IT Governance

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Agenda

- Intro
- IT Governance
- Architectural Governance
- SOA Governance

What is IT Governance ?

"Specifying the decision rights and accountability framework to encourage desirable behaviour in the use of IT."
Peter Weill and Jeanne W. Ross

"A structure of relationships and processes to direct and control the enterprise in order to achieve the enterprise's goals by adding value while balancing risk versus return over IT and its processes."
The IT Governance Institute

2 Complimentary Sides

- Behavioural
- Normative

Governance Essentials Questions

Effective governance must address 3 Questions:

1) **What** decisions must be made ?
2) **Who** should make those decisions ?
3) **How** will we make and monitor these decisions ?

From Peter Weill and Jeanne W. Ross

5 Areas of IT Decisions

- **IT Principles** – clarify the business role of IT
- **IT Architecture** – integration and standardisation requirements
- **IT Infrastructure** – determining shared and enabling services
- **Business Application Needs** – specify the business needs for IT applications
- **IT Investment and Prioritisation** – what to fund and how much

6 Archetypes Involved

Who makes the decisions and provides input:

- **Business Monarchy - ** management
- **IT Monarchy -** IT
- **Feudal** – business units make independent decisions
- **Federal** – Corporate and business units with or without IT
- **IT Duopoly** – It group and one other
- **Anarchy** – isolated decision making

Key Players in Archetypes

	C Level Execs	Corporate IT or Business unit IT	Business Unit/ Process Leader
Business Monarchy	√		
IT Monarchy		√	
Feudal			√
Federal	√	√	√
	√		√
IT Duopoly	√	√	
		√	√
Anarchy			

Governance Matrix

	Principles	Architecture	Infrastructure	Business Needs	Investment
Business Monarchy					
IT Monarchy					
Feudal					
Federal					
IT Duopoly					
Anarchy					

- Different people provide *Input* than make the *Decisions.*
- Not the same people across decision areas

ICT Governance

The Australian Standards AS 8015:2005 sets out principles for good corporate governance of ICT.

- Principle 1 – Establish clearly understood responsibilities for ICT
- Principle 2 – Plan ICT to best support the organisation
- Principle 3 – Acquire ICT validity
- Principle 4 – Ensure that ICT performs well, whenever required
- Principle 5 – Ensure ICT conforms to formal rules
- Principle 6 – Ensure ICT use respects human factors

Specific Types Of IT Governance

Architecture Governance

> "The practice and orientation by which enterprise architectures and other architectures are managed and controlled at an enterprise-wide level. Typically does not operate in isolation, but within a hierarchy of governance structures, which, particularly in the larger enterprise, can include Corporate Governance, Technology Governance, Information Technology (IT) Governance, and Architecture Governance."

The Open Group

SOA Governance

> "SOA governance extends IT governance as enterprises increase their level of service-orientation. SOA is also a cross functional initiative involving business and IT in the collective pursuit to deliver on the enterprise's strategy and goals. Hence, SOA Governance must bridge any gaps between enterprise and IT governance."

Kerrie Holley, IBM Fellow

SOA Governance

"The art and discipline of applying structured relationships, procedures, and policies to produce managed outcomes for services consistent with measurable preconditions and expectations."

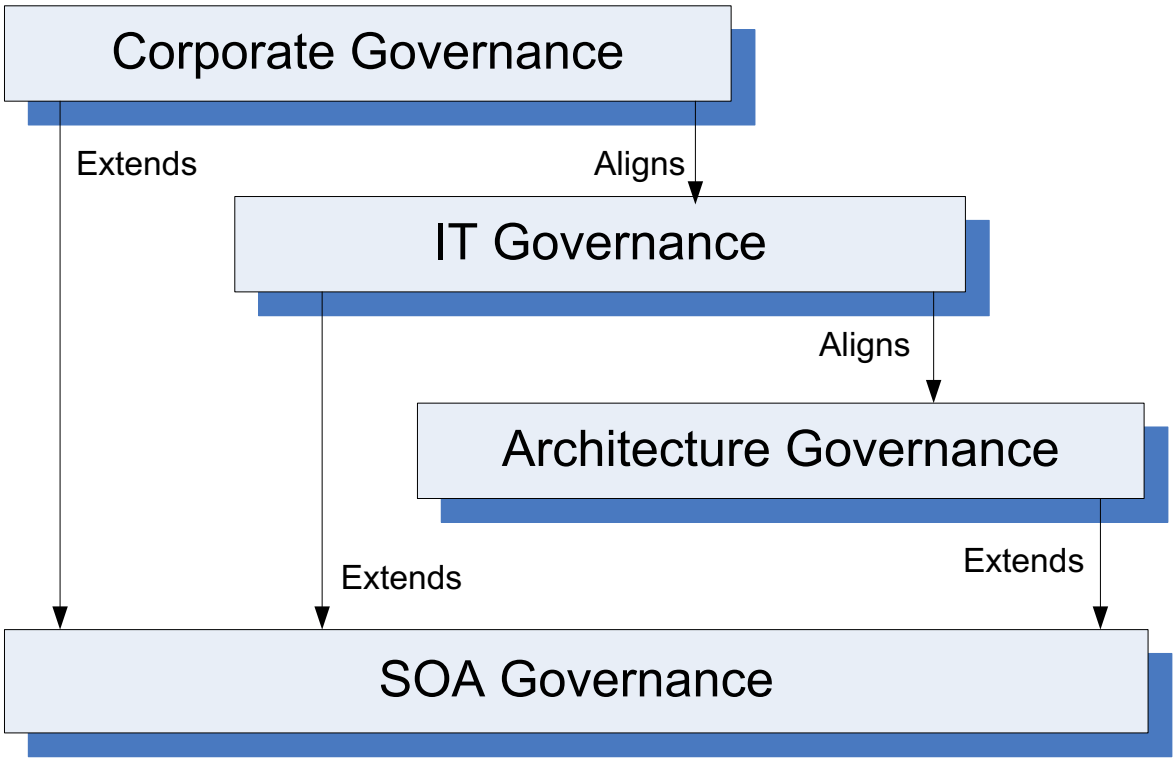
Zapthink, 2007

"[T]he processes that an enterprise puts in place to ensure that things are done (…) in accordance with best practices, architectural principles, government regulations, laws, and other determining factors.

SOA governance refers to the processes used to govern adoption and implementation of SOA."

Anne Thomas Manes

SOA Gov depends on other Gov.



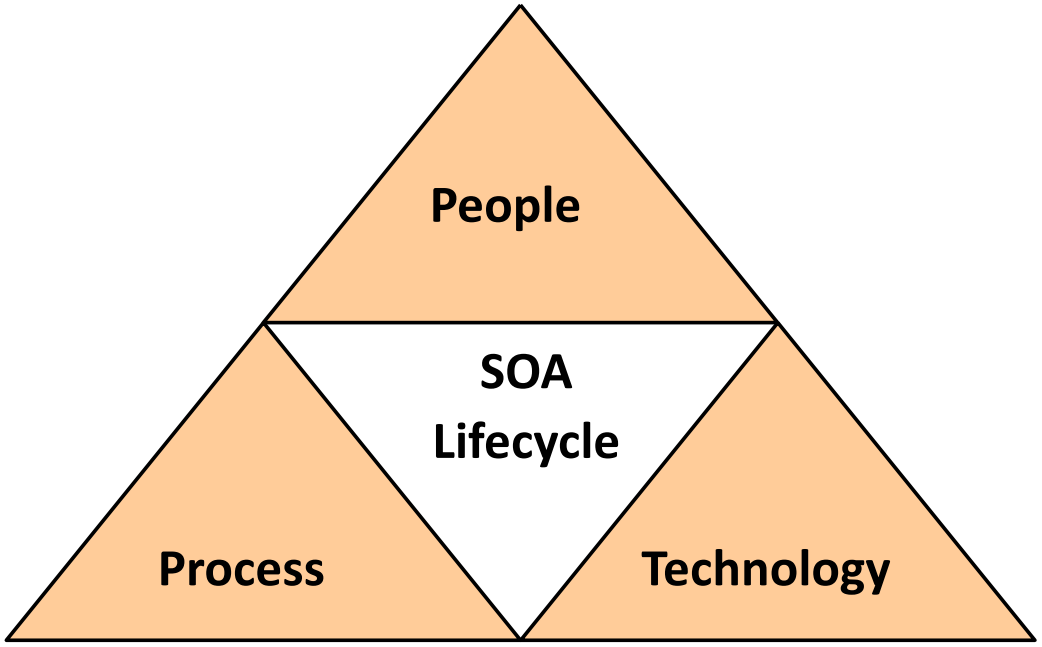
SOA Issues complicate Governance

- Shared services increases the number of dependencies between business organisations, systems and applications.
- Each service has to be designed to be: versioned, secured, managed, monitored, change managed, tested deployed and provide QOS;
- IT is used to doing this at an application and project level, but not at a “service” level across heterogenous domains of ownership.

People, Process, and Technologies

While the specific focus of SOA governance is on the development and use of services, effective SOA governance must cover the people, processes, and technologies involved in the entire SOA life cycle.

To quote Anne Thomas Manes yet again: *"SOA is about behaviour, not something you build or buy. You have to change behaviour to make it effective."*



Technology Guidelines

- Consolidate development tools and technologies
- Model after architectures defined in the industry
- Used packaged applications as much as possible
- Stick with technology standards as much as possible
- Emphasize shared resources for infrastructure
- Emphasize reusability for software

SOA Best Practises

- Introduce SOA in baby steps: Big bang will fail;
- Focus on Business processes; SOA needs to involve the business and be business driven;
- Use industrial models; Get as many industry specific models as possible;
- Define a SOA Road Map;
- Governance and SDLC are critical;
- Define a SOA lifecycle. E.g. model, assemble, deploy and manage;
- Enterprise Architecture approach is critical;
- Architecture drives the software process; SOA is all about architecture (good service design);
- SOA needs BI; measure and report on services;
- Determine SLA's – that are objective and measurable;
- Classify services; decomposing services top-down;
- Design Document Oriented Services;
- Do not rely on Transactions, use compensation;

SOA Best Practises (cont)

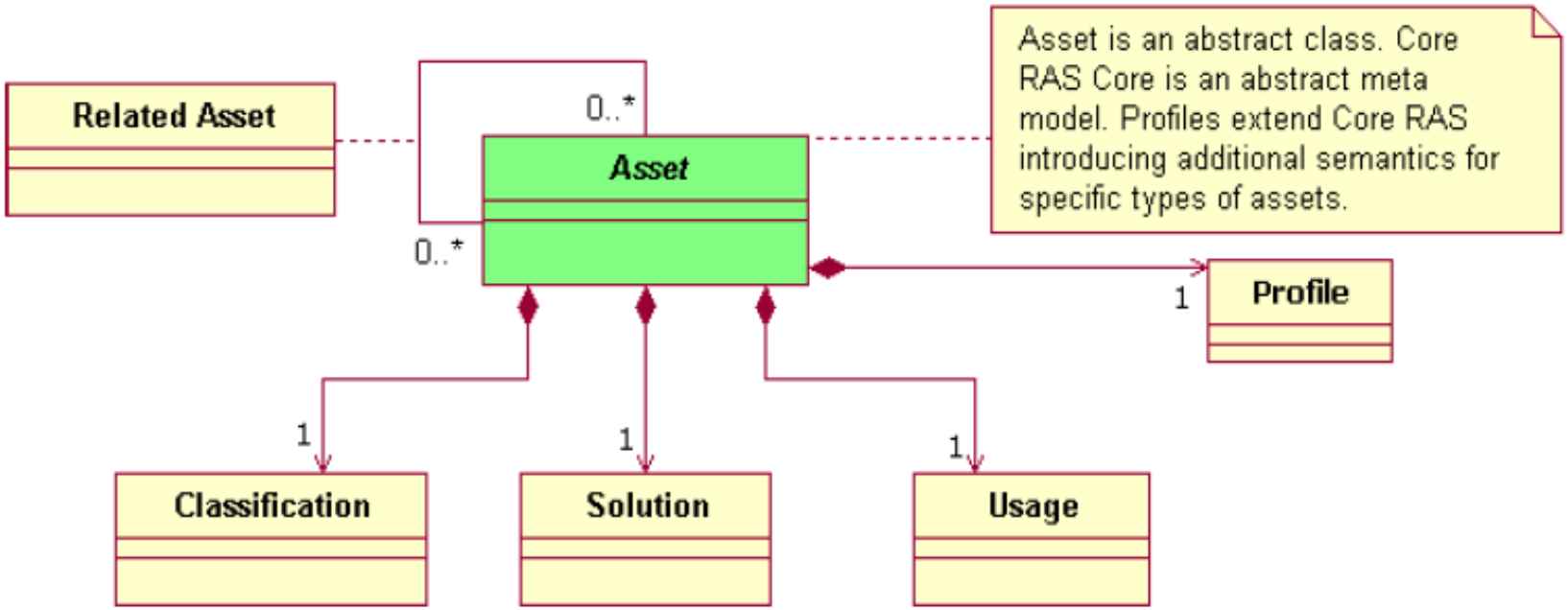
- Cross functional teams where every team member plays a minimum of 2 roles as some roles are brief;
- Model Driven Architecture (MDA). Services are for a large part generated based on the underlying information and process models;
- Integrate early and continuously;
- Use a Canonical Model: minimize dependencies when integrating applications that use different data formats;
- Smart exception handling;
- SOA is not based on an ESB, An ESB produces no Business Value. Cross-enterprise and complex SOA may require an ESB, in the long term;
- SOA is also not a product;
- Messages should be idempotent;
- Include context information in messages to help handle and process the message, for example priority, correlation identifier; and
- Use a correlation identifier to group related messages.

Service Re-Use

Two problems are the root cause of poor component re-use:

1) One is the difficulty in knowing whether the required components are available.
2) The other is the lack of information as to how to reuse the acquired components.

OMG's RAS


Related Asset
0..*
Asset
0..*
Asset is an abstract class. Core RAS Core is an abstract meta model. Profiles extend Core RAS introducing additional semantics for specific types of assets.
1
Profile
1
1
1
Classification
Solution
Usage

Phased Approach to SOA Governance

- Establish a Need:
  - define appropriate policies and methods for enforcing them
  - establish governance frameworks
  - create centers of excellence (collect best practices)
  - develop operational procedures
- Begin evaluating SOA management tools – Open Source options are available
- Deploy management solutions incrementally
- Monitor and manage the services and processes on an on-going basis

Infrastructure Reuse

Reuse should begin with lower level aspects:

- Define standards (e.g. packaging structure, naming conventions, etc.)
- Create software frameworks & utilities
- Create shared infrastructure for prototyping, integration test, system test, etc.

Demonstrate/test reuse:

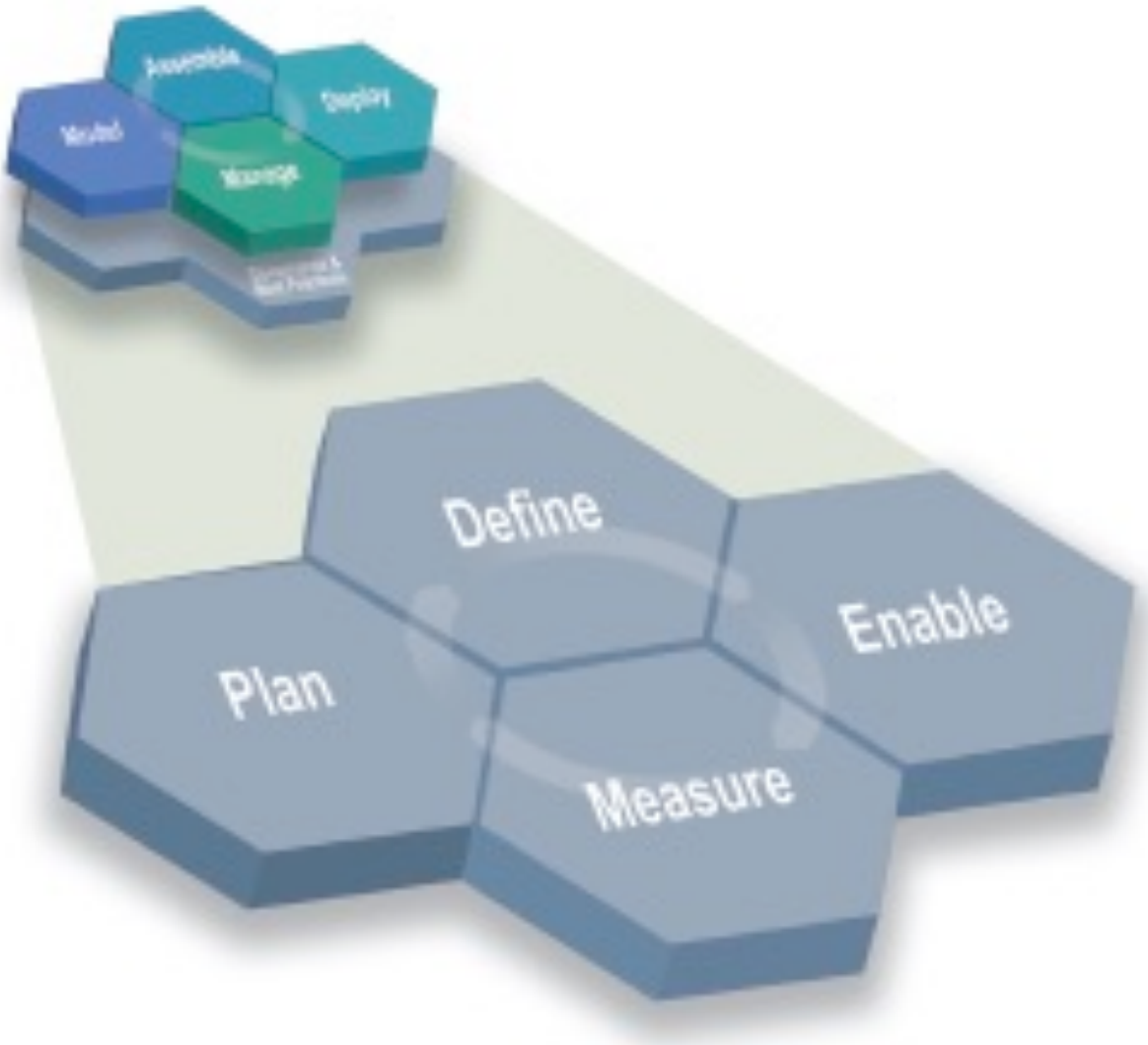
- Reference application
- Integration testbed

SOA Governance Players

SOA vendors have shown increasing focus on providing more effective SOA management and governance solutions as the market matures:

- eSigma – Open Source SOA Registry
- Mercury's Systinet – SOA governance
- BEA's Flashline – SOA governance
- Progress Software's Actional – SOA governance
- webMethods' Infravio – SOA governance
- SOA Software's Blue Titan – SOA governance
- IBM's Tivoli Composite Application Manager for SOA - allows organizations to monitor and adjust resources for SOA applications
- **Software AG CentraSite** **softwareAG**

SOA Governance IBM



Why Not use 6 Sigma DMAIC ?

Improvement teams use the DMAIC methodology to root out and eliminate the causes of defects:

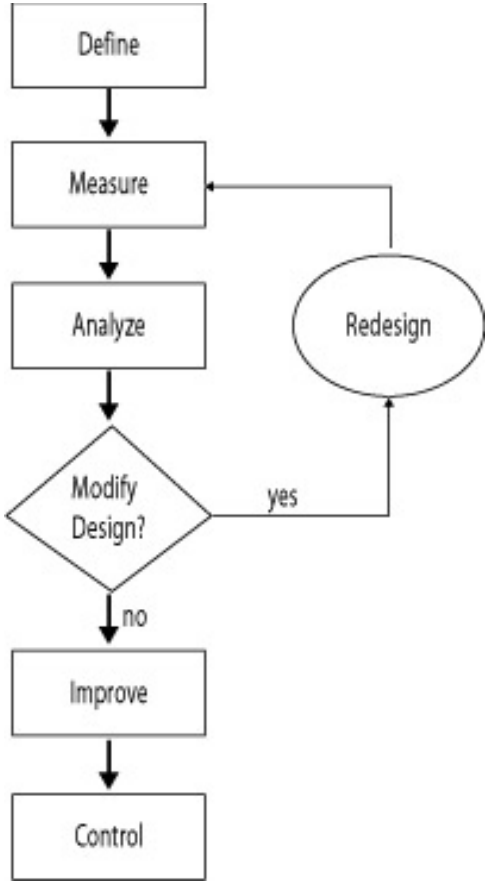
D Define a problem or improvement opportunity.

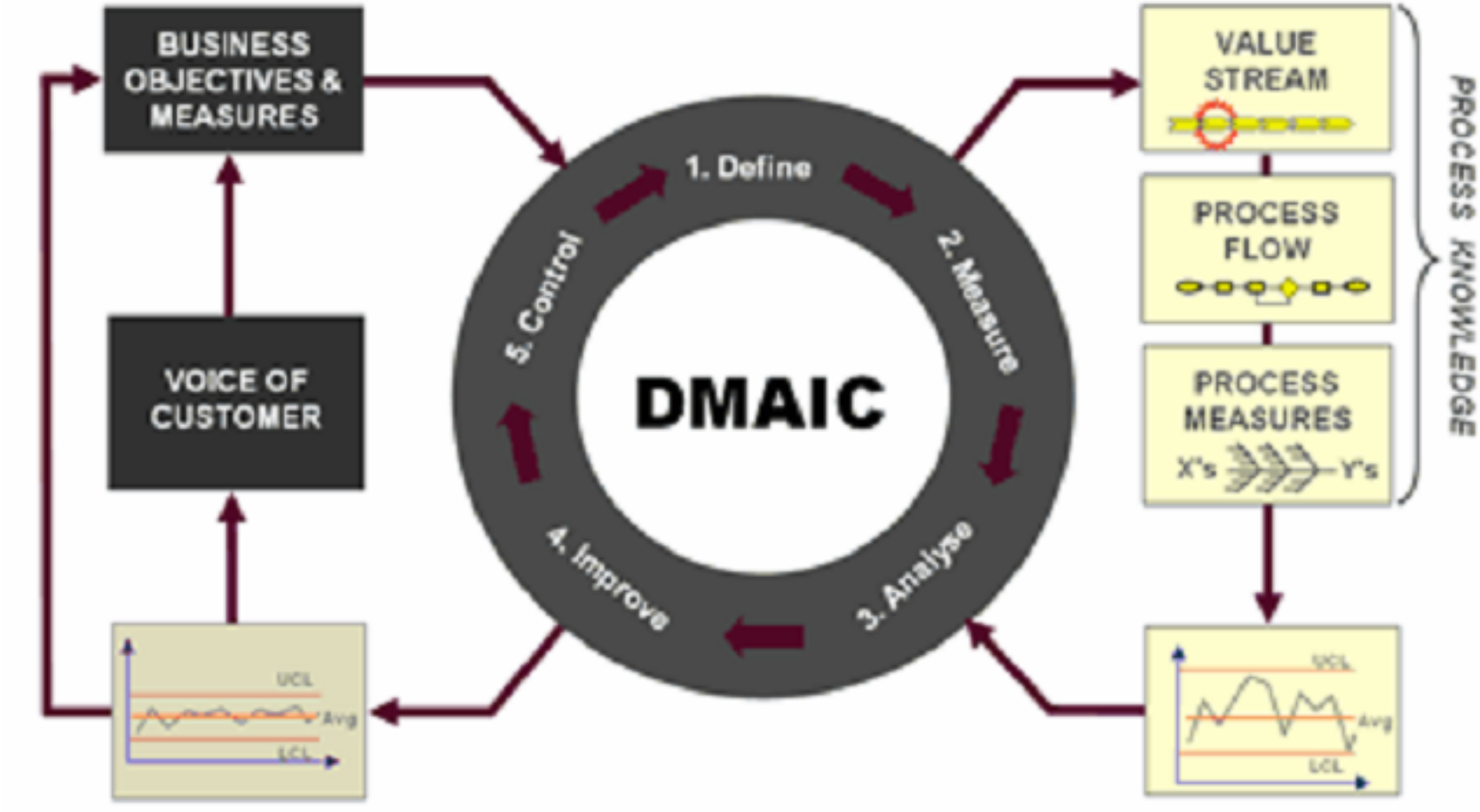
M Measure process performance.

A Analyze the process to determine the root causes of poor performance; determine whether the process can be improved or should be redesigned.

I Improve the process by attacking root causes.

C Control the improved process to hold the gains.




BUSINESS OBJECTIVES & MEASURES
VOICE OF CUSTOMER
1. Define
2. Measure
3. Analyse
4. Improve
5. Control
DMAIC
VALUE STREAM
PROCESS FLOW
PROCESS MEASURES
X's
Y's
PROCESS KNOWLEDGE
UCL
Avg
LCL