

Development of Management Systems in Emerging Consulting Engineering Firms

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PN102 – New PN on the Development of Management Systems for Emerging Consulting Engineering Firms

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a) What is a Management System

1. Definition

A management system is defined as a system **housing policies, processes and procedures** used by the organization to ensure that it can fulfil the tasks required to achieve its **objectives**. A management system is **a key tool in helping to streamline your business processes and build-in efficiency**. Implementation of the appropriate management system and **certifying to the appropriate standard** to your business improves business performance and embeds safe and sustainable practices into your operations.

2. Types of management systems

CESA requires that the following management systems be implemented by its member firms:

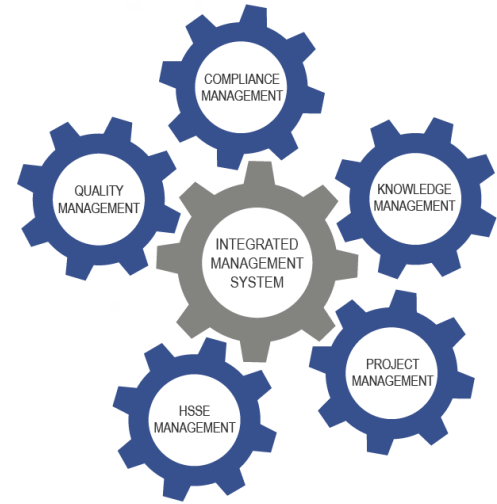
- ◆ Quality Management System
- ◆ Integrity Management System
- ◆ Project Sustainability Management System

Other types of management systems which member firms can consider implementing are as follows:

- ◆ Health and Safety Management System
- ◆ Risk Management System
- ◆ Environmental Management System etc.

3. Requirements

4. Integrated systems



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b) Planning your Management System

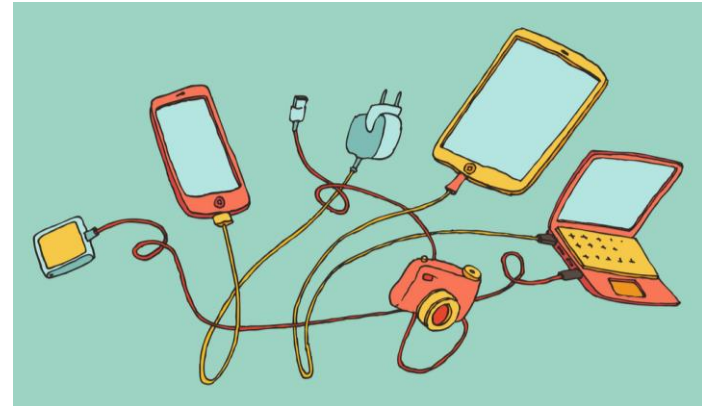
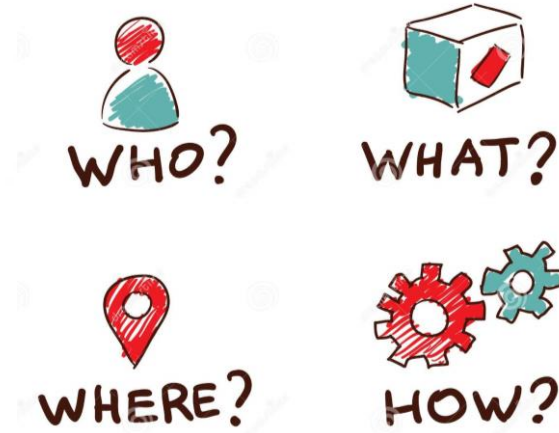
1. Identify scope, purpose and objectives

- ◆ What do we want to achieve – Management System Policy
- ◆ Where are we going to achieve it
- ◆ Who will be responsible for it
- ◆ How will we measure it (i.e. base it on a set of requirements e.g. ISO, FIDIC, ECSA Project Stages etc.)

2. Plan format and media (platform)

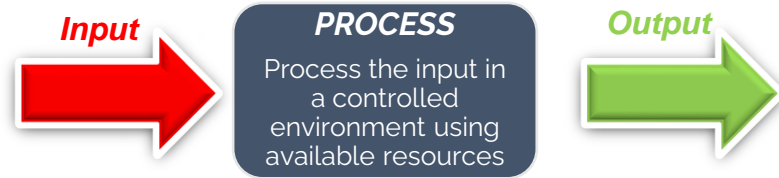
3. Determine documented requirements

- ◆ Filing structures
- ◆ File naming
- ◆ Securities
- ◆ Templates
- ◆ Organizational knowledge / libraries etc.



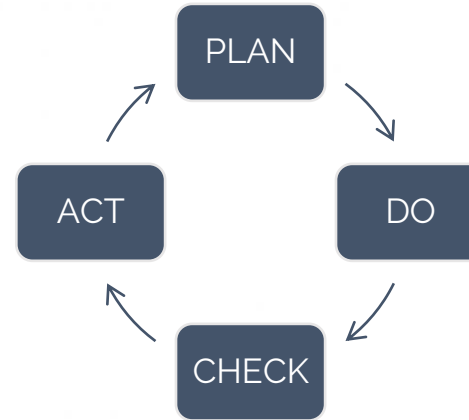
c) Identifying processes

1. What is a process
2. Interlink processes to form a management system
3. Identify all processes together with a process champion
4. Identify inputs and outputs from each process
5. Identify activities within the process to ensure you :
 - ◆ Align with strategy
 - ◆ Meet objectives / requirements
 - ◆ Mitigate risk and enhance opportunity
 - ◆ Meet needs and expectations of interested parties



d) Document process requirements (mapping)

1. Map the process using basic quality management principles (PDCA)
2. Document the process graphically using:
 - ◆ Process flow charts
 - ◆ Turtle diagrams etc.
3. Assign documents and records to the process
 - ◆ Procedure – further instruction on how to execute the process
 - ◆ Record – provides evidence of how something was done



STAGE 2 – ENGAGE AND PLAN



GUIDANCE ON how to ensure the engagement with the client is of an acceptable nature and how to plan to ensure all client requirements are met during project delivery

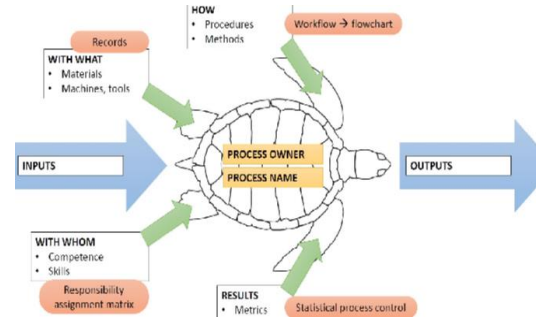
Once we have won the opportunity we need to ensure that we review the contractual arrangements thoroughly before committing to the client. Use the **Contract Checklist** as guidance when checking the contract. Should the outcome be favourable, we can commit to the contractual arrangements with the client.

Should the outcome not be favourable, log the reason why you are not committing to the contractual arrangements on the **Record & Learn Log** for further analysis.

Ensure that you receive a signed formal appointment or similar authority to proceed before undertaking work on the project. This signed agreement must be placed on your system.

Before starting work on the project, it is important to plan the delivery. Outcomes from the planning are to be captured onto the **Record & Learn Log** and will include: a) Scope Definition b) Financial Management, c) Procurement and Program Management or Risk and Opportunity Management.

At this stage, it is pertinent to appoint any vendors as identified in stage 1. Before appointing the vendor, ensure that the vendor is registered on the **Vendor List**. When appointing your vendor ensure that scope is well defined, project milestones are identified, fees are agreed etc. If required, you can enter into a sub-consultancy agreement with your vendor.

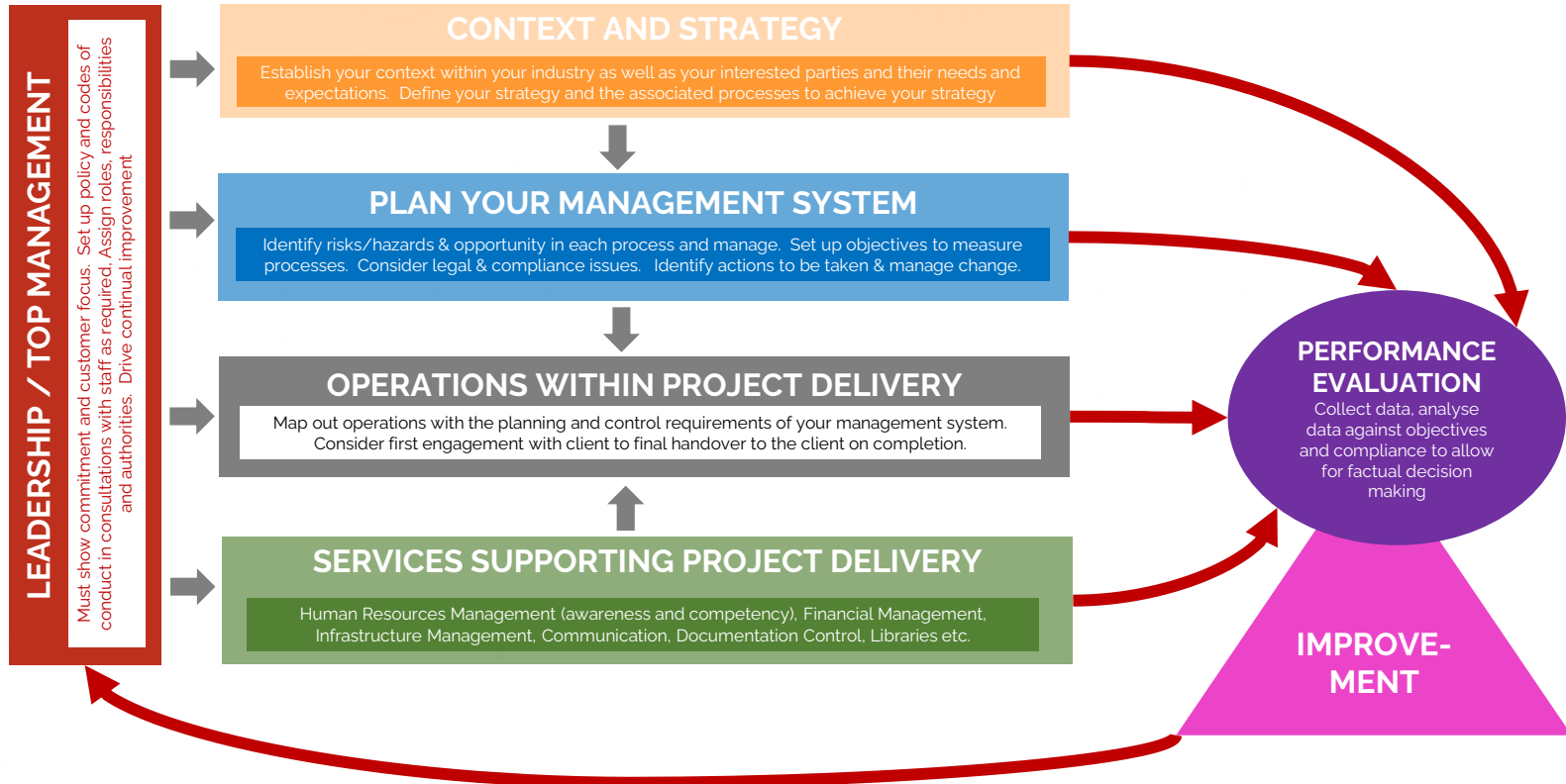


e) Train, Implement and Improve the System

1. **Train** – awareness around the system and consequences if the system is not followed
2. **Implement** – line in the sand
3. **Collect data, analyse data and improve** – measure against objectives / requirements



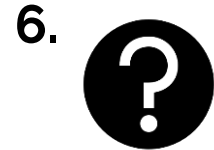
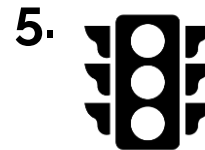
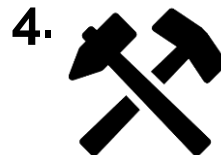
f) Typical processes within a Management System (based on the ISO framework)



g) Tips for developing effective Management Systems

- ◆ Top management support is essential for an effective management system
- ◆ Less is more, start with the basics and flesh out as you continuously improve
- ◆ Download the CESA MSD Declarations and use them to do a gap analysis of what the firm is already doing and where they can improve
- ◆ Seek training or assistance to help develop the system

1. Be creative
2. Use Technology
3. Identify risk
4. Use existing documents
5. Incorporate existing system
6. Question everything



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