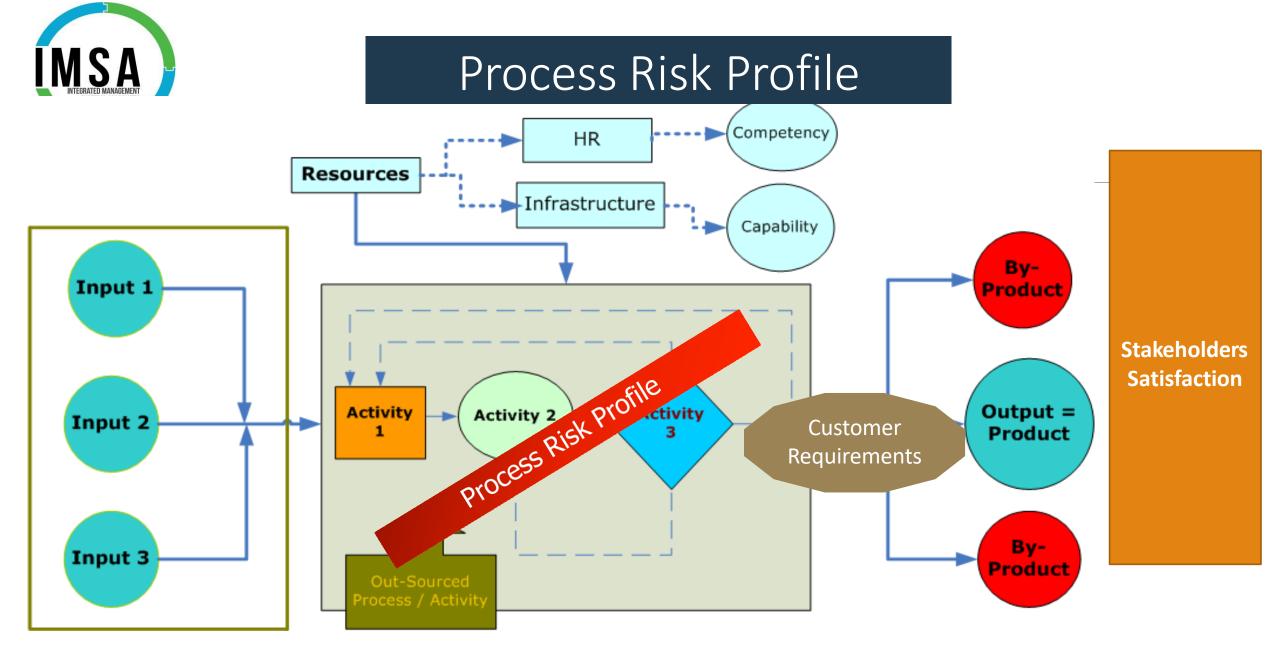


Process Approach vs. Procedure Approach

I hope you can appreciate the difference between the two approaches. Which approach generates better results?



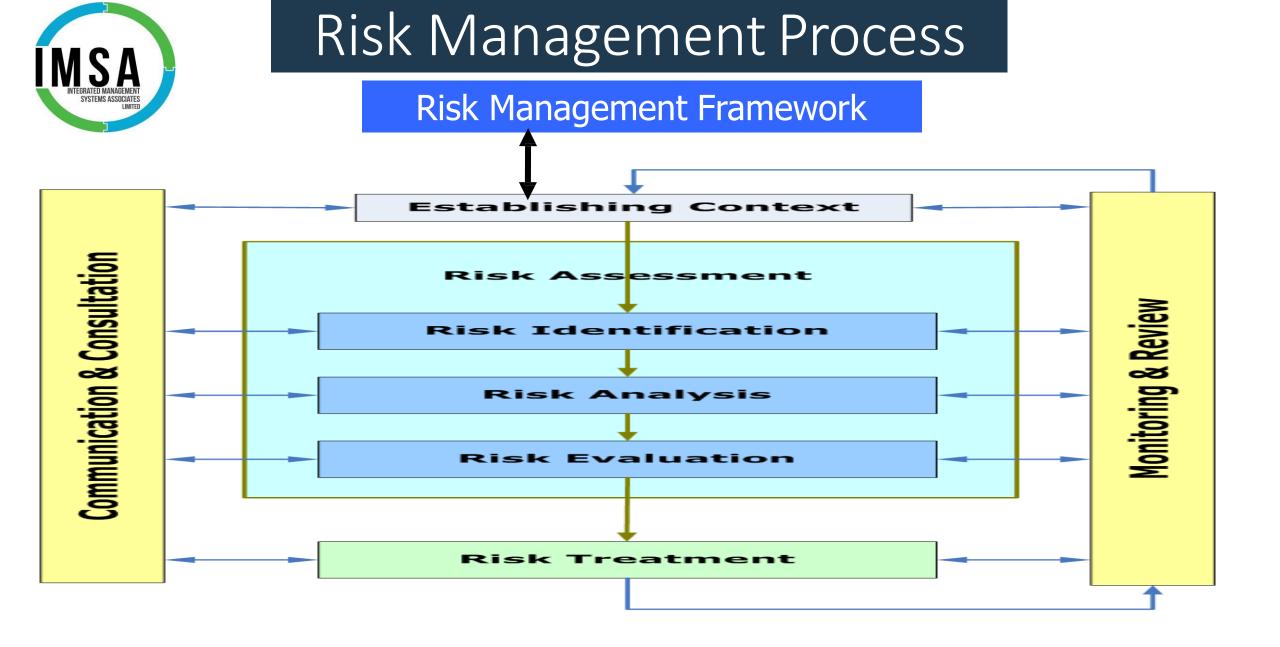


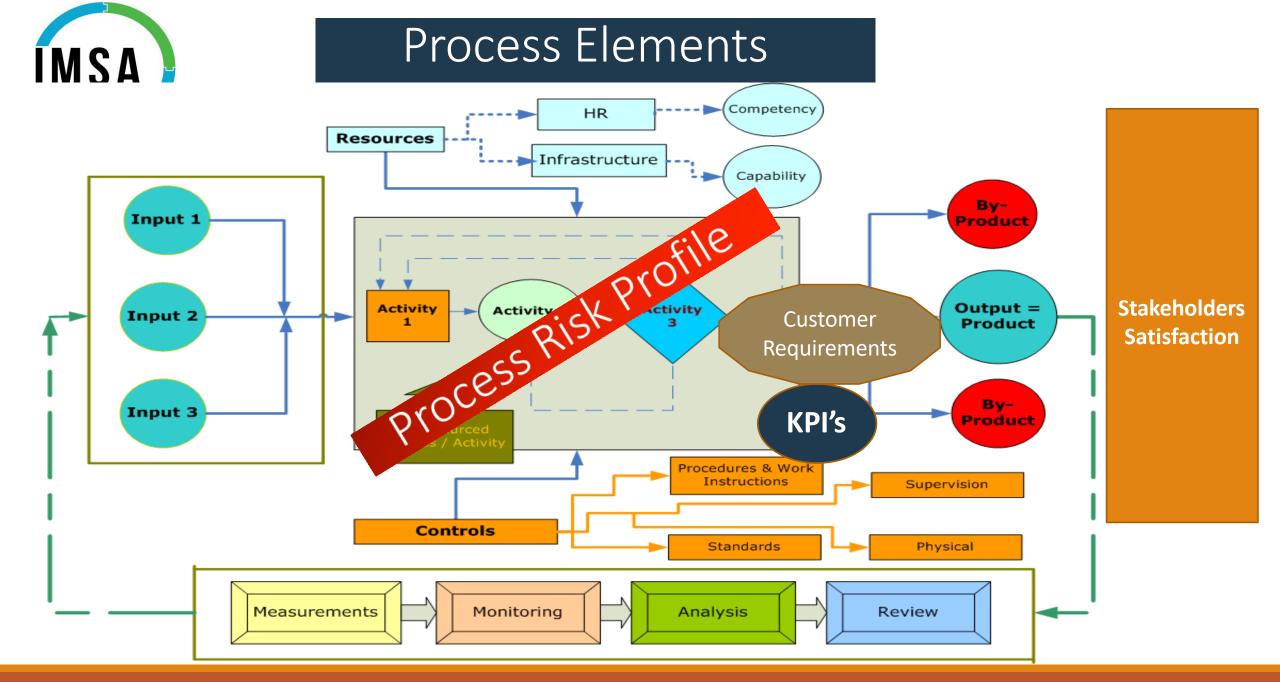




Risk

- Risk is the effect of uncertainty (negative or positive)
- Process risk profile is description of any set of risks associated with the process & its outputs
- Risk source is an element which alone or in combination, tangible or intangible, has the intrinsic potential to give rise to risk
- Risk could be of different nature (quality, process & product safety, occupational health & safety, environmental, security, etc)







Continual Improvement

Improvement can be realised through the PDCA Cycle

Plan	set objectives and define processes necessary to deliver required outcomes
Do	implement and manage processes planned
Check (Verify)	measure and monitor processes performance against set objectives
Act	take actions to improve processes performance and generated outcomes



Continual Improvement Actions

Correction

"Action to eliminate a <u>detected nonconformity</u>."

Corrective Action

"Action to eliminate the <u>cause</u> of a nonconformity and to prevent recurrence."

Preventive Action

"Action to eliminate the <u>cause</u> of a <u>potential</u> nonconformity or other potential undesirable situation."

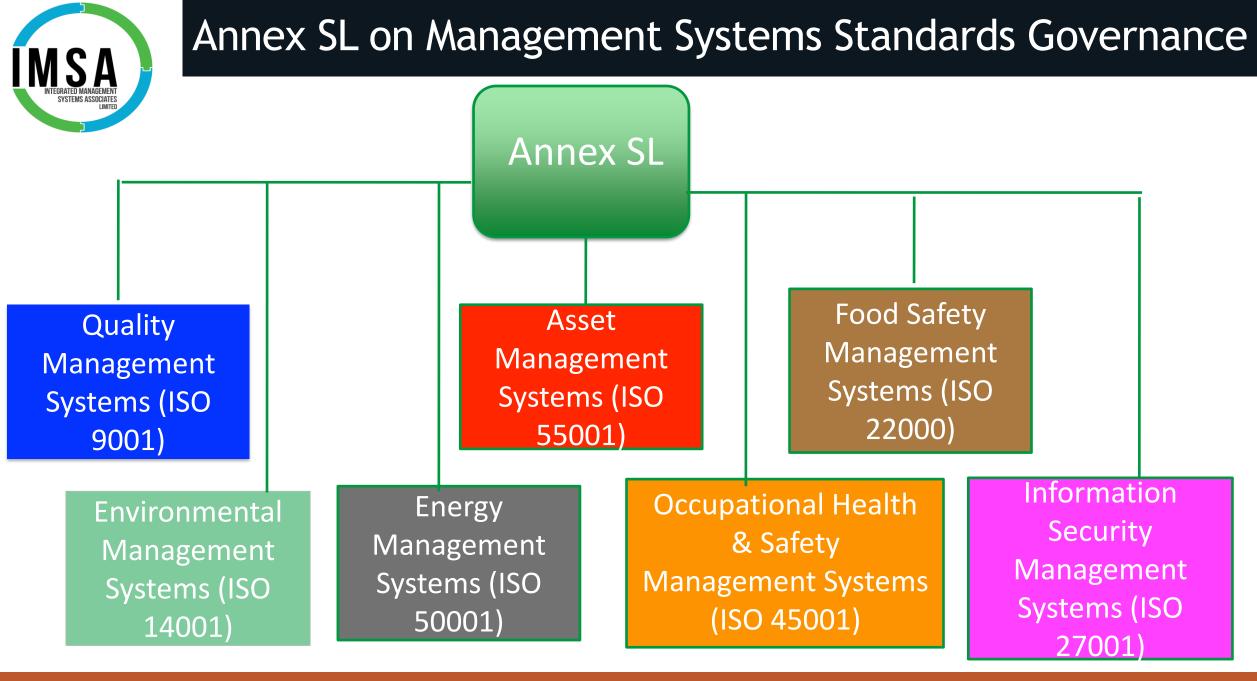


3. What is a "Standard"? Who is ISO and What is their Role?



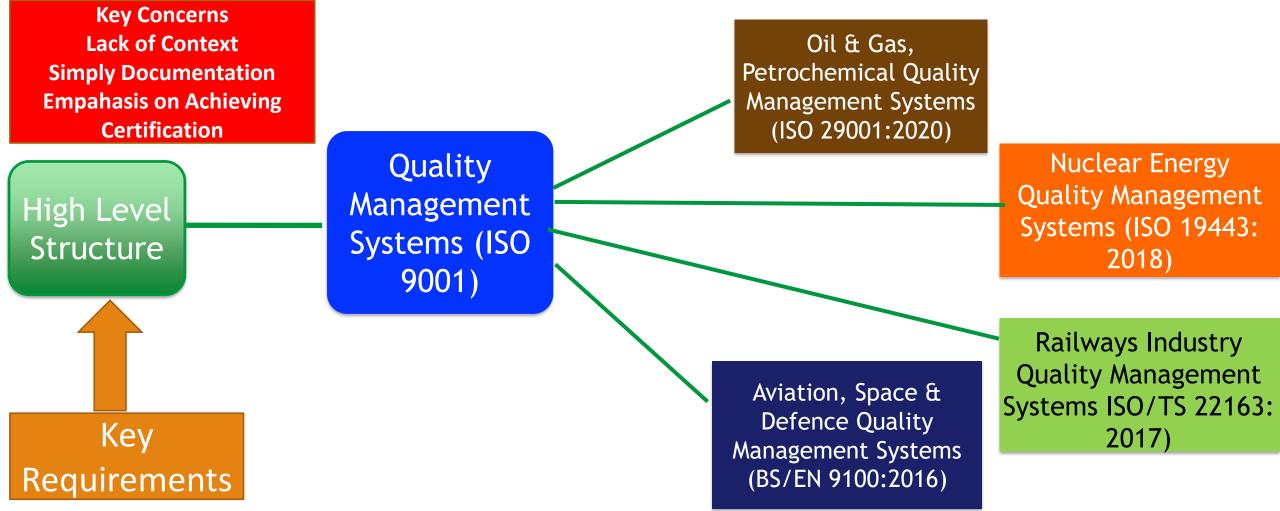
Management Systems Standards Annex SL - Key Issues

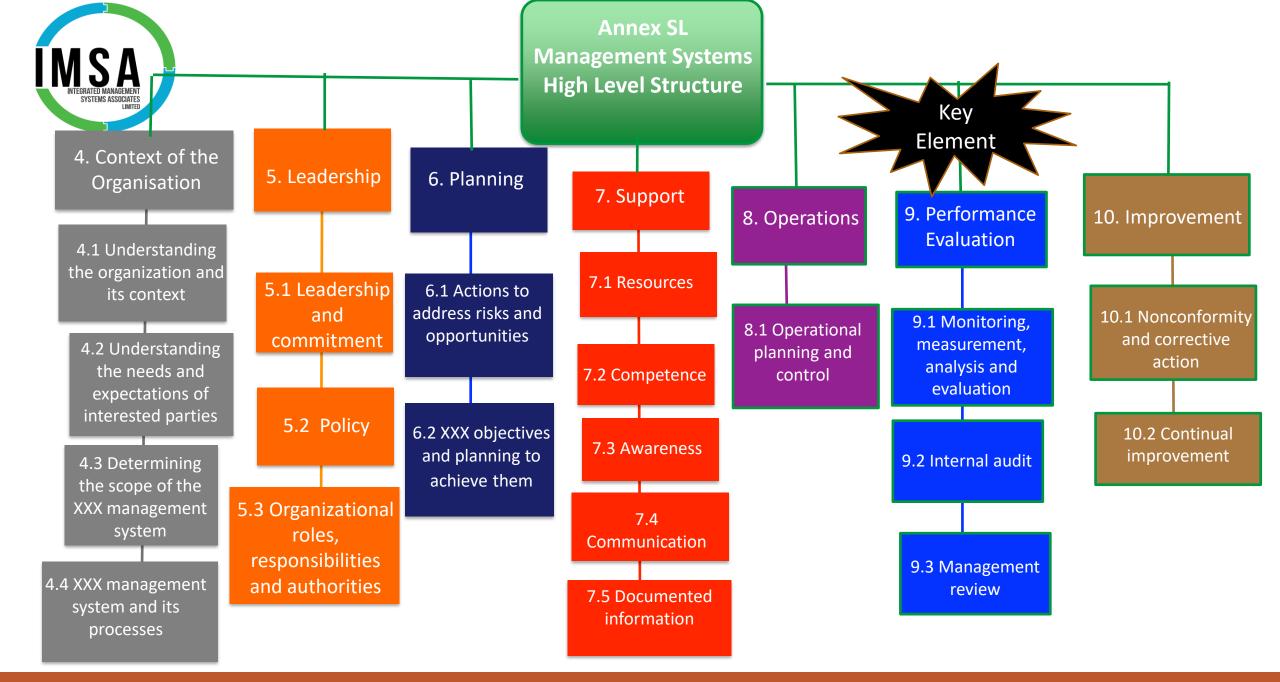
- Unified Terms & Definitions
- High Level Structure (HLS)
- Concept of "Organisation Context"
- Concept of Interested Parties (Stakeholders)
- Concept of "Process Approach"
- Incorporation of the "Concept of Risk"
- Improvement coupled with conformance
- Documented Information

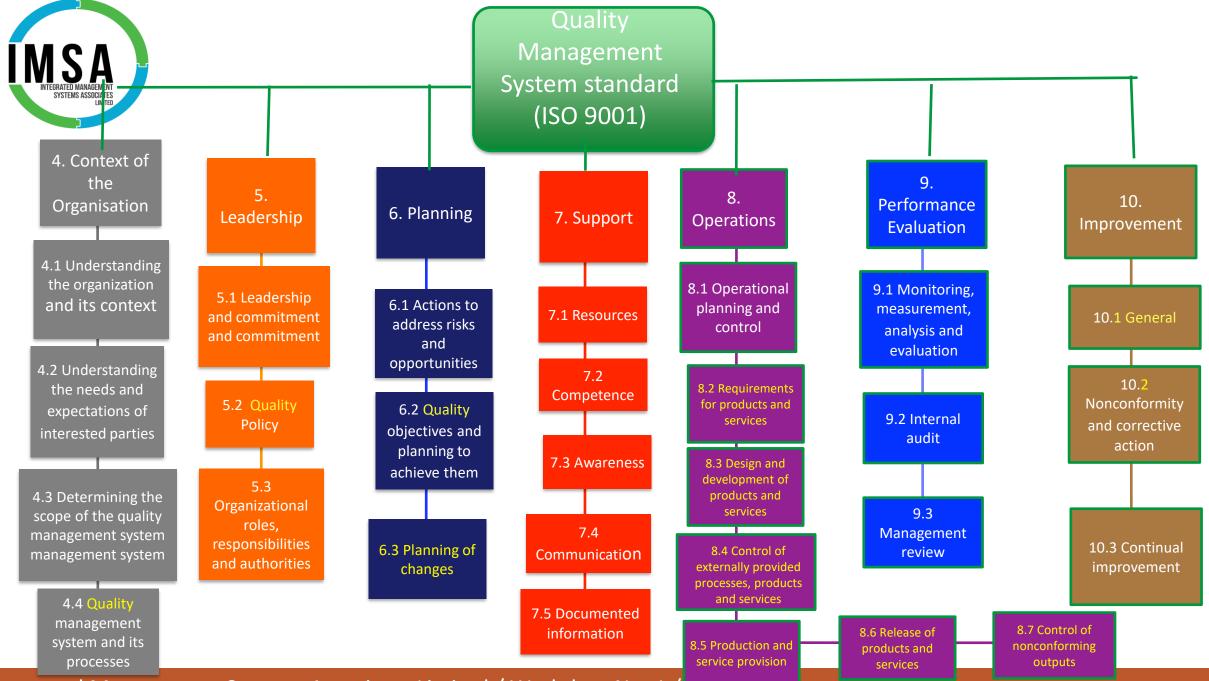




HLS (all MSS) - Generic -Sector specific Quality Management Systems Standards: Why?









Purpose

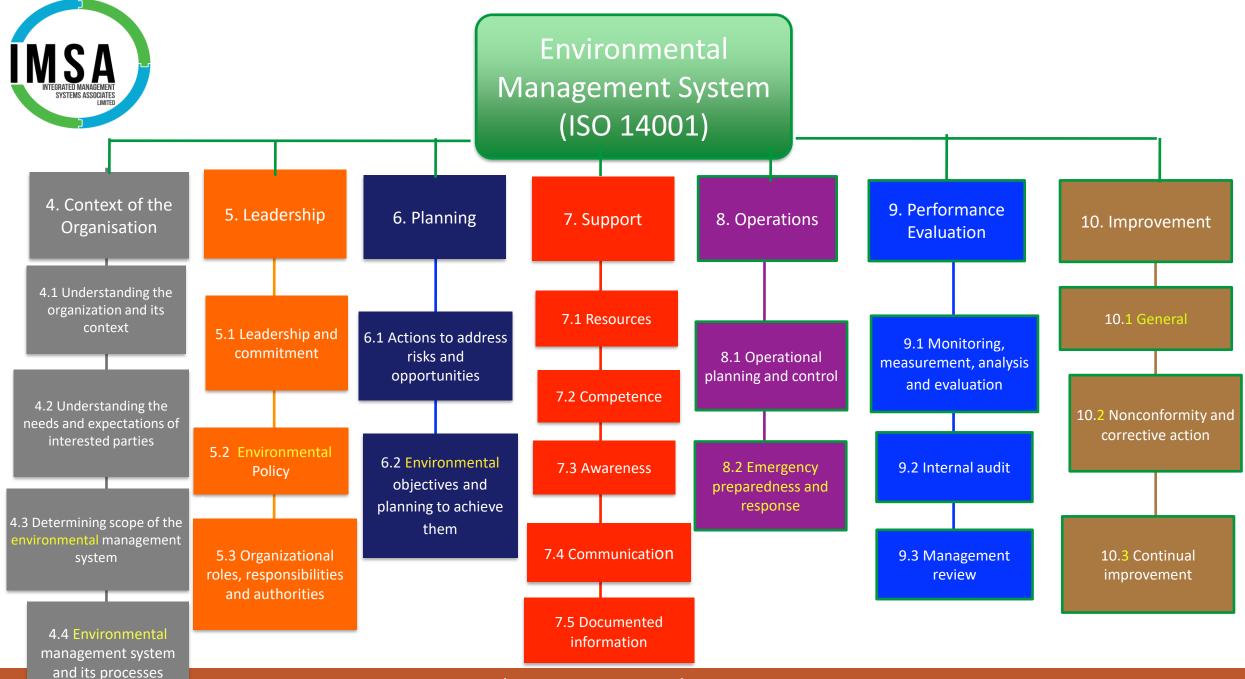
- A framework to protect the environment and respond to changing environmental conditions in balance with socio-economic needs.
- Designed to provide a tool to achieve intended environmental outcomes



Environmental Management Systems Standards (ISO 14001)

Enable Sustainable Development to deliver:

- Protecting the environment by preventing or mitigating adverse environmental impacts
- Mitigating potential adverse effect of environmental conditions on the organisation
- Assisting the organisation in the fulfilment of compliance obligations
- Enhancing environmental performance
- Using life cycle perspective that can prevent impacts from being unintentionally shifted elsewhere the lifecycle
- Achieving operational and financial benefits that can result from implementing environmentally sound alternatives that strengthen organisation's market position
- Communicating environmental information to interested parties



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Environmental Management Systems Standards

Quality Management Systems - Fundamentals and Vocabulary ISO 14001:2015

Environmental Management Systems – Requirements with guidance for use

ISO 14004:2016

Environmental Management Systems – General guidelines on implementation

ISO 14064-1:2006

Greenhouse gases - Part 1: Specification with guidance at the organization level for quantification and reporting of greenhouse gas emissions and removals

ISO 14064-2:2006

Greenhouse gases - Part 2: Specification with guidance at the project level for quantification, monitoring and reporting of greenhouse gas emission reductions or removal enhancements

ISO 14064-3:2006

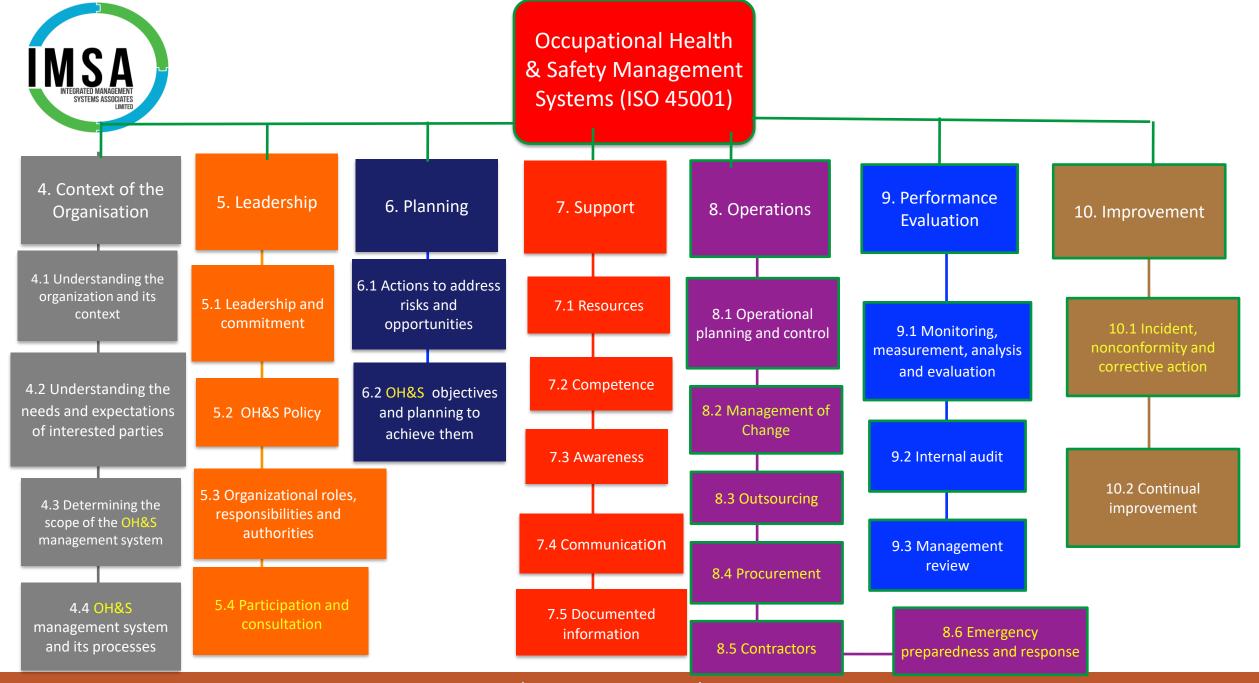
Greenhouse gases - Part 3: Specification with guidance for the validation and verification of greenhouse gas assertions



Occupational Health & Safety Management Systems (ISO 45001)

Purpose

- Provide framework for managing OH&S risks
- Prevent work-related injury and ill health to workers
- Provide safe and heathy workplaces
- Eliminate hazards and minimise risks by taking effective preventive and protective measures.
- Meeting Objectives
- Fulfil legal requirements
- Continual improvement





Occupational Health & Safety Management Systems Standards

ISO 9000:2015

Quality Management Systems - Fundamentals and Vocabulary

ISO 45001:2018 Occupational Health and Safety Management Systems - Requirements with guidance for use

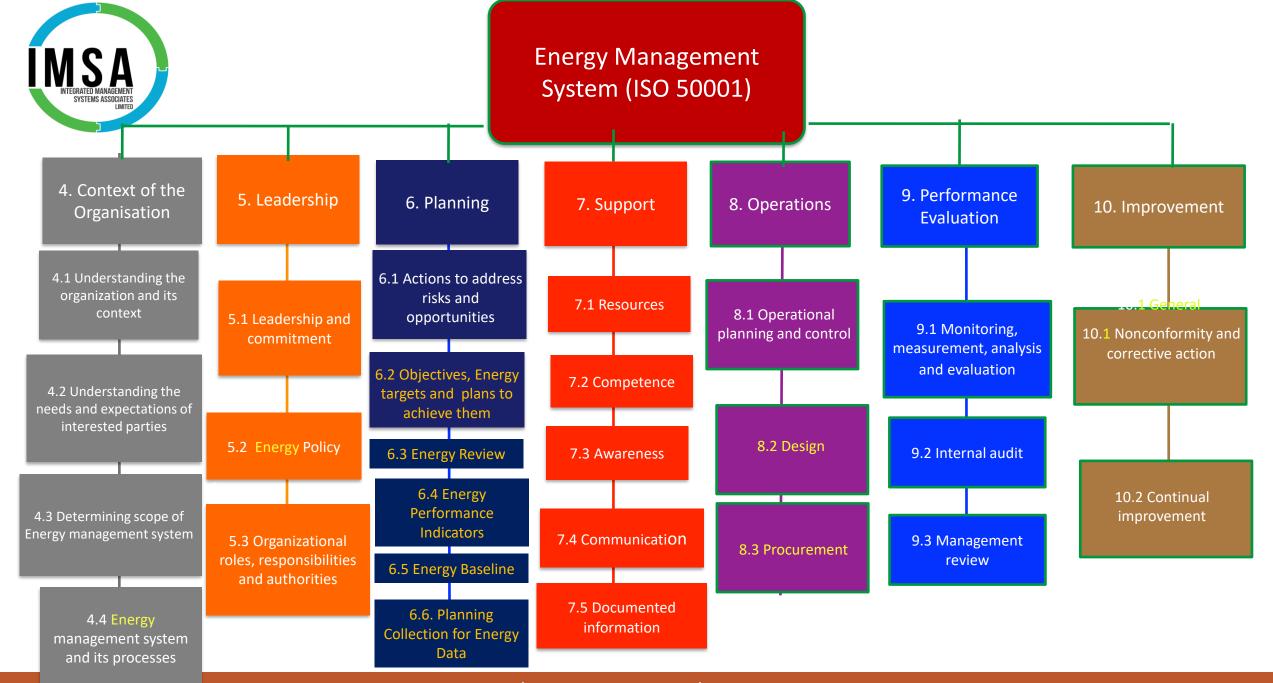
ISO 45004:??? Occupational Heath and Safety Management Systems – General guidelines on implementation



Energy Management Systems (ISO 50001)

Purpose

- Establish systems and processes necessary to continually improve energy performance, including energy efficiency, energy use and energy consumption
- Includes an energy policy, objectives, energy targets and action plans related to its energy efficiency, energy use, and energy consumption
- Meeting applicable legal requirements and other requirements.
- Enables an organization to set and achieve objectives and energy targets, to take actions as needed to improve its energy performance, and to demonstrate the conformity of its system





Annex SL Management Systems Standards (MSS) Types

Type A MSS

MSS providing requirements (shall's) - ISO 9001, ISO 14001, ISO 45001, ISO 50001

Examples

>Management system requirements standards (generic).

>Management system (including sector-specific) requirements standards.

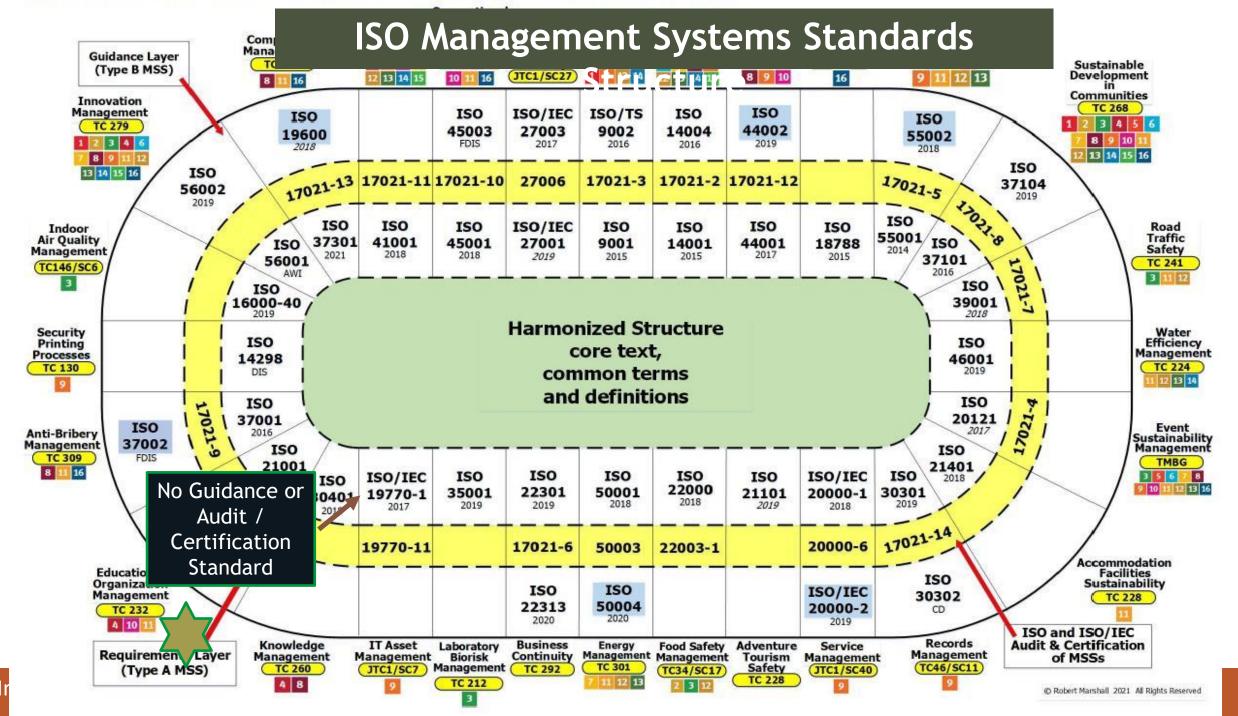
Type B MSS - ISO 9002, ISO 9004, ISO 14004, ISO 45002 MSS providing **guidelines** (should's)

Examples

> Guidance on the use of management system requirements standards.

> Guidance on the establishment of a management system.

> Guidance on improvement / enhancement of a management system.





4. Context of an Organisation – What is it & Why?



Context of an Organisation

Context of the Organization (<u>Annex SL & ISO 9000:2015</u>) "combination of internal and external issues (<u>factors</u>) that can have an effect on an organization's approach to developing and achieving its objectives"

Also referred to as Business Environment / Culture of the Organisation.



PESTLE Technique

Factor	External	Internal
Political		
Economic		
Social		
Technological		
Legal		
Environmental		
Others		



Context of an Organisation

SWOT Analysis



Context of Organisation Influences



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MSA



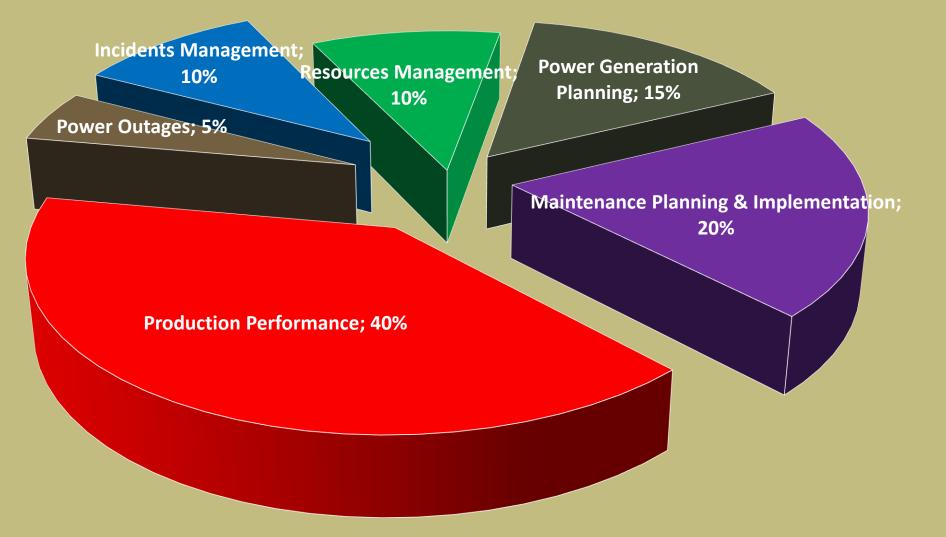
Influence of "Context" on KPI's (Power Station)

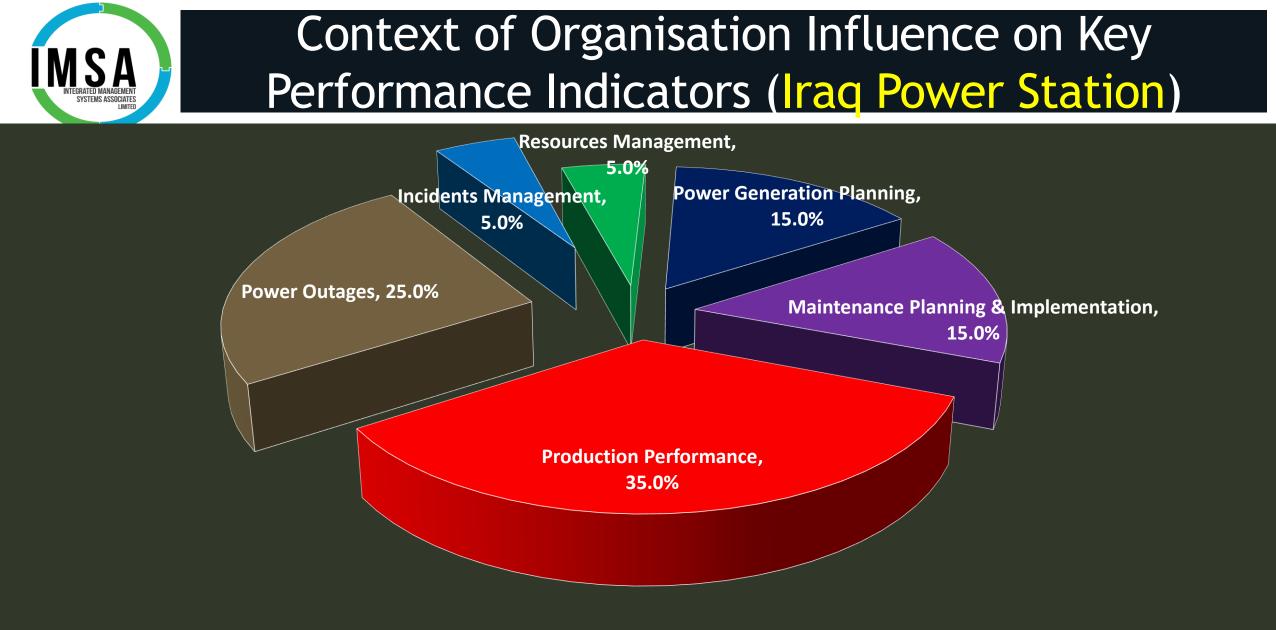
Performance Aspect / Element	Country A	Country B	
Power Generation Planning	15.0%	15.0%	
Maintenance Planning & Implementation	15.0%	20.0%	
Production Performance	35.0%	40.0%	
Power Outages (Planned & Unplanned)	25.0%	5.0%	
Incidents Management	5.0%	10.0%	
Resources Management	5.0%	10.0%	
Total	100.0%	100.0%	

lraq UK



Context of Organisation Influence on Key Performance Indicators (UK Power Station)







5. Role of Top Management



Who is Top Management?

"person or group of people who <u>directs</u> and <u>controls</u> an organization at the highest level"

ISO 9000:2015

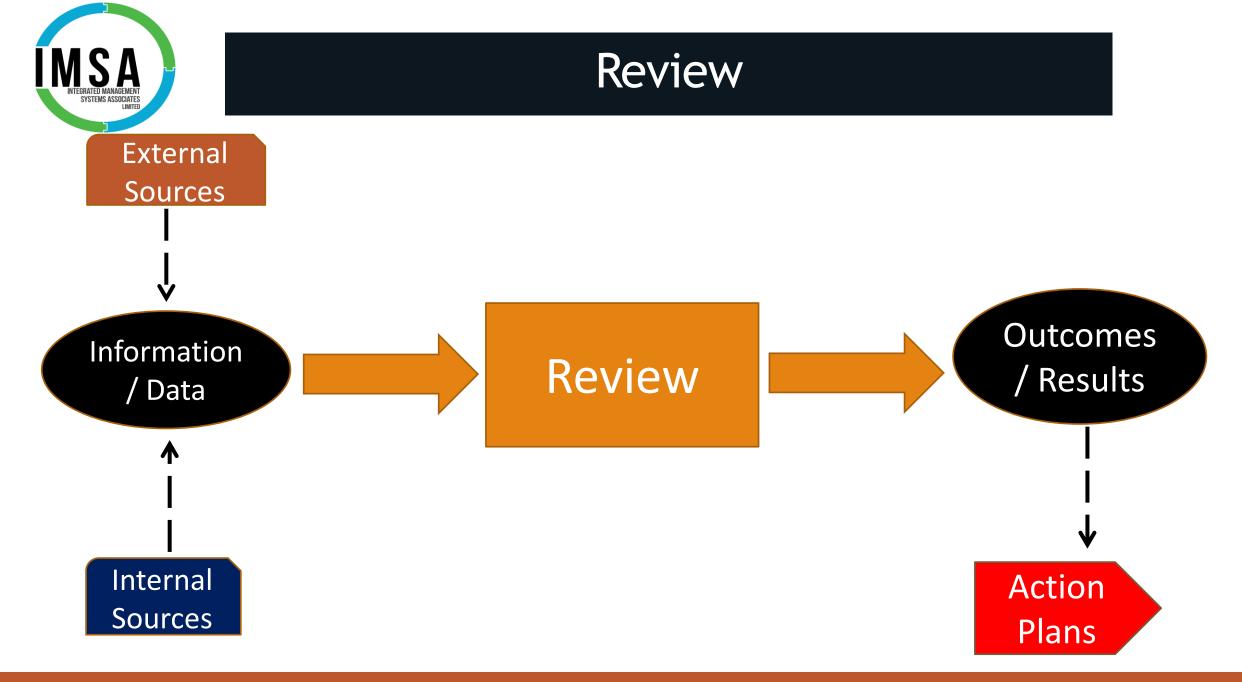
Top management has the power to delegate **Authority** but not **Responsibility**.



Top Management Responsibilities & Commitment

- Take accountability for effectiveness of the management system.
- Establish <u>Policy</u> & Objectives (cascading from Strategic to Operational), inline with Context & Strategic Direction.
- Ensure effective integration of management system into business processes and activities.
- Promoting the centrality of Process Management & Risk Management (not just a documentation regime based on procedures).
- Ensuring availability of resources (competent human resources & capable infrastructure).
- Effective communication & consultation (two way street).
- Directing & supporting others to engage effectively.
- Promoting concept of continual improvement, through determining root causes & benefiting from lessons learned.

Responsibilities cannot be delegated (Management Representative); however authorities can be.





6. Competency – What is it & its Role



Human Resources "Competency"

Competency is defined as "<u>demonstrated</u> ability to apply knowledge and skills".

Competency is defined for the "**Role**" not the "**Person**"; however, we try our best to ensure that the Person designated to occupy the role satisfies and <u>continue</u> to satisfy the competency requirements of the allocated role.

Competency Elements include combination of:

- Knowledge / Qualification
- > Skill
- Experience
- Training

Suitable combination of requirements for Critical Roles, to be determined by the Organisation, taking into account all relevant factors

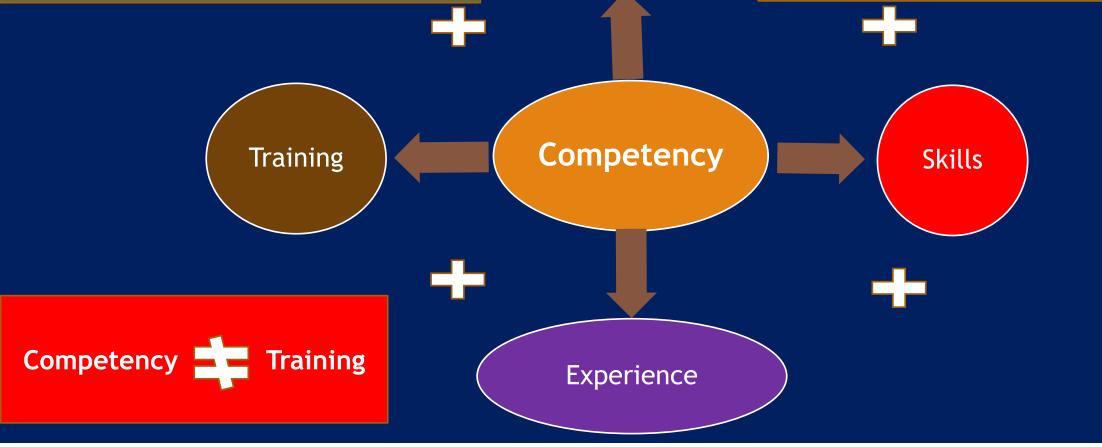


Management Systems Competency Elements

Qualification /

Knowledge

Each Element is defined specific to the Role. There will be different requirements between processes and within a process. When deciding Competency Requirements, organisation must take into account Risks associated with the Role, its responsibilities & authorities.

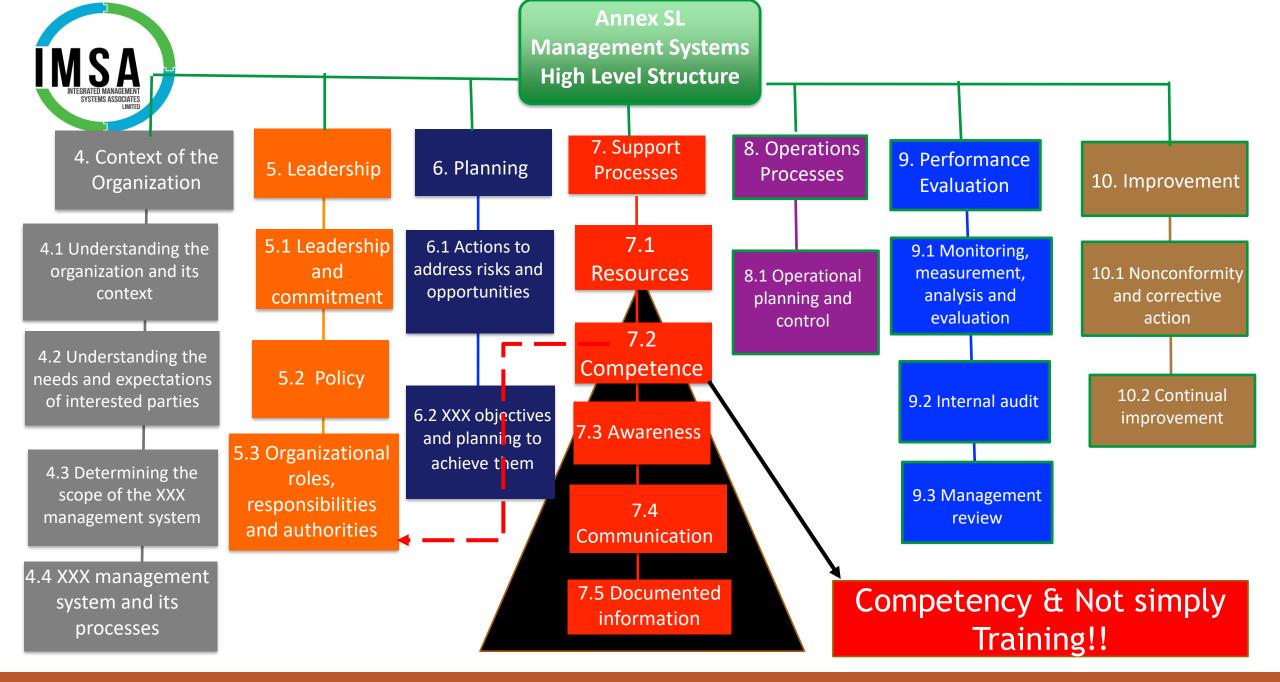


INTEGRATED MANAGEMENT SYSTEMS ASSOCIATES LINTED

Human Resources Competency Matrix

Role	Education / Knowledge	Skills	Experier	nce	Qualification / Certification / Training
Intantager	ach " <mark>Critical</mark> " Role Ne espect to the four elen Responsit		icy, based On F		
Process Engineer	Esta	ablish suitable Cr minimum level c	riteria Set		um years (& experience
Process Supervisor		minimum Educat corresponding Ro			ecide level of Training and lification & <u>Certification</u> , as relevant
Process Remember all of this is reference to the Critical Roles within Process Processes, rather than to People. Critical Roles are those affecting the management of Processes (Effectiveness & Efficiency).					

Hum Integrated management systems associates Linted	In Resources Competency Management (Competency Enhancement)		
Role	Role Competency Requirer	Role Occupant cisting Gap	Required Actions
Process Manager			
Deputy Process Manage		Determined by assessment, appraisal & monitoring of actual performance; not by simply attending training or gathering certificates.	
Process Engineer	•		
Process Supervisor		Suitable Assessment Crite	
Process Technician		"partly Competent" &	
Process Operator		Agreeing Training and other measures. Effectiveness of such actions need to be demonstrated	
Process Operator			





7. Management Systems Documentation Factors

Management Systems Documentation

- Many Users implemented a management system to mean creating a serries of Documented Procedures.
- To them requirements in standards meant creating corresponding documented procedures.
- For example the 1994 version of ISO 9001 had 22 Clauses. So many users simply created 22 documented procedures!!
- ISO 9001 standard never stipulated the above, but Users interpreted it this way.
- A very unhealthy situation which the standard had to deal with somehow?



Management System Documentation HLS (Annex SL)

Documents = A + X

Documented Procedures = B + Y

Records = C + Z

Туре	Standard	Organisation
Documents	Α	X
Documented Procedure	В	Y
Records	С	Z

Documentation necessary to ensure effective <u>planning</u>, <u>operation</u> & <u>control</u> of organisations <u>processes</u>

BUT



Management Systems Documentation

Document: Information and its Supporting Medium
Medium can be paper, electronic, sample, etc

Record: A special type of Document that provides evidence or results of actions

• A record is a special type of document; every Record is a Document but not every Document is a Record

•Many Users interpreted that a Management System is simply creating documentation (procedures) and following them



Management Systems Documentation (as per Annex SL HLS)

- Documented Information *shall be* <u>MAINTAINED</u> = Documents
- Documented Information *shall be* <u>**RETAINED</u> = <u>Records</u></u>**

Has been changed to "made available", as many Users misunderstood the convention!!



8. Conformity Assessment & Certification / Accreditation Process



Certifications & Accreditation (ISO Agreed Definitions)

provision by an independent body of written assurance (a certificate) that the product, service or **system** in question meets specific **requirements**.

Accreditation

formal recognition by an independent body, generally known as an accreditation body, that a certification body operates according to **international standards**.

- ISO does not accredit or certificate.
- Certification is not an ISO demand. In other words, management systems can be implemented without need for third party conformity assessment (certification).
- Certification is normally provided by commercial entities, who might be "accredited" or not, based on requirements of ISO 17021 for system certification.
- Accreditation is normally provided by non-commercial entities and are members of entities such as IAF & EA.





- الأنشطة الرئيسية لعملية المصادقة
 (الأجراءات الادارية)
 - 🖌 التدقيق
 - <الموافقة / عدم الموافقة
- يختلف مستوى الخدمة في جميع أنحاء العالم وحتى داخل نفس البلد
 تشمل التحديات ما يلي:
 النزاهة
 جودة الاعتماد و المصداقية (بما في ذلك "المعتمدين" مقابل "غير المعتمدين")
 - < آهلية المدقق
- تم تصميم مواصفة ISO 17021 (باجزائها المختلفة) في شكل "متطلبات" لتكون بمثابة أساس للاعتماد؛ بعيدًا عن كونها مواصفة "مثالية"
- تم تصميم مواصفة القارعة العامة العامة المعارسات الممارسات المعارسات المعارسات المعارسات المعادة عن المعادية العامة المعادية العامة المعادية العامة المعادية العامة المعادية العامة المعادية العامة المعادية ا معادية المعادية ا معادية المعادية الم معادية المعادية المعا معادية المعادية المعادي معادية المعادية المعادية المعادية المعادية المعادية المعادية المعادية المعادية المعادية المعالمعادية المعالية المعادية المعادية
 - لا يزال أمامنا العديد من التحديات!!

To use Commercial "Accreditation Entities" is

not good enough, I am afraid, even if they

are members of IAF!!!



- حان المفهوم في الأصل، هو أنه إذا حصلت المنظمات على شهادة "المصادقة"، فيمكن أن نثق في ذلك كدليل على وجود نظام إدارة قادر على تلبية احتياجات الزبائن، وليس مجرد تلبية متطلبات المواصفة.
- كان الواقع مختلفًا جدًا. فشلت العديد من المنظمات في تحقيق رضا الزبائن لعدة أسباب.
 - سرعان ما أدركت المنظمات أن مجرد طلب إثبات "المصادقة" (الشهادة) لا يكفي!
 - هذا ليس وضعًا صحيًا مما يجب إدراكه والتعامل معه.
 - تم وضع نهج تحسين متعدد الأوجه ويتم اتباعها.
 - في غضون ذلك، ماذا يمكننا أن نفعل لزيادة مصداقية نظام الإدارة المعمول به؟





- Perform Gap Analysis, based on
 - Requirements of the applicable Model (ISO 9001, ISO 14001, ISO 45001, etc) and;
 - Requirements of the organization related to its unique Factors & needs necessary to satisfy its Stakeholders (including Customers)
- Employ a suitable assessment tool to enable assessing the ongoing maturity of the Integrated Management System through the process of continual improvement (PDCA)
- For assessing maturity, a clear criteria need to be defined to enable determining the existence, or otherwise, and also the effectiveness of implemented control points

ممارسات عملية المصادقة في العراق

- هيئات "المصادقة" الدولية، مثل LLOYDS ,SGS و"اخرين"، الذين لديهم اعتماد "موثوق" لديهم بعض التواجد المحدود.
- يبدو أن السوق مشغول بشكل أساسي بهيئات "المصادقة" من الهند وتركيا وما إلى ذلك، الذين هناك "شك" في جهة اعتمادهم.
 - من هي هيئات الاعتماد الدولية المعترف بها؟
 - ✓ UKAS (المملكة المتحدة)
 - ANAB > (الولايات المتحدة الأمريكية)
 - 🔶 JAS-ANZ (أستراليا نيوزيلندا)
 - (الهند) NABCB >

- شكل من أشكال الاعتراف المتبادل
- أعلاه ليست كيانات تجارية (هي غير ربحية) ولديها اعتراف رسمي من نوع ما.
- هناك هيئات اعتماد "تجارية" تعمل في الولايات المتحدة الأمريكية (IAS) و(UAF) يتم استخدامها لاعتماد هيئات المصادقة "الهندية والتركية" العاملة في العراق.



9. Integrated Management Systems

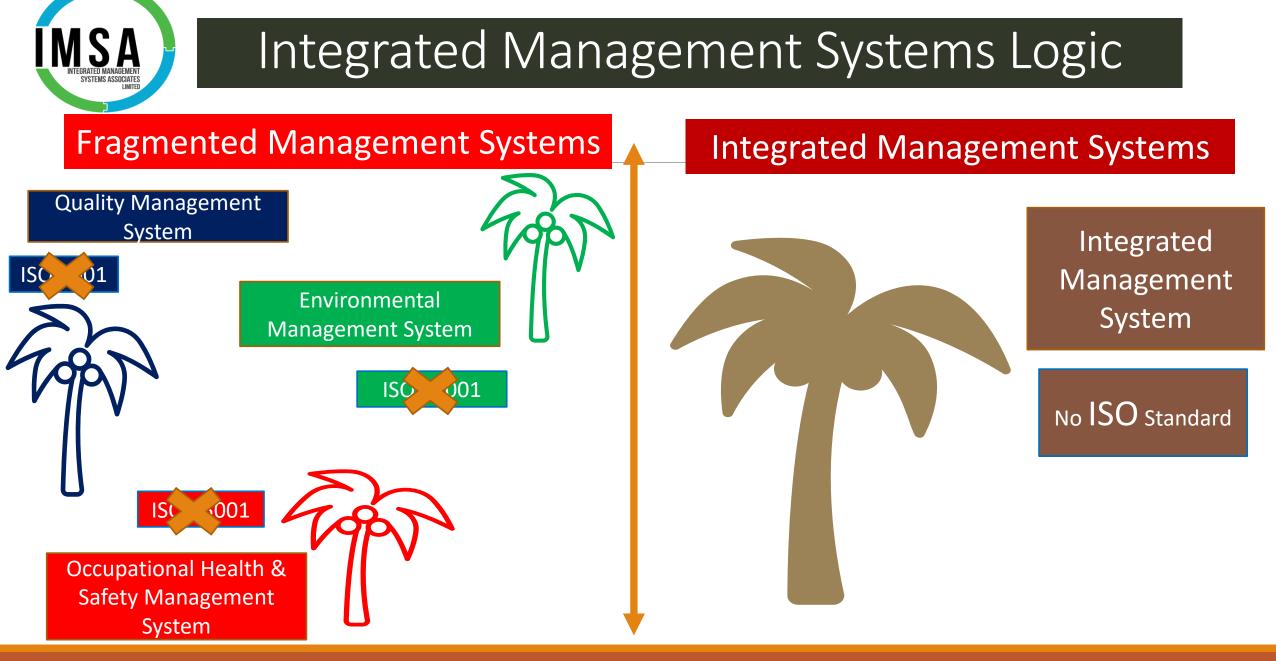


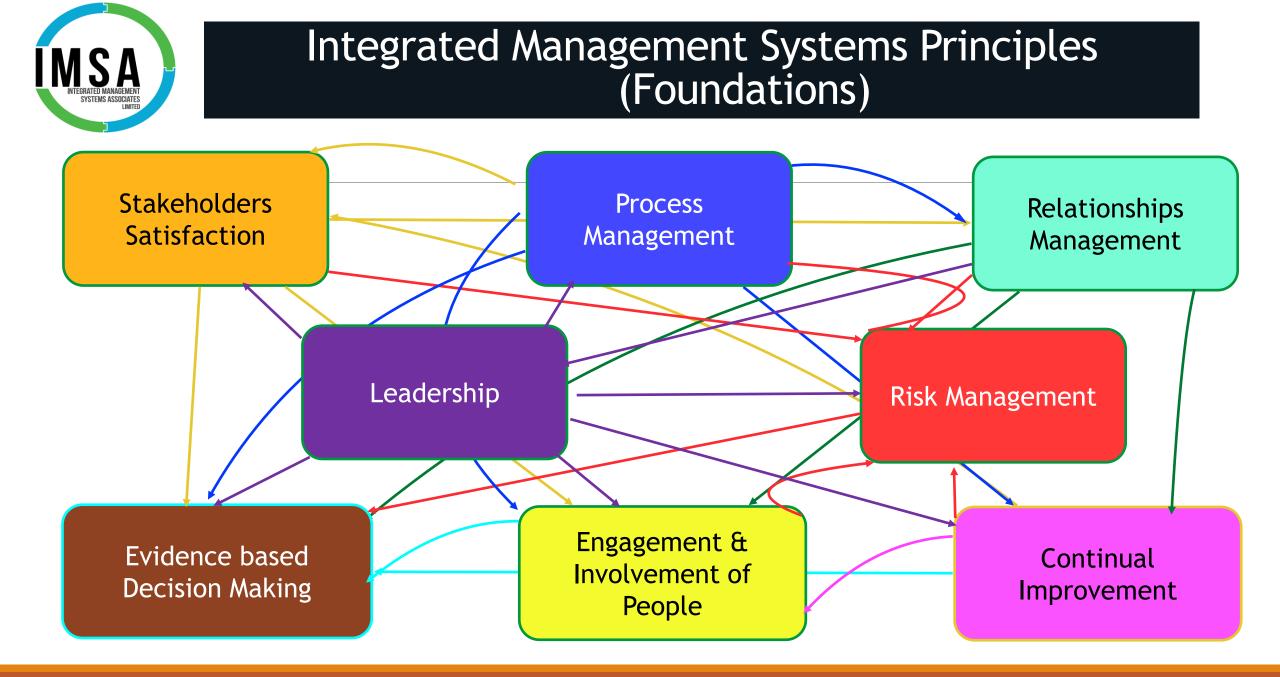
ISO Integrated Management Systems "Standards Combination Approach"

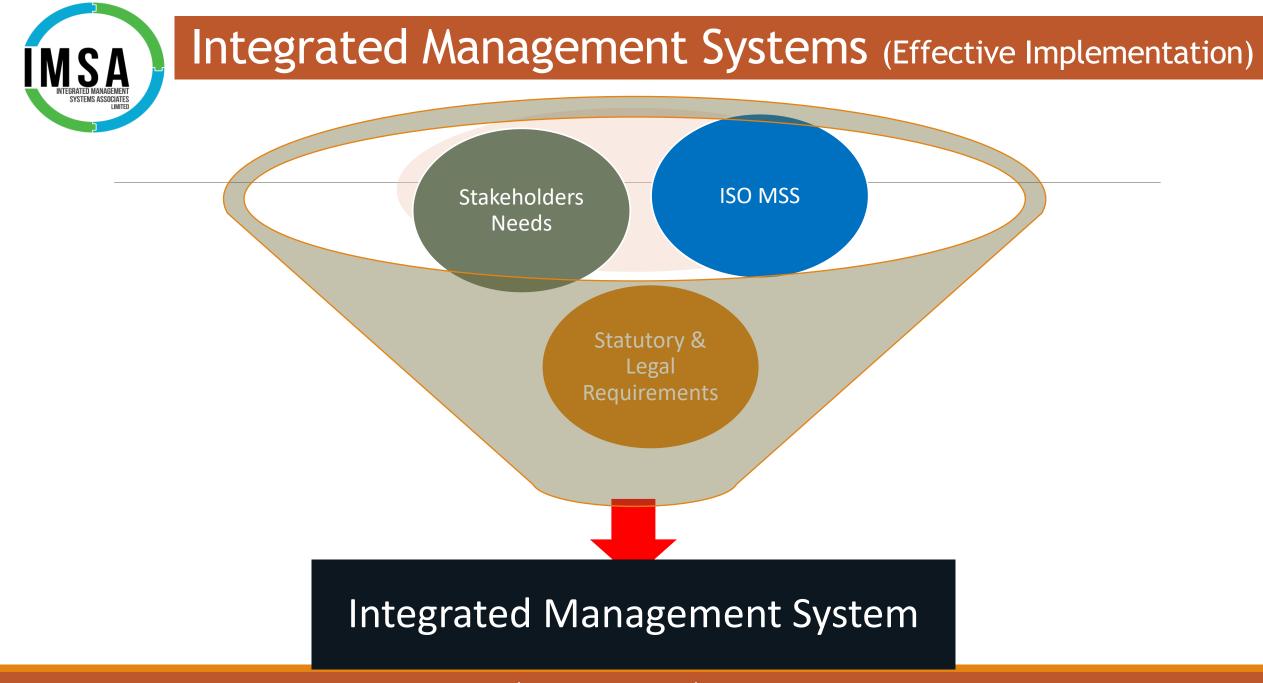
That is not the case. This does not produce an Integrated Management System. It is not simply a matter of bringing together different standards; it is about integrating standards "requitements" into the organisation management System.

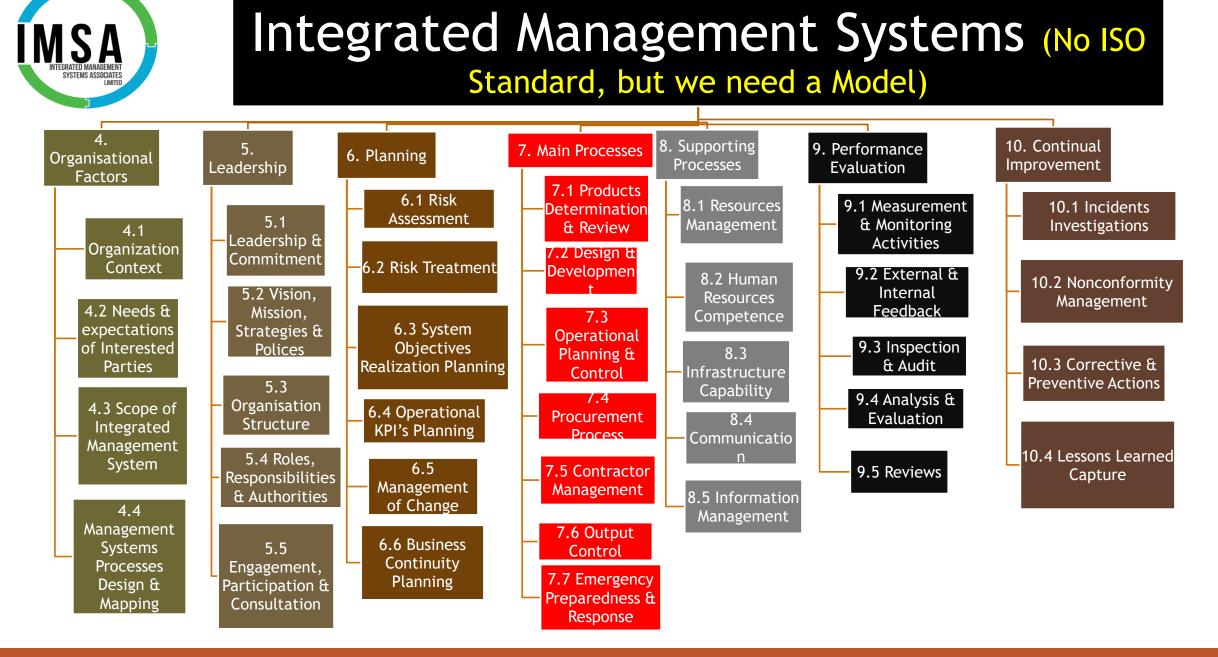
Emphasis on Standards and achieving Certification, and not on implementing effective management systems.

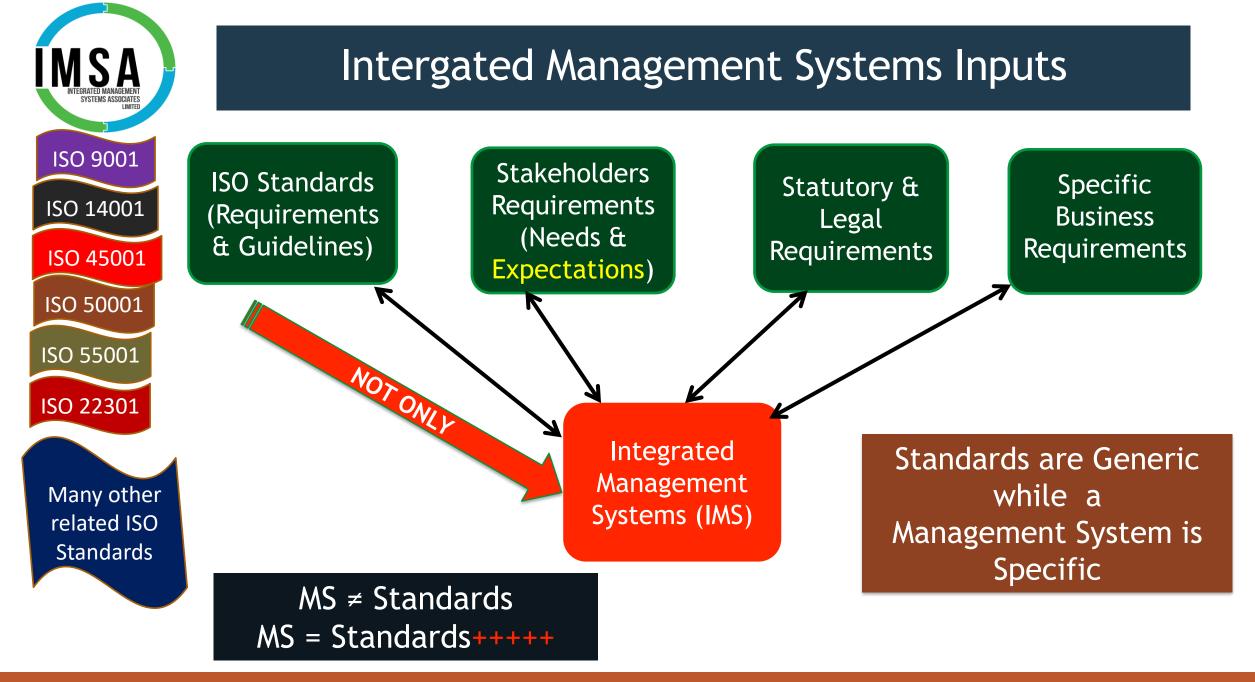














Quality Management System Policy (as per ISO 9001:2015)

Top management shall establish. Implement and maintain a quality policy that:

- a. is appropriate to the purpose and context of the organisation, and supports its strategic direction;
- b. provides a framework for setting quality objectives;
- c. includes a commitment to satisfy applicable requirements;
- d. includes a commitment to continual improvement of the quality management system.

Quality policy shall:

- a. be available and maintained as documented information;
- b. be communicated, understood and applied within the organisation;
- c. be available to relevant interested parties, as appropriate.



Environmental Management System Policy (as per ISO 14001:2015)

Top management shall establish. Implement and maintain an environmental policy that, within defined scope of its environmental management system:

- a. is appropriate to the purpose and context of the organisation, including the nature, scale and environmental impacts of its activities, products and services;
- b. provides a framework for setting environmental objectives;
- c. includes a commitment to the protection of the environment, including prevention of pollution and other specific commitments relevant to the context of the organisation;
- d. includes a commitment to fulfil its compliance obligations;
- e. includes a commitment to continual improvement of the environmental management system to enhance environmental performance.

Environmental policy shall:

- a. be maintained as documented information;
- b. be communicated within the organisation;
- c. be available to interested parties.



Occupational Health & Safety Management System Policy (as per ISO 45001:2018)

Top management shall establish, implement and maintain OH&S policy that:

a. includes a commitment to provide safe and healthy working conditions for the prevention of work-related injury and ill health and is appropriate to the purpose, size and context of the organisation and to the specific nature of its OH&S risks and OH&S opportunities;

- b. provides a framework for setting OH&S objectives;
- c. includes a commitment to fulfil legal requirements and other requirements;
- d. includes a commitment to eliminate hazards and reduce OH&S risks;
- e. includes a commitment to continual improvement of the OH&S management system;
- f. includes a commitment to consultation and participation of workers and where they exist, workers' representatives.

OH&S Policy shall:

- a. be available as documented information;
- b. be communicated within the organisation;
- c. be available to interested parties, as appropriate;
- d. be relevant and appropriate management shall establish, implement and maintained.



Integrated Management System Policy

Top management shall establish. Implement and maintain an integrated management system policy designed to be:

- a. appropriate to the purpose and context of the organisation, and supports its strategic direction, taking into account the full range of its operations and all associated risks;
- b. provides a framework for setting relevant business objectives;
- c. includes a commitment to satisfy relevant statutory and legal requirements;
- d. includes a commitment to manage all relevant risks;
- e. includes a commitment to engage and consult concerned parties and individuals;
- d. includes a commitment to continual improvement of the integrated management system.

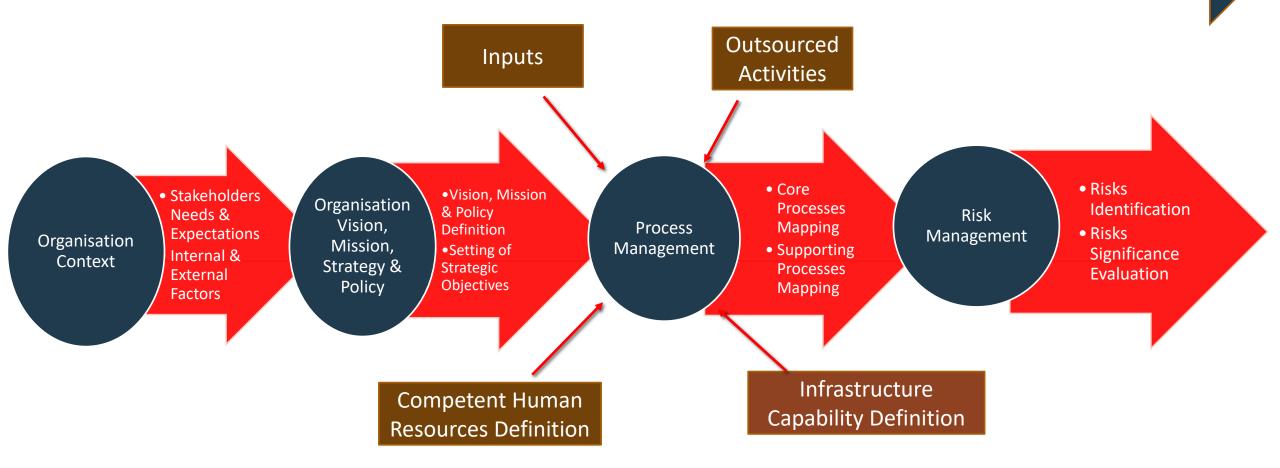
Integrated management policy shall:

- a. be available and maintained as documented information and under control;
- b. be communicated, understood and applied within and outside the organisation;
- c. be available to relevant interested parties.



Integrated Management Systems Implementation Road Map

Information Management (Creating documented Information; such as Documents, Documented Procedures, Specifications, Plans, Records, etc.)



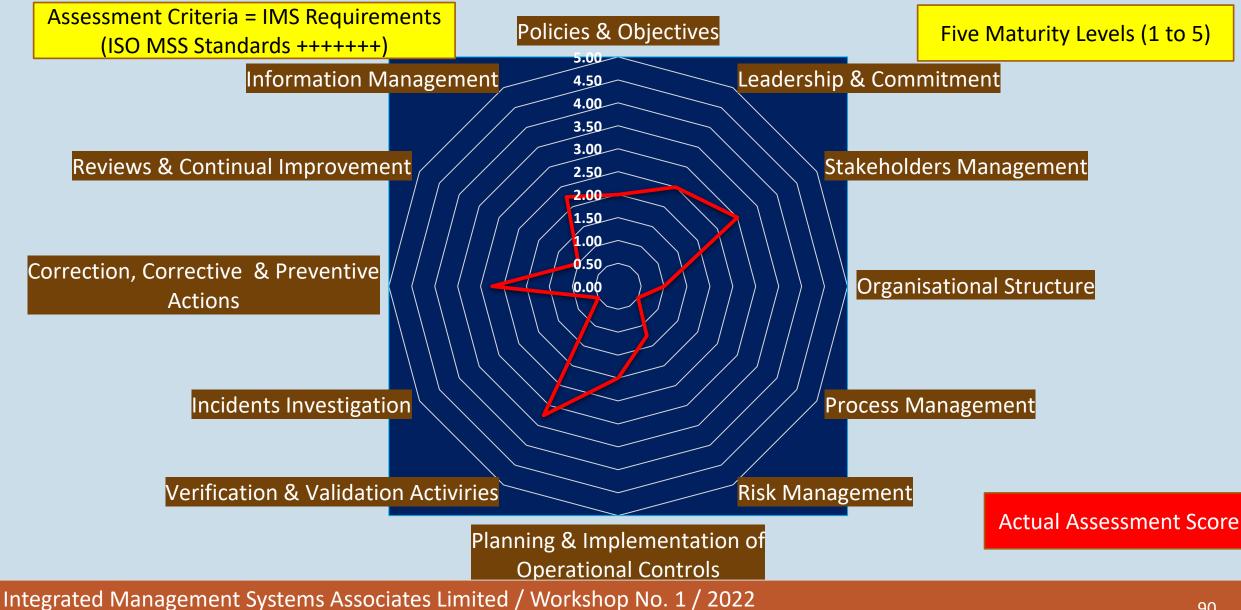


Integrated Management Systems Implementation Road Map

Information Management (Creating documented Information; such as Documents, Documented Procedures, Specifications, Plans, Records, etc.)



Integrated Management Systems Maturity Assessment



MSΔ



Integrated Management Systems Certification

- Important to realise that "Certification" (commercial but independent conformity assessment) always has to be based on ISO Standards
- It follows that Certification Bodies cannot certify an Integrated Management System, due to absence of ISO relevant standard to base it on
- Traditionally, certification is about assessing Organisations against the requirements of a management system standard (such as ISO 9001, ISO 14001, ISO 45001, etc.); very few certification auditors focus on the management systems requirements
- Therefore, most certification bodies restrict themselves to providing different standards-based certifications; some also provide an umbrella integrated management system certification (by mentioning more than one standard)
- Major challenges still face certification bodies; *had to react to market needs*
- But remember that it is not about achieving certification; rather it is about delivering satisfaction to the stakeholders of the organisation