

# Capability: Concepts, Principles and Systems

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## Abstract

This document describes the concepts, principles and systems for Capabilities.

Capabilities are emergent properties of a system that are created through the interaction of people, process and technology. The performance of the needed capabilities is critical for the success of the enterprise or organization.

- Link to [Organization Concept PDF](#)
- Link to [Process Concepts PDF](#)
- Link to [Capability Examples PDF](#)
- Link to [People Concepts PDF](#)

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## Author and Version

Bruce McNaughton, Version 0.13 20-December-2018

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## Revision History

- V0.13 20-December-2018 Continued restructure of the Capability topics (separate examples).
- V0.12 01-November-2018 Initial restructure of the capability system
- V0.11 20-Sep-2017: Incorporates updated System and Enterprise Conceptual Models.
- V0.10 16-Apr-2017: Updated EntSoS Context Model Pictures.
- V0.9 05-Mar-2017: Revised Team and Capability related to realization and creation.
- V0.8 26-Feb-2017: Updated to reflect the Enterprise as a System of Systems (SoS)
- V0.7 01-Oct-2016: Updated pictures and formatting; added personas and person / information system descriptions
- V0.6 05-Sep-2016: Added capability as a system as the introduction.
- V0.5 26-Aug-2016: Additional pictures for objects.
- V0.4 26-Aug-2016: Update links to concepts and object models.
- v0.3 24-Aug-2016: Update from Peter's review; first pass title page..
- v0.2 20-Aug-2016: Initial version for review.
- V0.1 Simplification and image position.
- V0.0 First pass and image fit

## Capability: Concepts, Principles and Systems

A Capability is an essential part of an Organization. The capability is also a system in its own right with a defined set of systemic properties and system elements. This type of system is called a 'holon' where the capability is both a system element and a system.

There are various definitions of capabilities:

- **ISO 9000:2015:** ability of an object to realize an output that will fulfil the requirements for that output
- **TOGAF 9.1:** An ability that an organization, person, or system possesses. Capabilities are typically expressed in general and high-level terms and typically require a combination of organization, people, processes, and technology to achieve.
- **DoDAF 2.0:** The ability to achieve a Desired Effect under specified (performance) standards and conditions through combinations of ways and means (activities and resources) to perform a set of activities.

A Capability is a building block of teams or Organizations. Capabilities are defined and realized through the interaction of people, process / information and technology. These elements are shown in the following picture:

### Principles: Capability

The following principles apply to a capability:

- A Capability is an emergent property of a whole system.
- A Capability is realized through the interaction of a person taking on a role to carry out specific process activities using appropriate technology.
- A Capability can be replicated
- There is generally only one process related to a capability.
- Some people use nouns for Capability Names and verbs for process or activity names. (e.g. Project Management capability and Managing Successful Projects Process)
- A Capability can be described as 'what' (e.g. the result of the interaction of people, process / information and technology). The People, Process and Information and technology and their interaction describe how the capability is created.

This document includes the following topics:

- [Capability System Description](#)
- [People System Element](#)
- [Process Description System Element](#)
- [Technology Item System Element](#)
- [Capability Description Template](#)

In addition, the following PDF provides examples of capabilities

Link to [Capability Examples PDF](#)

## Example of Capabilities

The following examples show capabilities that are commonly found in organisations

### Project Management

Example Capability

## Project Management Capability

Tailored / integrated

- PRINCE2 or
- PMI PMBOK or
- APM or
- EVO or
- Or a combination

People with SKEAB  
To take on the roles of:

- Project Executive
- SRO
- Project Manager
- Project Support
- PMO Manager
- Risk Manager
- Configuration Manager
- Quality Assurance
- ...



Technology such as:

- MS Excel
- MS Project
- Primavera
- Clarity
- Hydra
- Or a combination.

**Architecture Framework  
for Organizations**

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[Project Management](#) Process Pattern

[Project Management capability description](#)

### Programme Management

Example Capability

## Program Management Capability

Tailored / integrated

- MSP
- PMI Prog Mgt
- Or Scaled DSDM

People with SKEAB on Project Management capability plus SKEAB

To take on the roles of:

- Program Executive
- SRO
- Program Manager
- Program Support
- PMO Manager
- Risk Manager
- Configuration Manager
- Quality Assurance
- ...



Technology such as:

- MS Excel
- MS Project
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**Architecture Framework for Organizations**

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[Programme Management Process Pattern](#)

[Programme Management Capability Description](#)

## Team Performance Management

Example Capability

## Team Performance Management Capability



Activities of a manager from Peter Drucker

People with SKEAB

To take on the roles of:

- Team Manager
- Team Support
- ...



Technology such as:

- MS Excel
- Asset tools
- Performance Management
- Planning
- Budgeting

Purpose: To Establish and Manage a Team



**Architecture Framework for Organizations**

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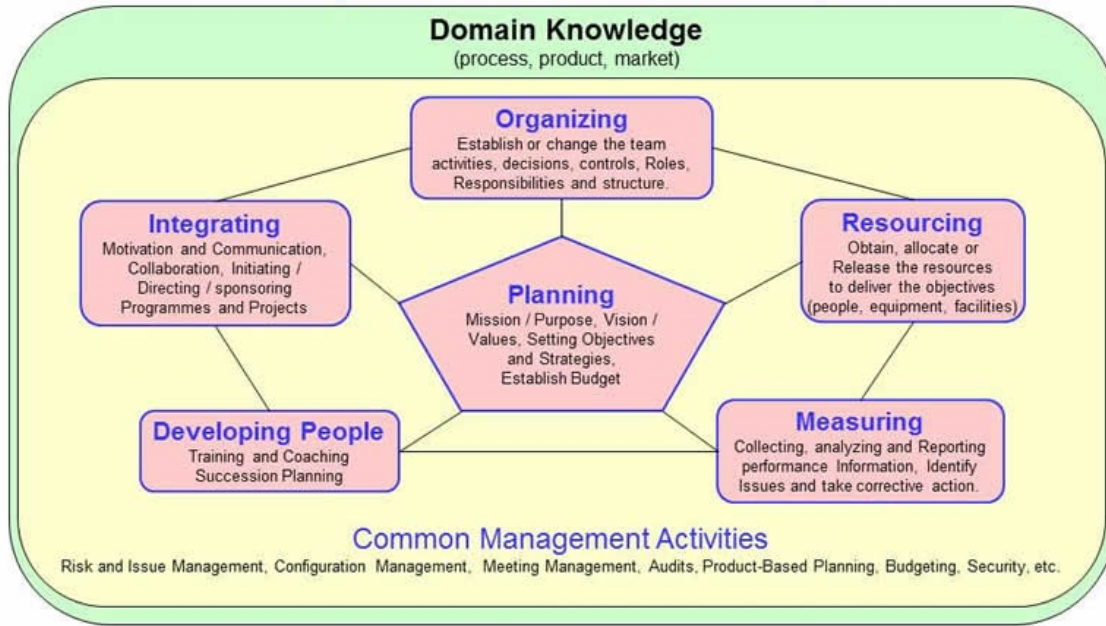
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Activities of a Manager: The basis for the management process

# The Activities of a Manager

## Leadership

"The very best leaders are first and foremost effective managers".

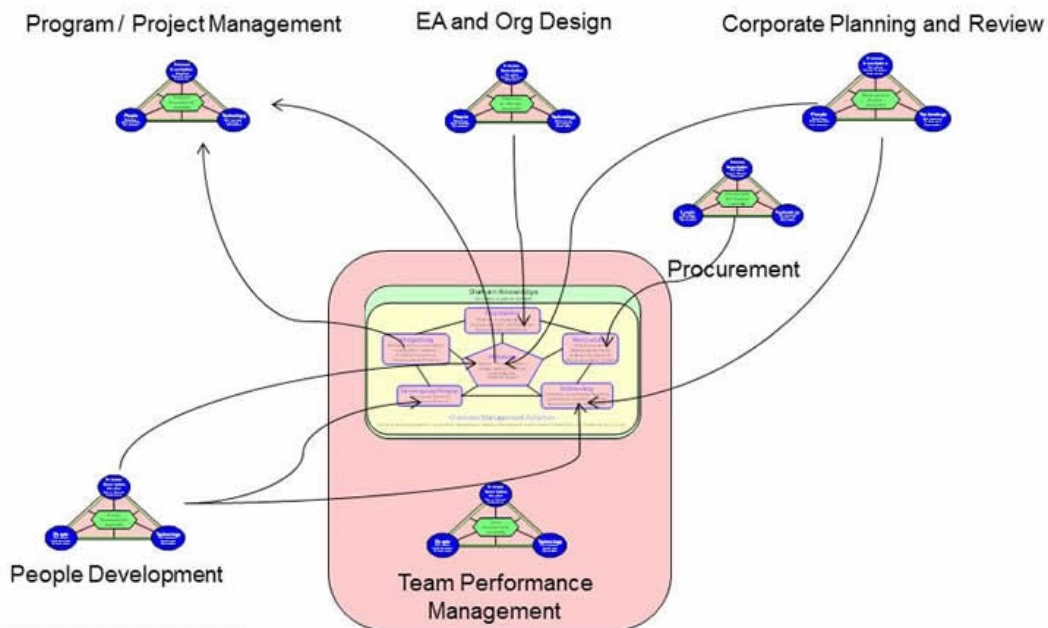


**Enterprise as a System of Systems**

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[Team Performance Management Process Pattern](#)  
[Team Performance Management Capability Description](#)  
 Supporting Processes for the Team Manager

# Capabilities supporting Team Performance Management



**Architecture Framework for Organizations**

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## Enterprise Architecture

Example Capability

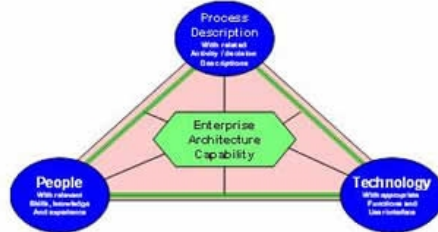
# Enterprise Architecture Capability



ADM from TOGAF  
As an example of the activities  
Of EA.

People with SKEAB who take  
On roles of:

- Enterprise Architect
- Business Architect
- Information Architect
- ...



Technology such as:

- System Architect
- Troux
- MagicDraw
- Enterprise Architect
- Etc.

Purpose: ???

**Architecture Framework  
for Organizations**

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[Enterprise Architecture Capability Description](#)

## Call Handling Capability Description

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**Name**

---

Call Handling

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**Purpose**

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Handle Calls from Customers in the following areas:  
Sales, Product Support, Warranty

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**Description**

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Handle calls from customers in a consistent way to the satisfaction of the caller. This is wide

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**People**

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Managers of Call Centre teams  
Call Handler / Operator  
Script writers

---

**Process (Activities / Decisions)**

---

Handle calls according to the defined scripts and if necessary respond to specific concerns if no script is available  
Raise improvements

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**Technology (tools / facilities)**

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Call handling and allocation to Operator  
Script management during a call  
Collection of statistics for further analysis.  
Facilities and work spaces for handling the call.

---

**Notes**

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Example of a core capability that can be allocated to one or more teams used during service provision.

# Enterprise Architecture Capability

**Name**

Enterprise Architecture

**Purpose**

- To provide a shared understanding of the current and future state of the enterprise
- To identify the gaps and support the creation of a roadmap to achieve the future state
- To improve and maintain the

**Description**

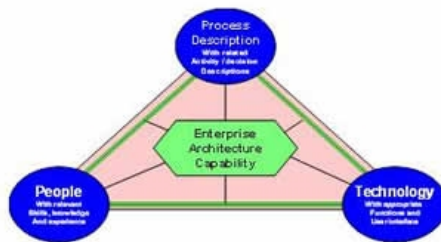
The Enterprise Architecture capability creates the various architecture descriptions for various states of the enterprise. The capability consists of:

## Enterprise Architecture Capability



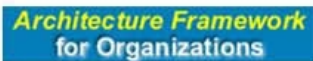
ADM from TOGAF  
As an example of the activities  
Of EA.

- People with SKEAB who take  
On roles of:
- Enterprise Architect
  - Business Architect
  - Information Architect
  - ...



- Technology such as:
- System Architect
  - Troux
  - MagicDraw
  - Enterprise Architect
  - Etc.

Purpose: ???



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**People**

Various architects with an understanding of the whole enterprise.

**Process (Activities / Decisions)**

The steps to create an architecture description and the support of the processes to realise the architecture description.

**Technology (tools / facilities)**

Various modelling and collaboration tools.

**Notes**

This EA capability also works with other architecture frameworks for other technologies or organisations.



## Capability Description Template

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**Name**

Name of the Capability

---

**Purpose**

Purpose of the capability

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**Description**

Description of the properties delivered from the capability as a whole. Performance, desired results, etc.

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**People**

Description of the skills, knowledge and experience of the people associated with specific roles or jobs.

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**Process (Activities / Decisions)**

Identify the specific activities or decisions or reference a process that contains these activities.

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**Technology (tools / facilities)**

Identify the specific tools and work spaces that are necessary to deliver this capability

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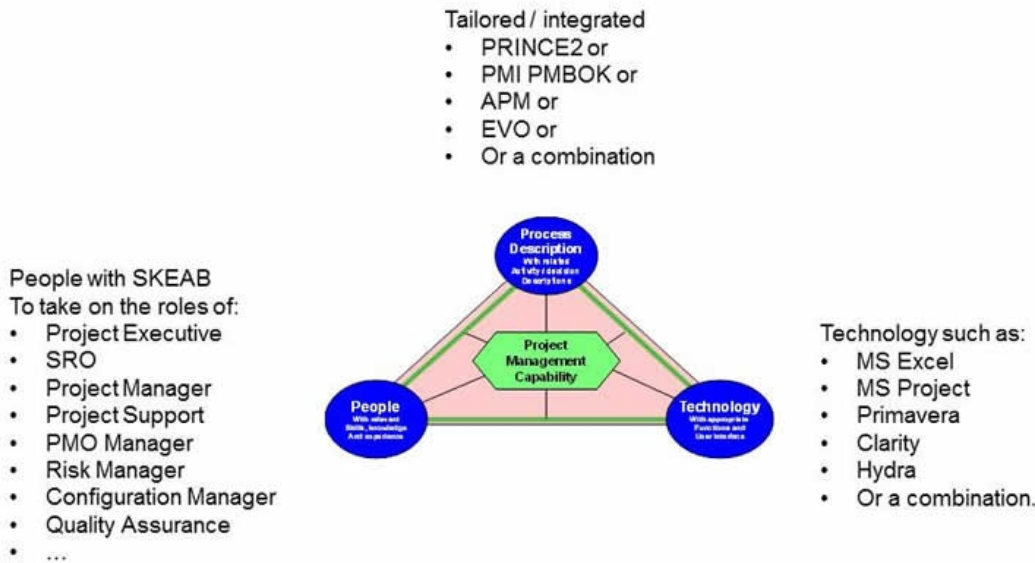
**Notes**

Any notes that may be relevant

# Project Management Capability Description

<b>Name</b>	Project Management
<b>Purpose</b>	Deliver a specific output or result where a temporary organization is required.
<b>Description</b>	The capability to initiate, manage and control, and close a project. The capability is shown in the following picture:

## Project Management Capability



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<b>People</b>	Project Manager with appropriate skills, knowledge and experience with projects Team members trained on the project management process with appropriate domain knowledge
<b>Process (Activities / Decisions)</b>	See the <a href="#">Project Management Process</a> for a set of activities
<b>Technology (tools / facilities)</b>	Scheduling and resource management: (e.g. MS Project or similar) Presentation tools : MS Office Powerpoint or Visio Configuration and document management tools. Communication Tools: Telephone, video conference, etc.
<b>Notes</b>	The capability can be allocated to any team given the appropriate skills, knowledge and experience of the people in the team.

# Team Performance Management Capability Description

<b>Name</b>	Team Performance Management
<b>Purpose</b>	<p>To establish and manage a team or teams</p> <p>To establish and plan and measure performance</p> <p>To ensure that all people and other resources required for success are available.</p> <p>To manage change as necessary.</p>
<b>Description</b>	<p>This capability is allocated to every team within an organisation. The team can either have a manager or be a self managing team where the activities are shared amongst all of the team members.</p> <p>This capability is based upon the activities of a manager. The following picture shows the key elements of the capability:</p>

## Team Performance Management Capability



Activities of a manager from Peter Drucker

- People with SKEAB  
To take on the roles of:
- Team Manager
  - Team Support
  - ...



- Technology such as:
- MS Excel
  - Asset tools
  - Performance Management
  - Planning
  - Budgeting

Purpose: To Establish and Manage a Team



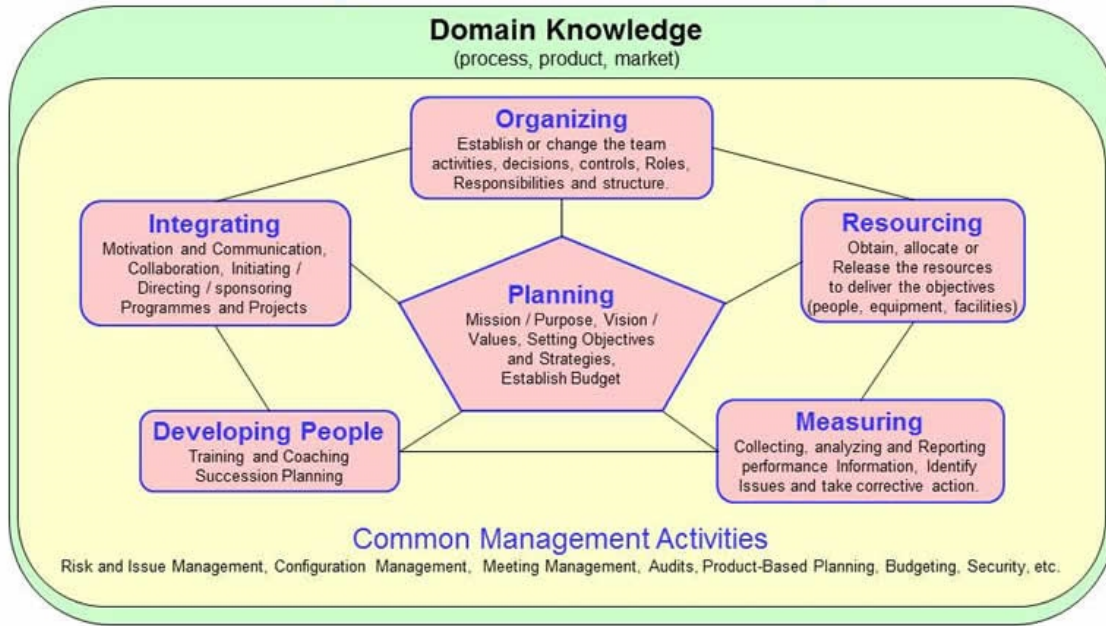
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<b>People</b>	All managers within an organisation
<b>Process (Activities / Decisions)</b>	The activities for the process are based upon the activities of a manager:

# The Activities of a Manager

## Leadership

"The very best leaders are first and foremost effective managers".



**Enterprise as a System of Systems**

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The process design pattern is: [Team Performance Management](#)

### Technology (tools / facilities)

The technology is varied and depends upon the actual work being done.

- Planning (part of the planning process)
- Organising (part of the organisation design process)
- Resourcing (part of the developing people or procurement processes)
- Integrating (various communication tools)
- Measuring (various measurement and reporting tools)
- Developing People (part of the developing people process).

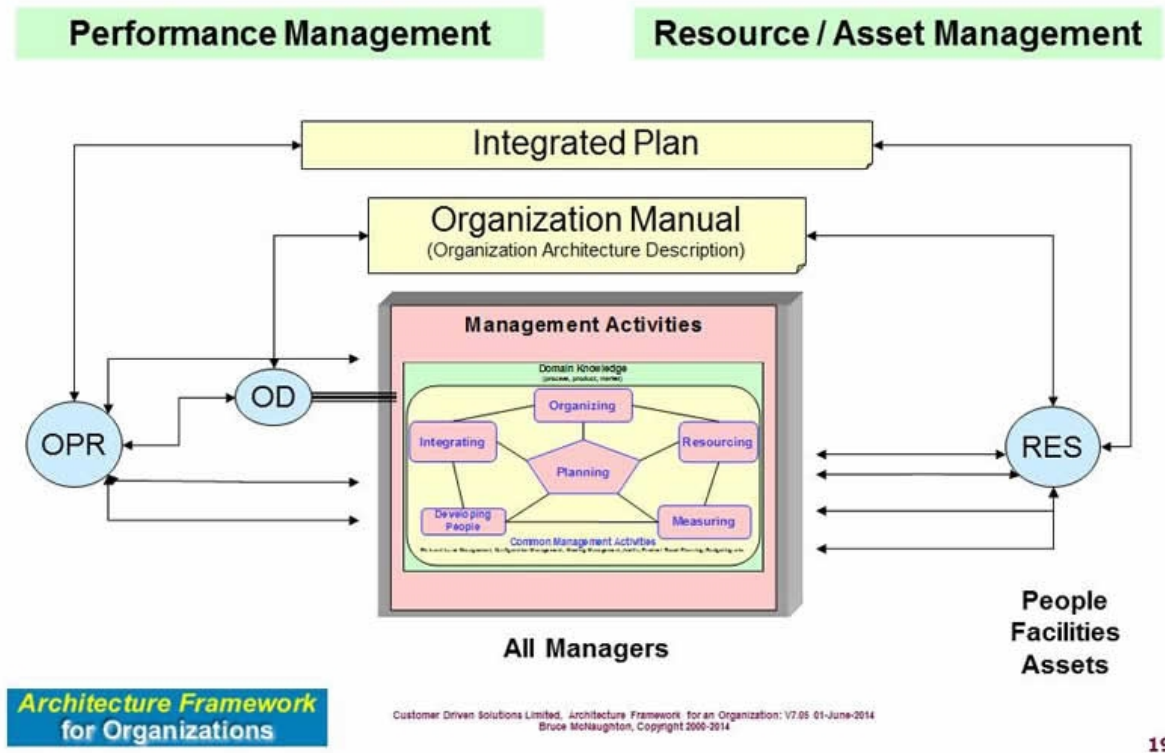
### Notes

The activities of a manager include the points with other processes are invoked and used. This process describes the managers work to manage a team.

## Idealized Management Capability

Idealized Design (Based upon Russell Ackoff approach).

### Management Capability (Support Teams – Idealized Design)



OPR ... organizational planning and Review. (cross-functional planning and review process and support)

OD ... Organizational Design (creating and maintaining an organizational architecture description)

RES ... support for allocation of resources across each of the teams (procurement, HR, measuring and monitoring)

the measurements for these teams are whole and not creating a sub-optimization. This structure is scalable as the organization grows.

(see the UK Government ONS position ... a combination of all three of the above.)

The capabilities for OPR, OD, and RES are nice rotational assignments for managers rather than permanent features of an organization. Every manager needs to understand the way the organization works from a holistic perspective.