

Organizational Engineering

Introduction

World-class organizations have well defined, applied and controlled processes. They are system-/process-dependent rather than people-dependent. As a result, they can easily adapt to changes or additions in personnel, and they consistently achieve high team performance.

We have developed process maps, structured meetings and KPIs that represent the elements found in a world-class organization focused on physical asset management.

These process maps include Operations, Maintenance, Engineering, Purchasing and Stores. They can be adapted to your business needs to significantly reduce development time. A visual—rather than documentation-heavy—approach is used to communicate the processes, develop the corresponding culture, and reinforce the standards. As a result, migrating existing employees to the better method and integrating new employees becomes easier.

Business Process Mapping

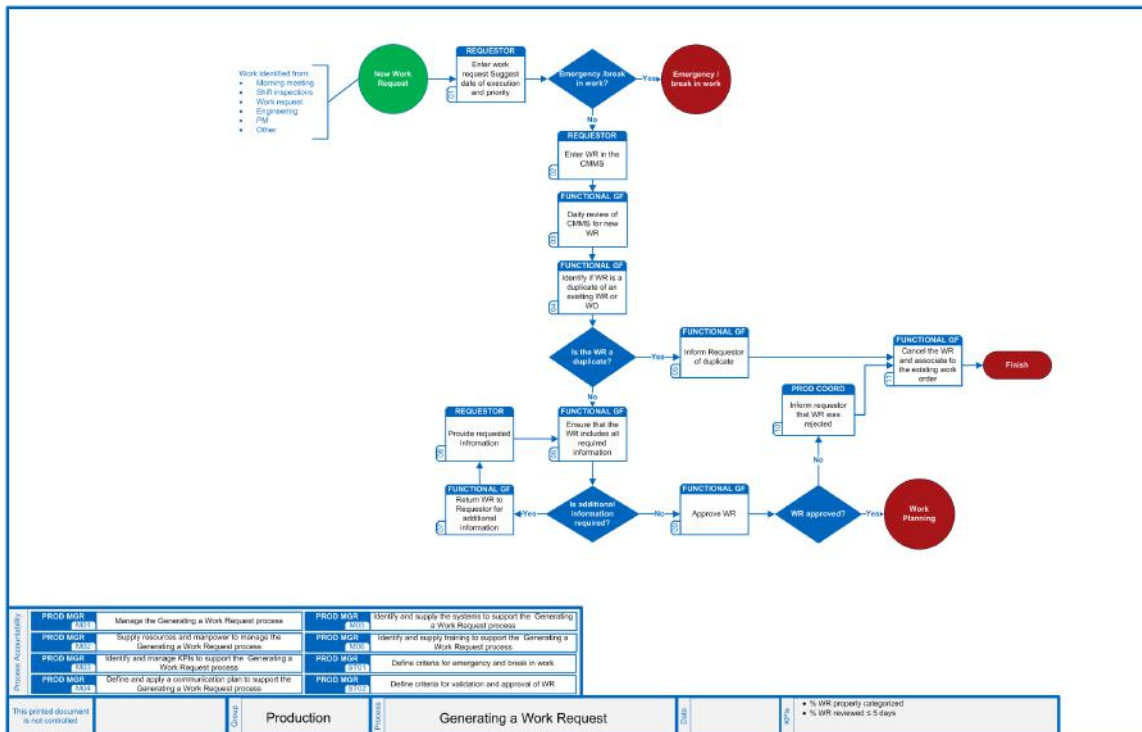
Business Process Elements

In order to identify the elements to include in your business process maps, it is important to first identify the work groups that we are targeting. Some of the groups to consider are Operations, Maintenance, Engineering, Procurement, Stores, HR, Training and Safety.

Proposed Element Maps

- 3-year Asset Management Strategy
- Facilities Management
- Physical Asset Hierarchy Development
- Asset Risk and Criticality Analysis
- Establishing Asset Performance Targets
- Generating a Work Request
- Failure Mode and Effects Analysis (FMEA)
- Reliability-centered Maintenance (RCM)
- Root Cause Failure Analysis
- Modification Request
- Safe Work Procedure Review
- Implementing Action Plans

- Plan PM Task
- Deploying Action Plans
- Maintenance Work Planning
- Maintenance Work Scheduling
- Shutdown Coordination
- Emergency and Break Down Work
- Work Execution
- Work Follow-up
- Reliability Centered Spares (RCS)
- BOM Review
- Spare Parts Kitting
- Life Cycle Costing (LCC)
- Requisitioning Supplier for Parts or Services
- Ordering Parts from Inventory
- Requesting Non-Stock Materials
- Expediting a Late Purchase Order
- Material Reception
- Parts Order Fulfillment
- Returning Material to Stores
- Adding/Modifying an Inventory Item
- Inventory Replenishment
- Inventory Cycle Count
- Counter Dispatch of Spare Parts
- Managing Contractors
- Qualifying Suppliers
- Contract Management
- Requisitioning Production Consumables
- Operator Routes
- Managing Failure Reports and Actions
- Project Conceptualizing
- Establishing Design Requirements
- Preliminary Design
- Detailed Project Design
- Commissioning
- Start up, Transfer and Project Close Out
- Training and Skills Development
- Recruitment

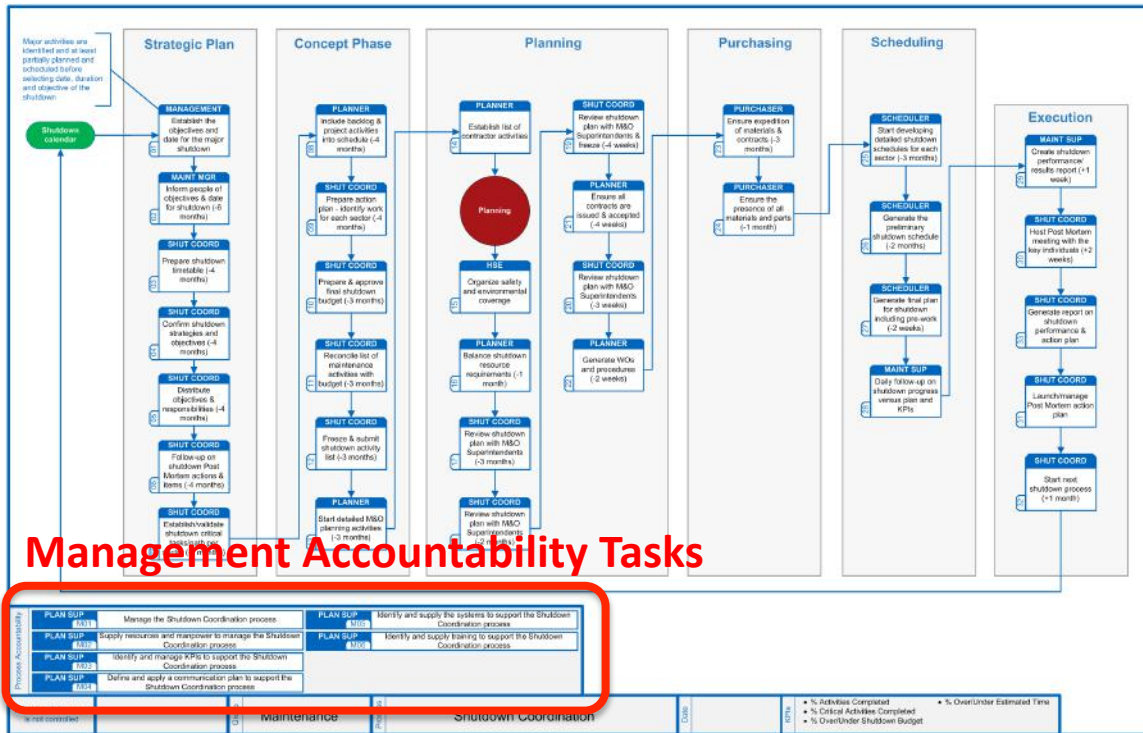


Business Process Map Example

A Better Approach to RACI

Many organizations develop RACI (Responsible, Accountable, Consulted, Informed) charts, but few actually benefit from them. One of the problems is that RACI charts drive accountability at the task level, which is too low from a management perspective. To resolve this, we assign accountability at the process—or element—level. The accountable person is responsible for managing the element, ensuring the availability of resources, systems and tools, developing and managing a communication plan, and developing and tracking the KPIs that relate to this aspect of business process mapping.

This approach has a number of advantages, including that it provides a deployment and management structure, and that it creates management tasks that would not exist when assigning accountability at the task level with a conventional RACI process.



Management Accountability Example

Macro and Micro Deployment Strategy

The first step of this process is to realign tasks at the macro level. We focus on aligning a person with his/her tasks, but we do not focus on the quality of the task execution, unless quality is a big issue. This step usually takes 3 to 6 months.

The second step—the micro level—focuses on quality. We use audits derived from the maps to review not only if the task is performed, but also if it is performed correctly. Coaching is introduced to bridge the gaps. A good and prudent pre-step is to conduct a technical and soft skills assessment of the various resources. This will help determine if a person is the right person for the job, and if he/she will benefit sufficiently from training and coaching.

Efficient Meetings

Meetings

Simply reducing the number of meetings, as some organizations try to do, does not produce efficient meetings. This is because the scheduled meetings end up being replaced by a series of ad hoc meetings, which are worse. Meetings are an important part of managing your organization.

Rather than eliminate meetings, we need to identify which meetings are necessary and put systems in place to render them efficient. A final aspect of this is to be able to audit the meetings to ensure long-term results.

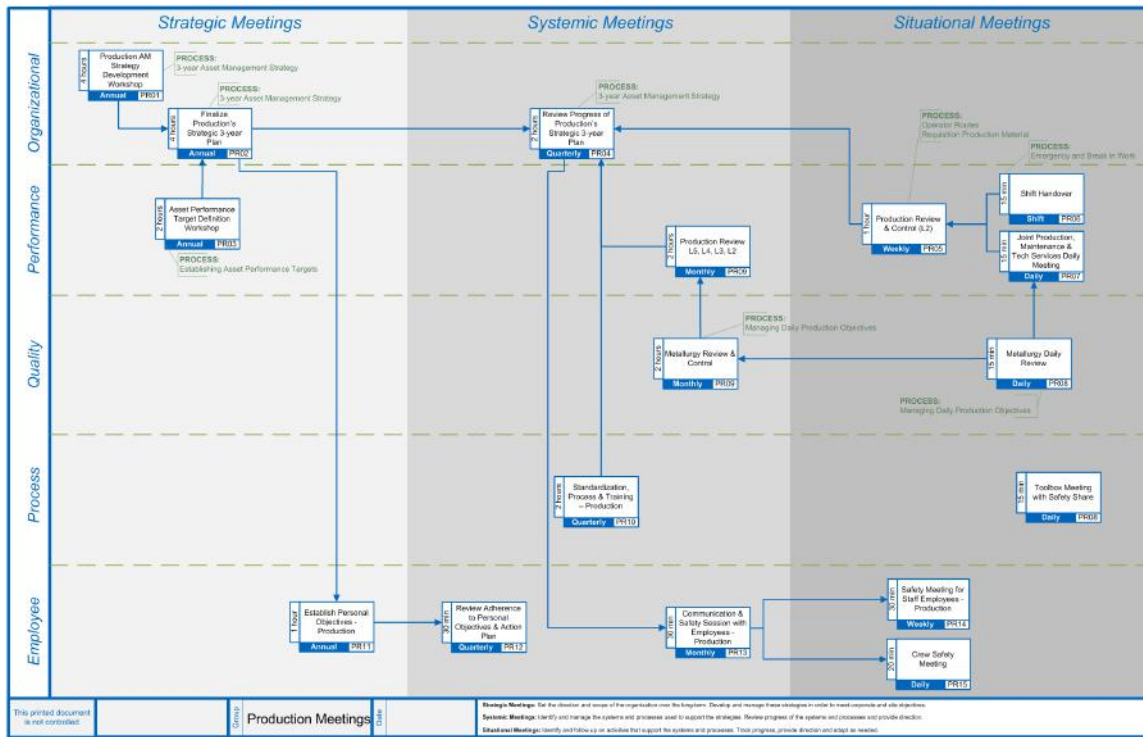
Structuring Your Meetings

Some of the information you should define for each meeting includes:

- Objective
- Responsible
- Participants
- Information Required for the Meeting
- Meeting Deliverables
- Agenda
- Logistics
- Meeting Category
- Annual Cost of Meetings
- Meeting Standards

Meeting Maps

It is important to the interrelationships between meetings, as each type of meeting has a purpose. Each meeting supports and/or is supported by other meetings, and we must take this into account when defining its deliverables in order to maximize its effectiveness.



Meetings Map Example

Types of Meetings

There are 3 types of meetings:

Strategic Meetings

These meetings are used to set the direction and scope of the organization over the long term, and to develop and manage these strategies in order to meet corporate and site objectives. They are typically held annually, bi-annually or quarterly.

Systemic Meetings

These meetings are used to identify and manage the systems and processes that support the strategies. They are typically held quarterly or monthly. During these meetings, we review the progress of the systems and processes and provide direction to the organization.

Situational Meetings

During these meetings, we identify and follow-up on activities that support the systems and processes. We use these meetings to track progress, provide direction and adapt, as needed. These meetings are held weekly, daily or even every shift.

Auditing Meetings

Auditing your meetings helps produce the desired changes and ensure their sustainability. We use an auditing tool, which is weighted based on the importance of each requirement.

AUDIT		
REQUIREMENT	YES	NO
ADHERANCE (meeting practices)		
Meeting starts on time	4	
Meeting finishes on time	4	
Agenda published and distributed before the meeting	2	
No one is surprised by the agenda or subjects discussed	2	
Agenda is followed	2	
Everyone scheduled is present	2	
COMMUNICATION (I listen and I participate)		
Discussions between certain members before the meeting help resolve efficiently subjects that would normally require too much discussions during the meeting	5	
The subjects discussed are included in the agenda	5	
Meeting objectives were communicated prior to the meeting	3	
Discussions are encouraged, but controlled, in order to respect the schedule and ensure everyone's participation	3	
The participants are prepared and able to participate in the topics discussed	5	
Deviations are controlled and minimized	5	
Everyone participates in the discussions at the appropriate moments	2	
ENGAGEMENT (identification of barriers, assignments and resolutions)		
Assigned actions are reviewed and their schedule respected	8	
When needed, a task is reassigned—but with a shortened timeline	5	
Shortfalls in the action plans are questioned and corrective actions are identified	6	
All relevant actions are reviewed and assigned to specific resources	5	
All assigned actions have a due date	8	
Assigned dates are reviewed to ensure the right level of urgency	6	
All assigned tasks are reviewed prior to closing the meeting	8	
FEEDBACK (celebrate our successes and focus on the problems)		
Successes are recognized during the meeting	5	
Weak performances are identified and reviewed in order to bridge the gap	5	

TOTAL (An effective meeting > 80/100)

Effective KPIs

“If you can't measure it, you can't manage it” - Peter Drucker

This said, the reverse is not necessarily true. Though you can measure something does not guarantee that you can manage it. KPIs are essential tools for measuring and controlling organizational performance, but they need to be properly structured, deployed and managed to be effective. Some of the information needed to manage your KPIs includes:

Defining KPI Parameters

Information
Definition
Formula
Owner
Initial Target
World-Class Target
Measuring Method
Type of Metric
Measuring Frequency
Reference Source
Control/Audit Point
Parent KPI
Child KPI(s)

Communication / Deployment Plan
Desired Behavior Targeted by KPI
Impact of not Achieving the Objective
Target Audience (Site Specific)
Who Impacts the Metric
Communicate Tools
Meeting where KPI is Reported
Timeline for introduction
Auditing Method

Changes needed to introduce the KPI
 Things to communicate prior to introduction

KPI Categories

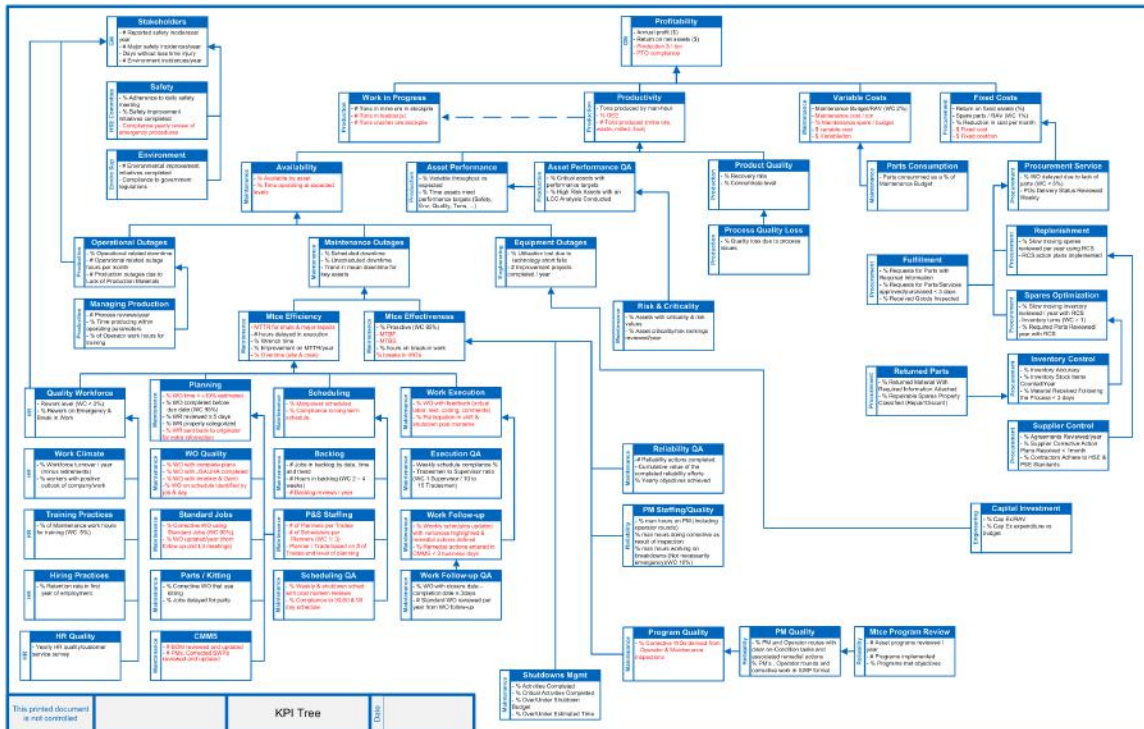
Leading KPIs: These measurements focus on the process that is used to achieve the results, or on the organization that produces the results.

Lagging KPIs: These measurements are focused on the results.

Organizations typically focus on the results (lagging KPIs), but we cannot change the results. We can only try to do better in the future. To be proactive we need to focus on the process (leading KPIs) that produces the results.

KPI Hierarchy

Quantifying the correlation between the KPIs managing the process and those reporting the performance helps define the value each element of the process brings to the organization. This helps management decide on which activity, improvement initiative or capital project to invest the organization's resources and efforts. The correlation also helps identify KPIs that are meaningful to specific individuals and groups at each level.



KPI Tree Example

Conclusion

You undoubtedly have some—or even many—of these elements already established within your organization, and may only need a few additions. Nonetheless, we recommend that you take a moment to reflect on how successful you are at being system-dependent, how well you manage your meetings, and how effectively you use your KPIs.

No matter how advanced you are, if there is an opportunity to improve, we recommend the following steps: analyze your current state, define your desired state, develop a simple plan, establish reasonable goals, and identify the number and skill of resources you need to implement. In all cases, you should solicit the help of a good Coach and, when needed, resources to do the heavy lifting.

About the Author

Our President, J R Paul Lanthier P Eng. is a recognized world expert in the fields of Physical Asset Management and Reliability.

He has pioneered the new science of Organizational Engineering and has helped many organizations achieve and exceed their business objectives through the application of technical and cultural best practices.

