



Enterprise Information management

By Jurgens Pieterse M-Eng, DTM

MIS manager,

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REAL IRM
EA Forum

Disclaimer

Although I will be talking about the Parliament of South Africa in this presentation,

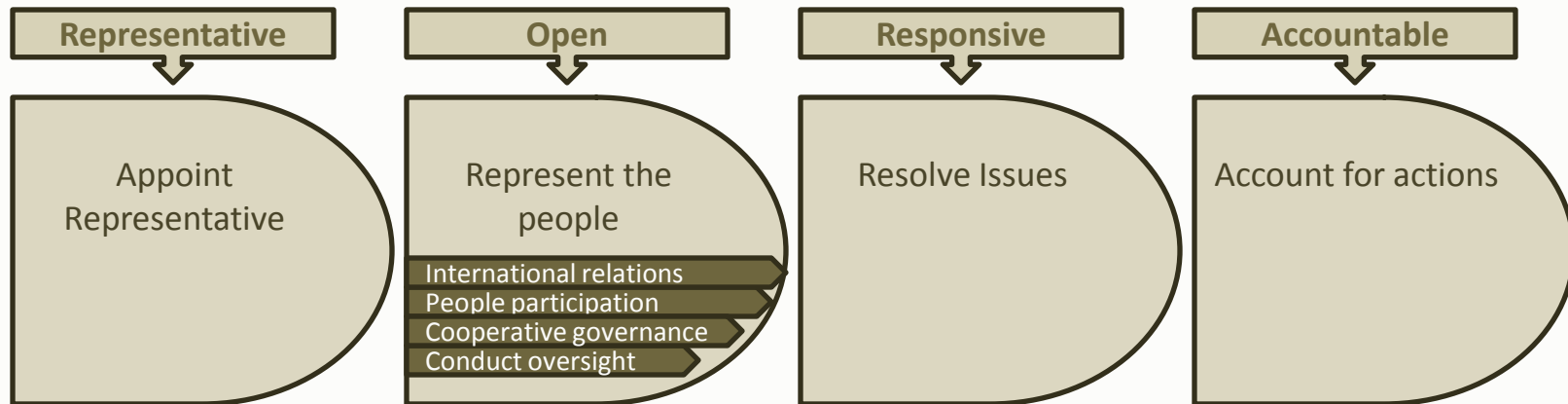
I am not talking as a representative of :

- Parliament,
- the Spokesperson for Parliament or
- the Secretary to Parliament.

This is my personal view and reflection and opinions.

The function of Parliament

Parliament ensure the people are represented in government
Parliament must ensure good governance.



MIS context

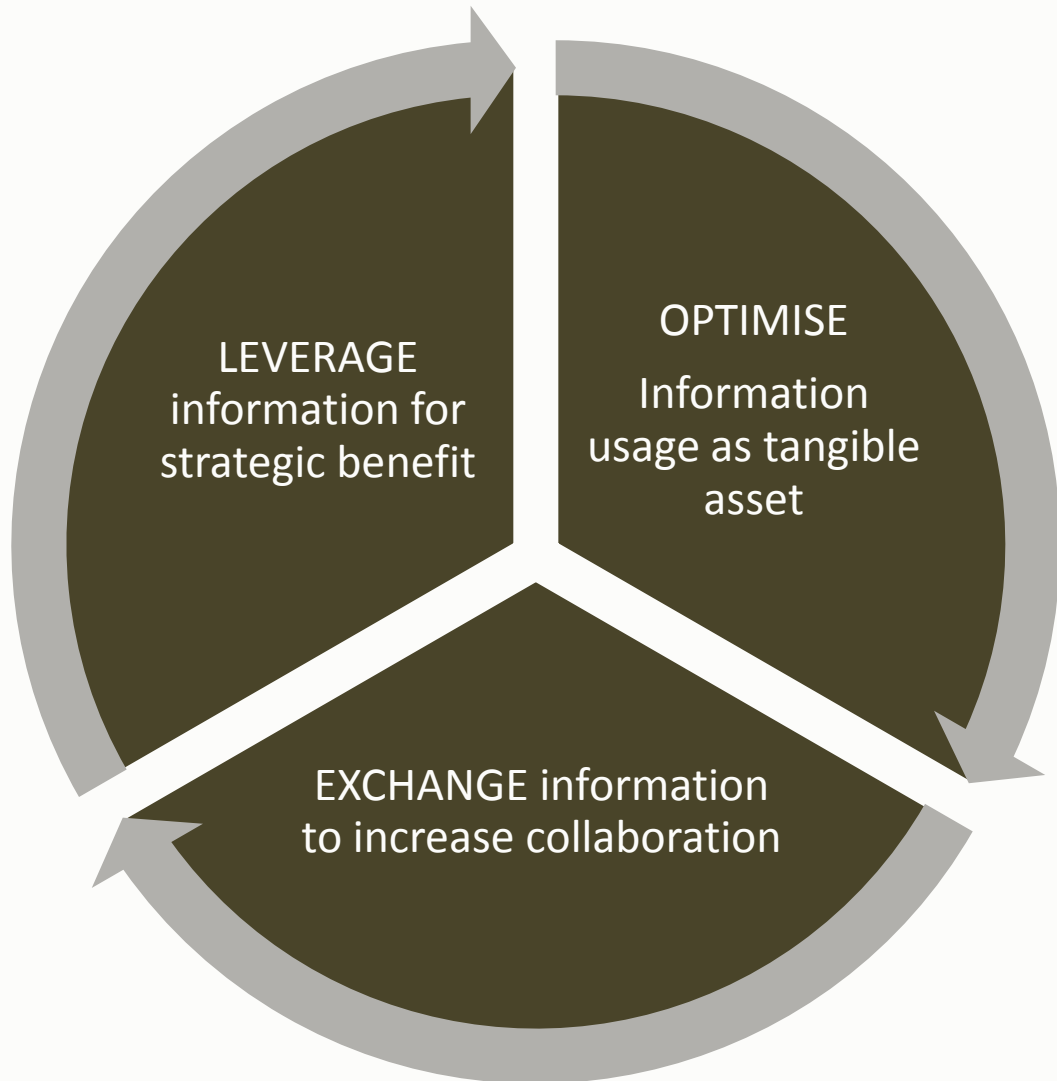
The aim of MIS is to get more value from information sources and to ensure the continued alignment between the organisation's strategic intent and the information sources available.

Optimise = Using the information better in our daily operations

Leverage = Using information to achieve strategic outcomes

Exchange = Sharing information to gain benefits from collaboration.

MIS Leadership objectives

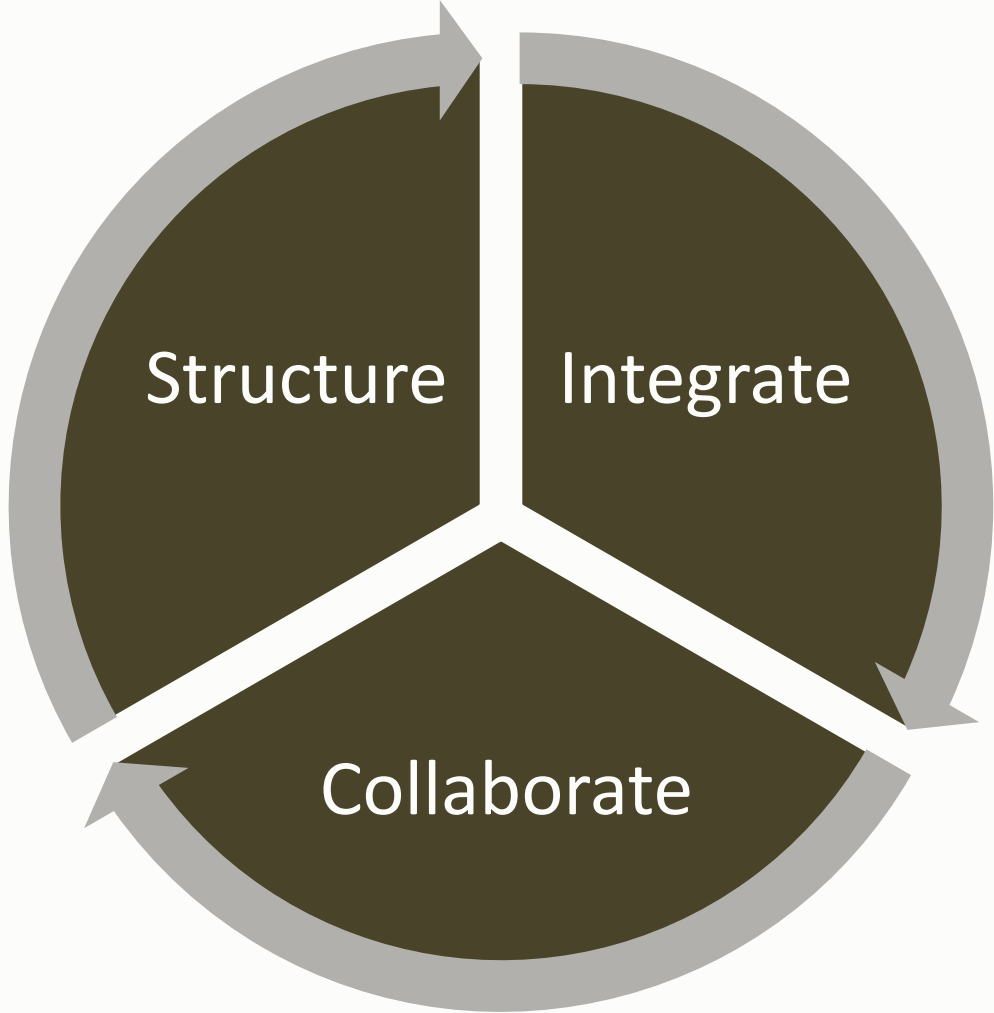


MIS Context

In order to leverage information value we must structure information to be found, integrate all sources of information and create the infrastructure to allow collaboration across the enterprise



Dimensions of information management

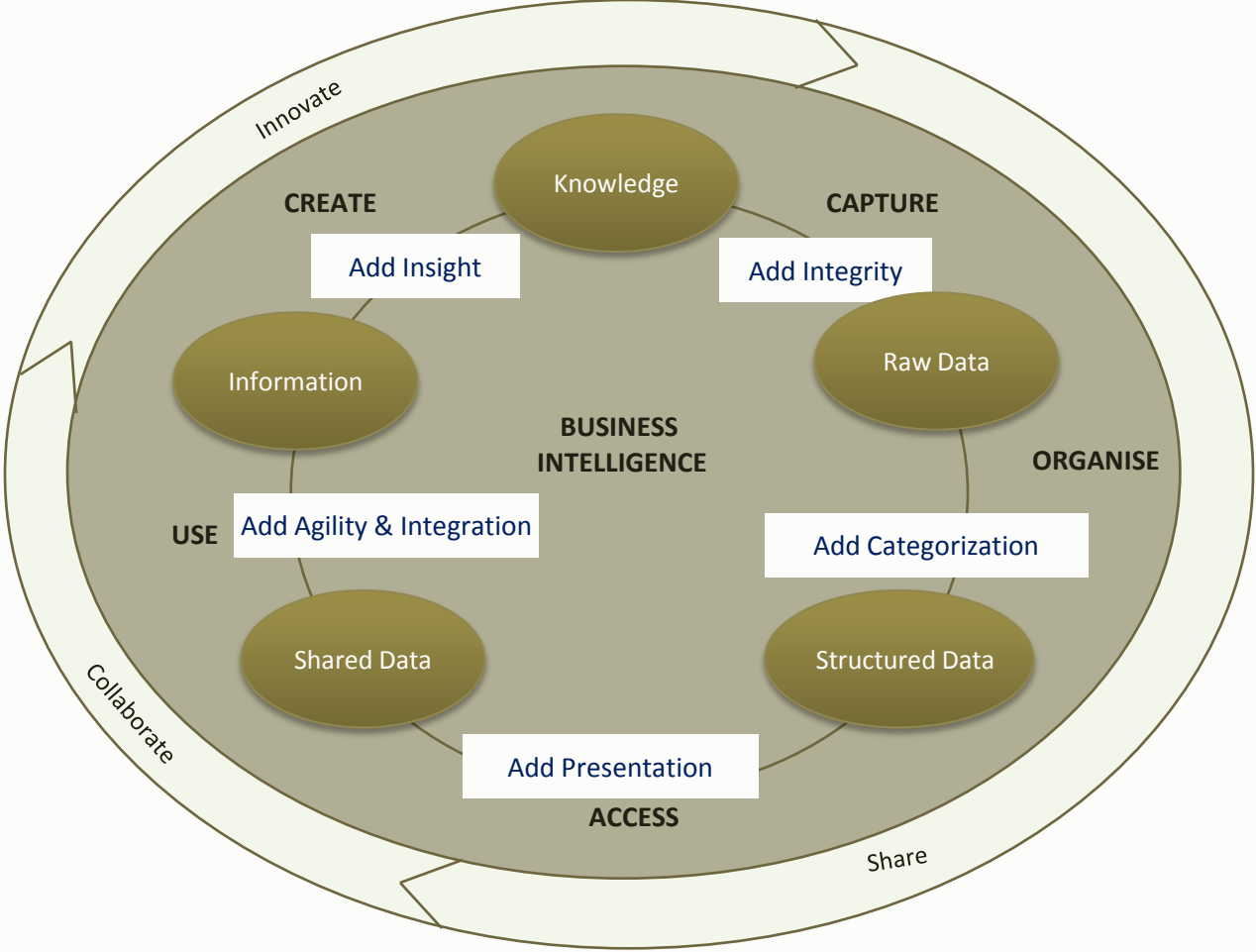


MIS Context

- Information is in a perpetual process of refinement.
- Managing information is a process not a solution.
- MIS adds value throughout the leveraging the information lifecycle
- Information management is not a project but a business process



Information management process



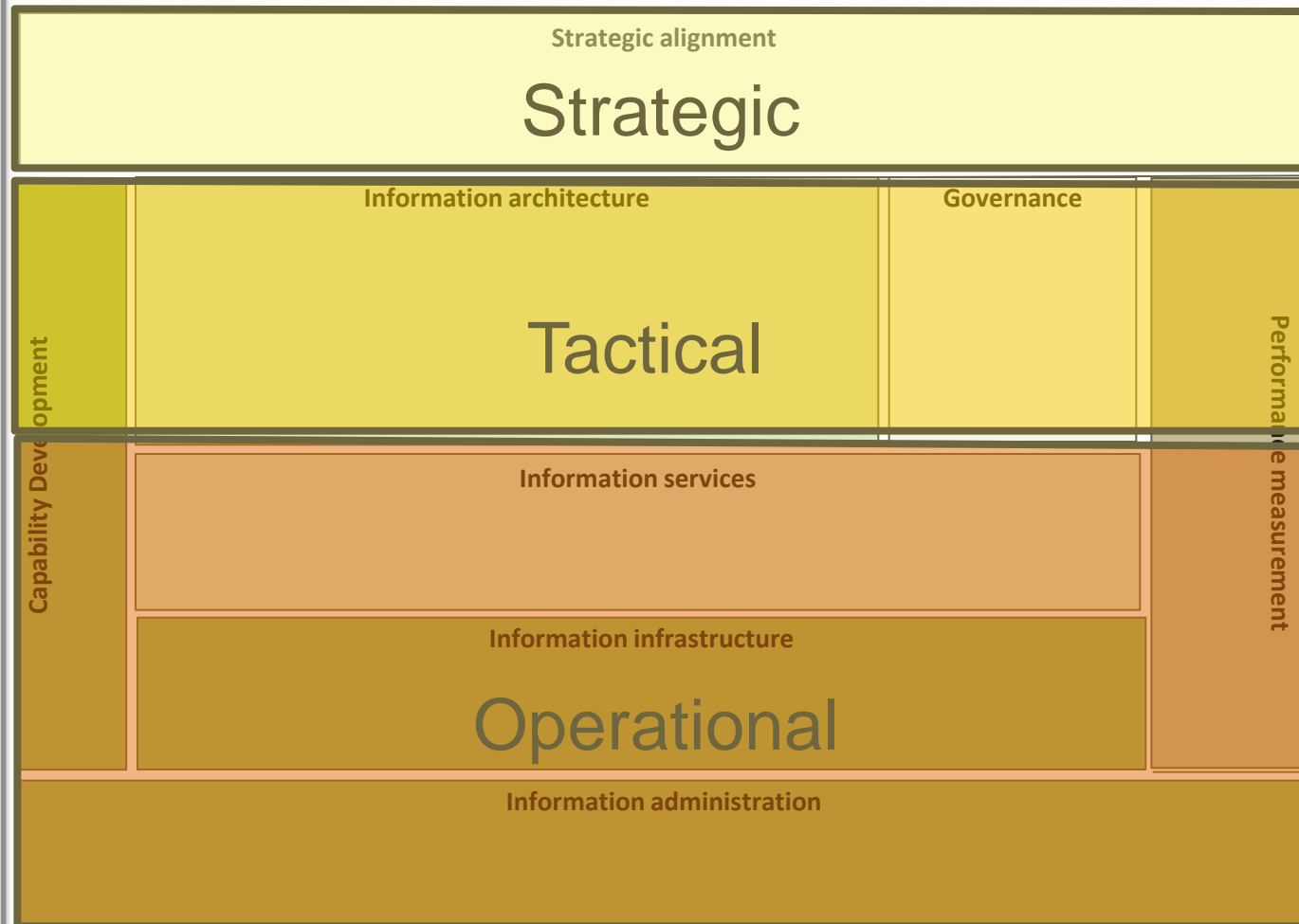
Information Value Chain



MIS Context

Levels of planning

The information management framework directs information components on a strategic, tactical and operational level.



“Businesses realize that their key to success lies in how efficiently they generate, receive, transfer, process, and analyze information within the organization and along value chain”. - Sanjog Aul

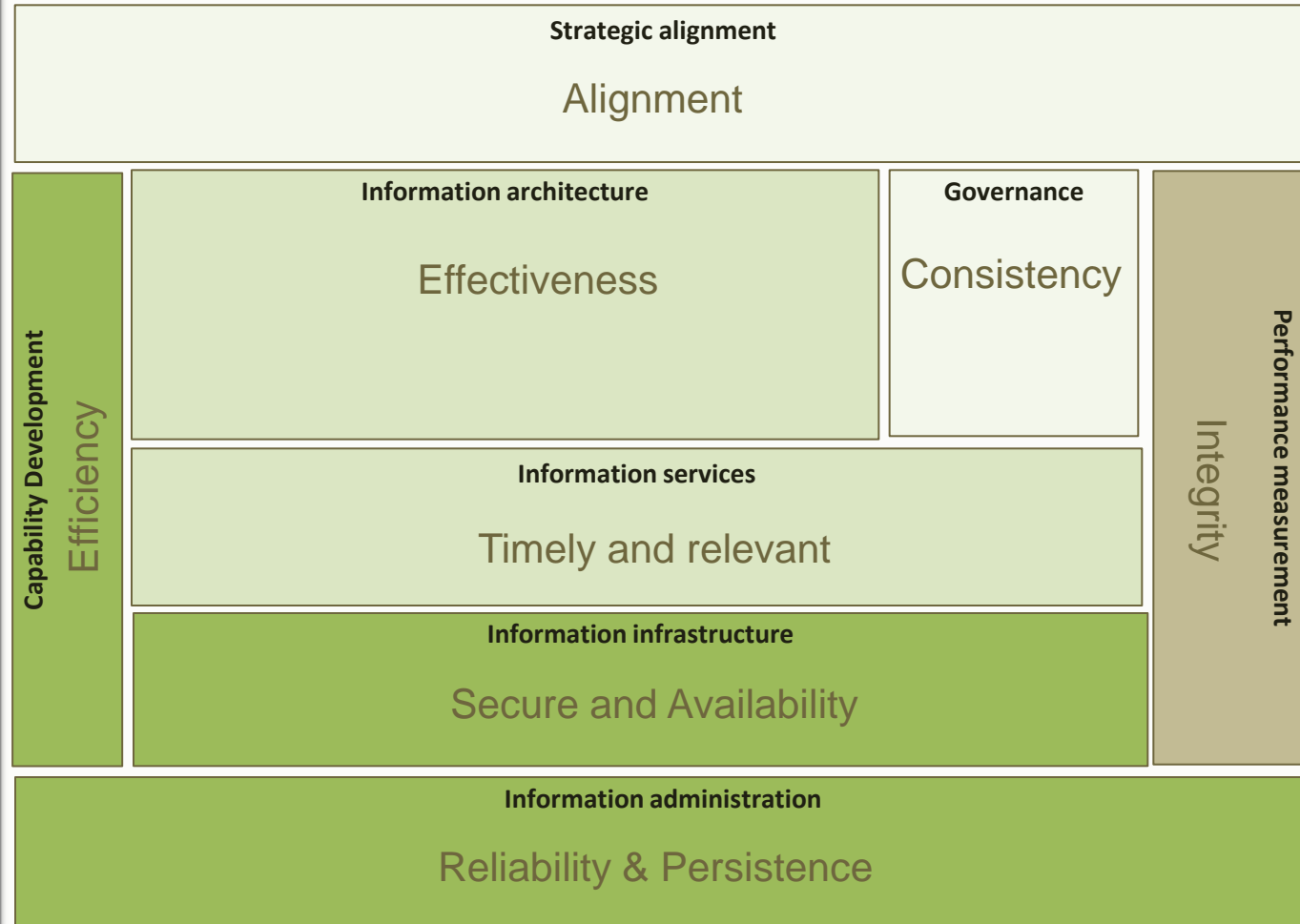


MIS Context

Key performance areas

- Accountability and ownership
- Disciplined and consistent information processes
- Authoritative information sources
- Robust/flexible information environment
- Ability to integrate/share information
- Adequate information protection
- Adequate information resources

INFORMATION MANAGEMENT FRAMEWORK



“Businesses realize that their key to success lies in how efficiently they generate, receive, transfer, process, and analyze information within the organization and along the value chain”. -

Sanjog Aul

Quality information is a prerequisite for a management dashboard



PARLIAMENT
OF THE REPUBLIC OF SOUTH AFRICA

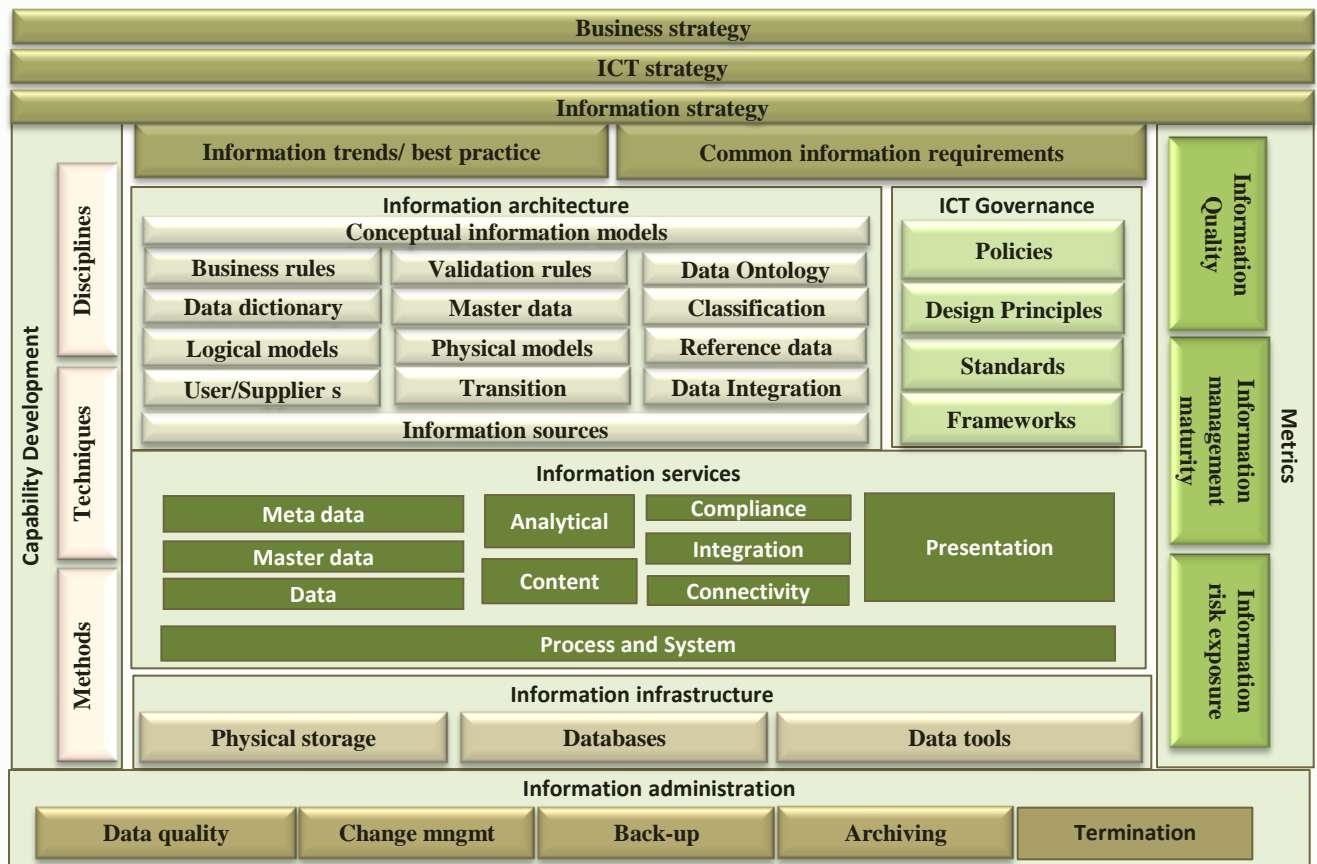
MIS Context

The information management framework as a whole system must be established over time to ensure sustainable information integrity

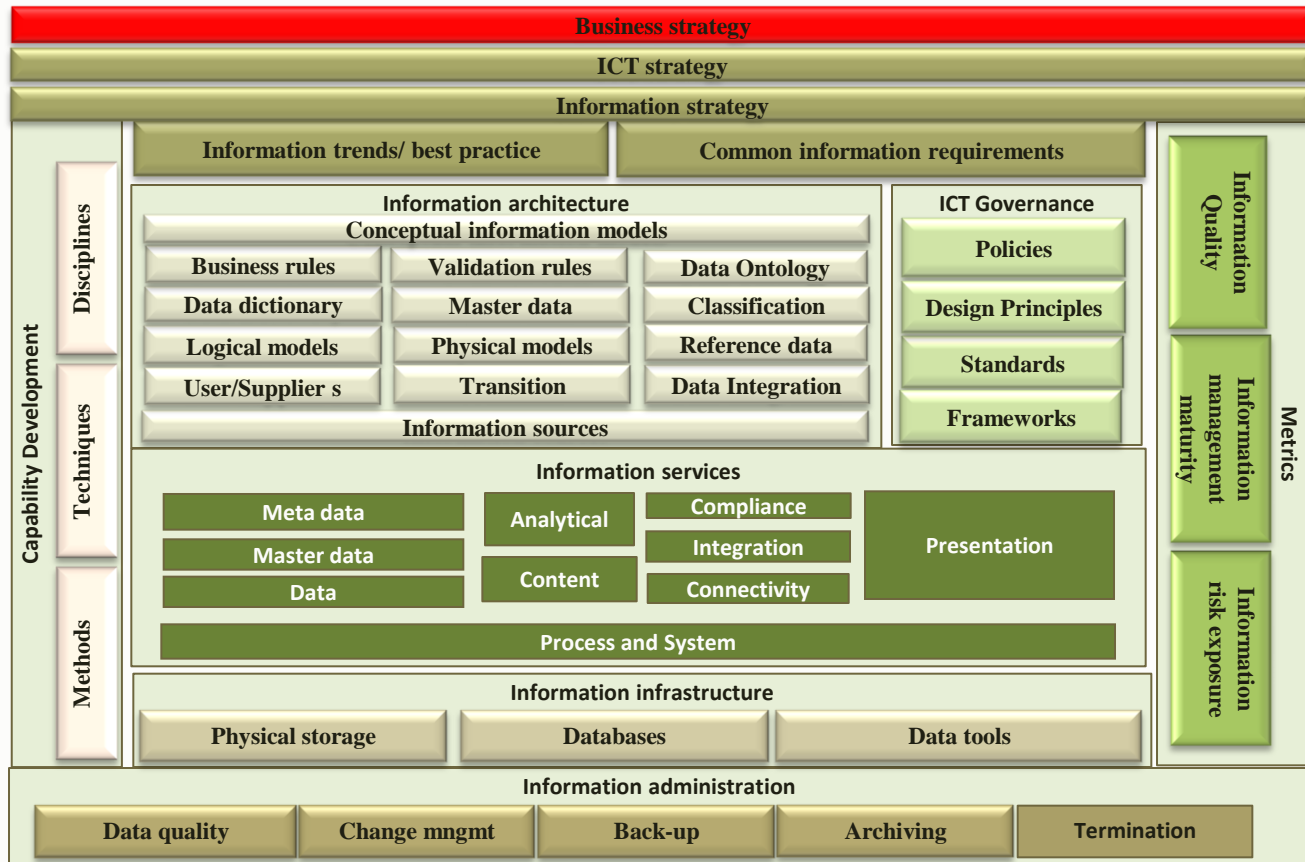
Frequent evaluations of the maturity of all the components within the information framework is needed to show progress over time.

Only 43% of legislatures have a written vision statement, over 40% do not have a strategic plan that is regularly updated
 - 2010 World e-Parliament report

Information management framework



Business Strategic alignment



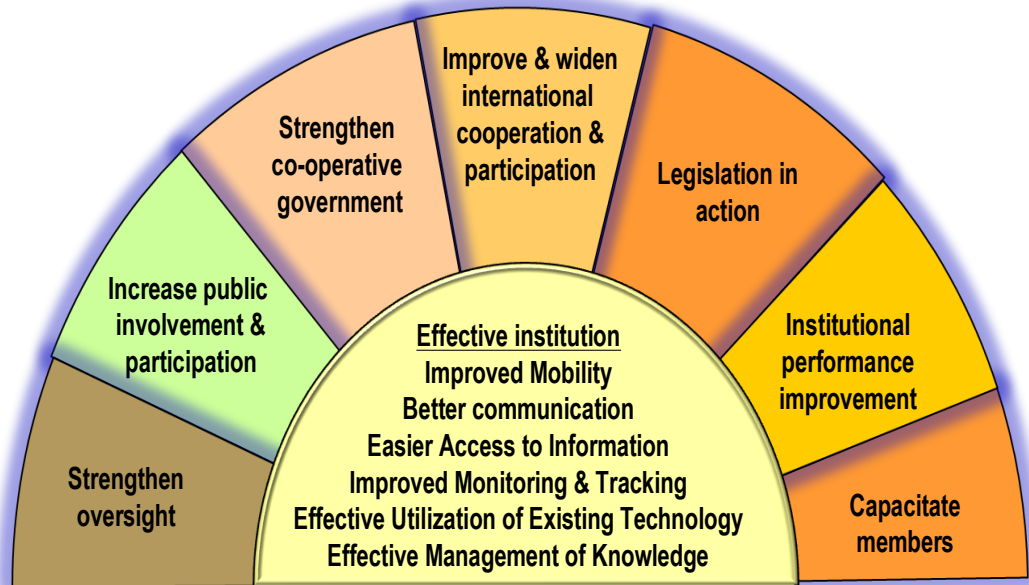
Strategic alignment

The ICT strategy identified the capacitation of Members of Parliament as key e-Democracy enabler.

The embedded objective is an effective and efficient institution

Parliament's ICT Strategy (2009-2014)

e-Democracy Focus Areas



e-Democracy Focus Areas (revised model, 2nd Review, July 2012)

Source: ICT strategy(2009-2014):
Integrated Business
Architecture document,
Reviewed 2012



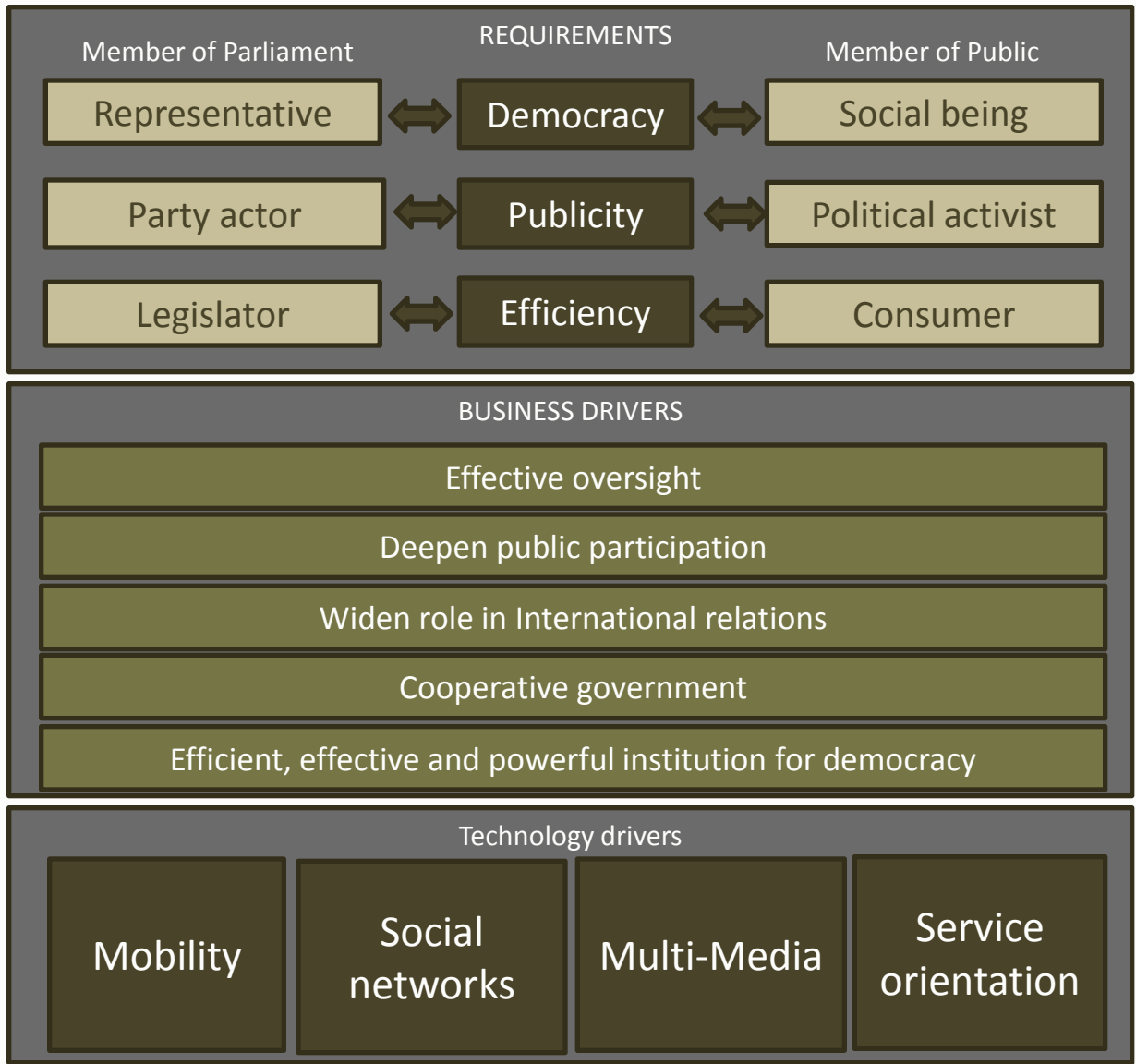
Strategic alignment

Information needs are driven by users, business strategic drivers and Technology drivers.

Parliaments today find themselves at a crossroads. The rapid growth of ICT is changing the environment within which they operate and influencing how they are perceived by the citizenry.

Rather than being mere witnesses to these transformative effects, parliaments are exploring ways to use technology to strengthen democracy and encourage political participation – 2010 World e-Parliament Report

Information context



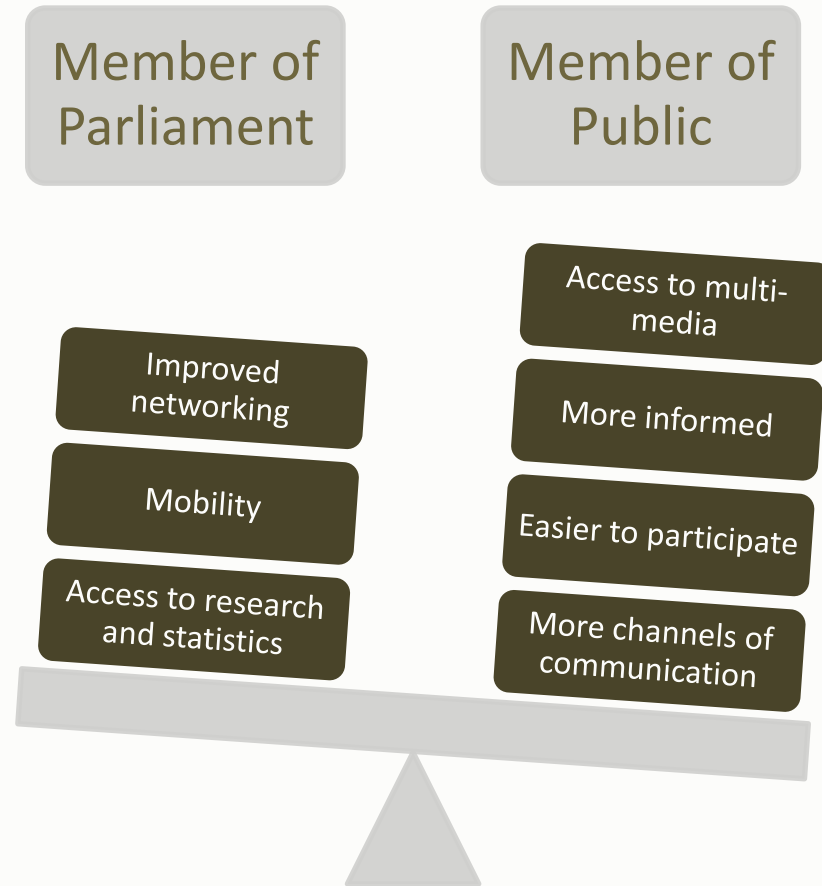
Strategic alignment

In creating the final vision for MIS the internal needs need to be balanced with external needs.

The balancing of requirements must focus on synergies between internal and external requirements.

The Parliamentary ICT Strategy (MSP 2009-2014), “From e-Parliament to e-Democracy”, advocates the increased use of the broadcast media and internet services to extend the reach of the Parliament to its citizens

Creating a vision

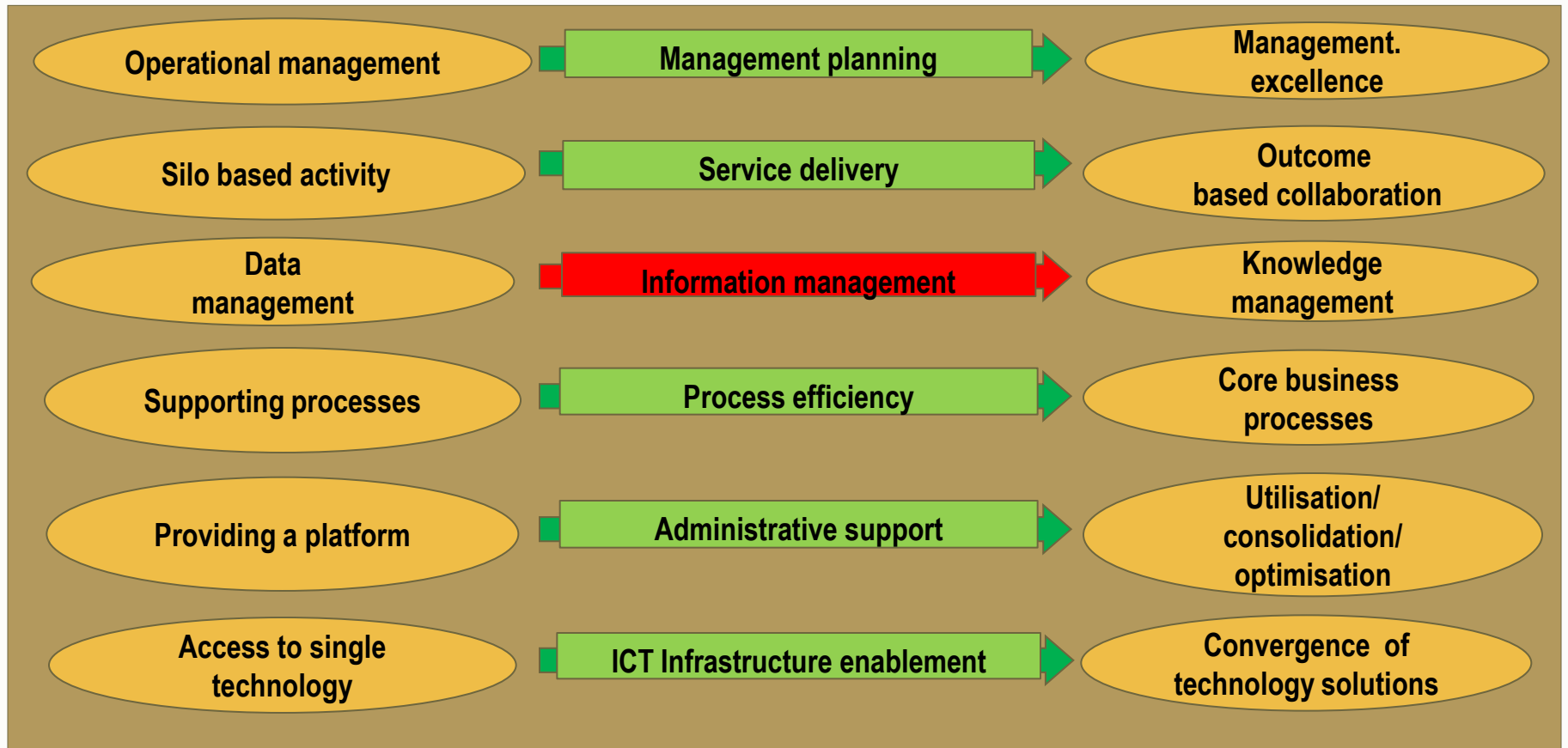
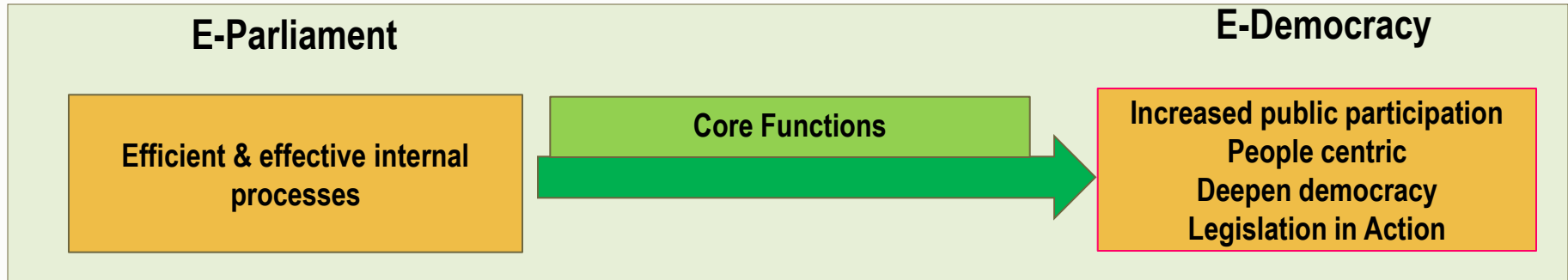


A persistent theme expressed by legislatures at the World e-Parliament Conferences is that the values of democracy should guide the policies and plans for implementing ICT in the legislative environment. – 2010 e-Parliament report

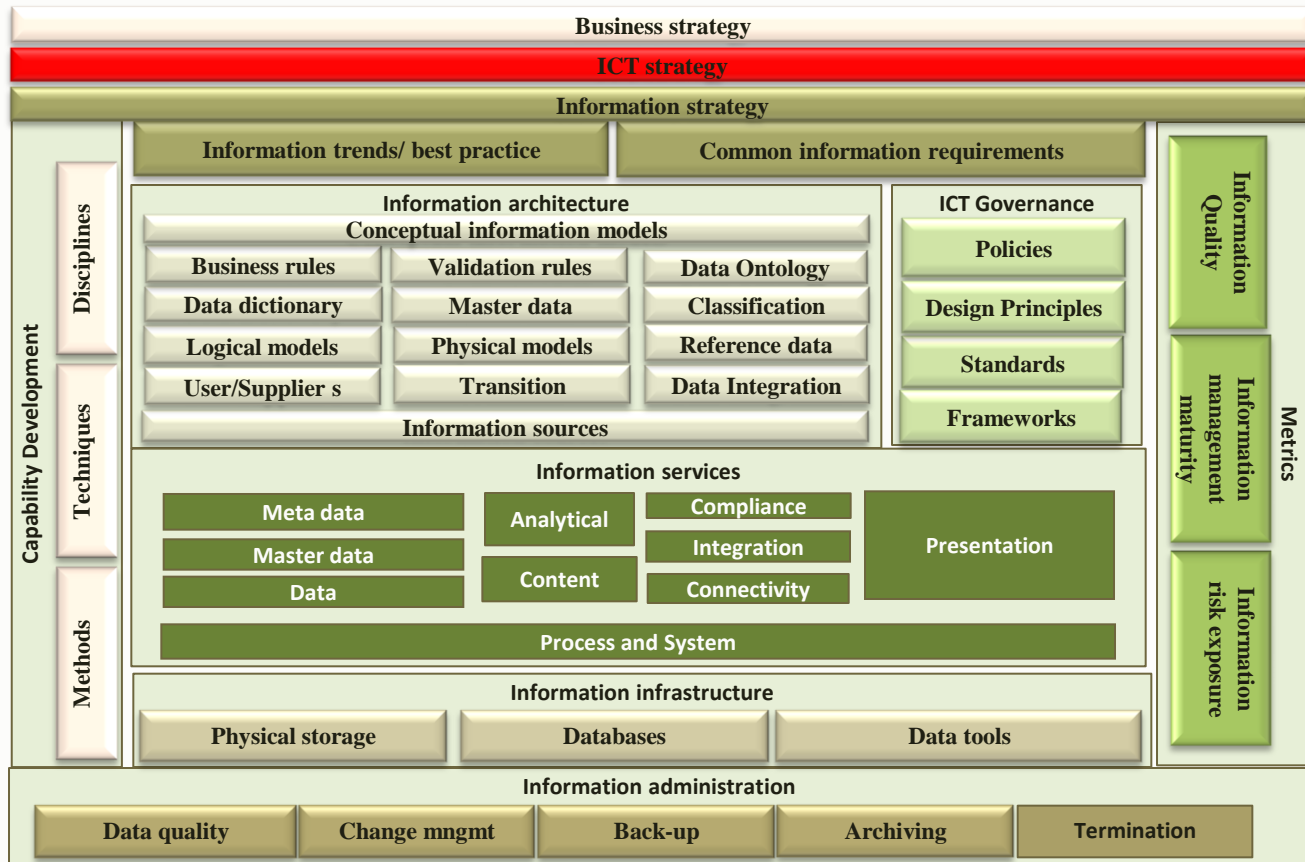


ICT strategy

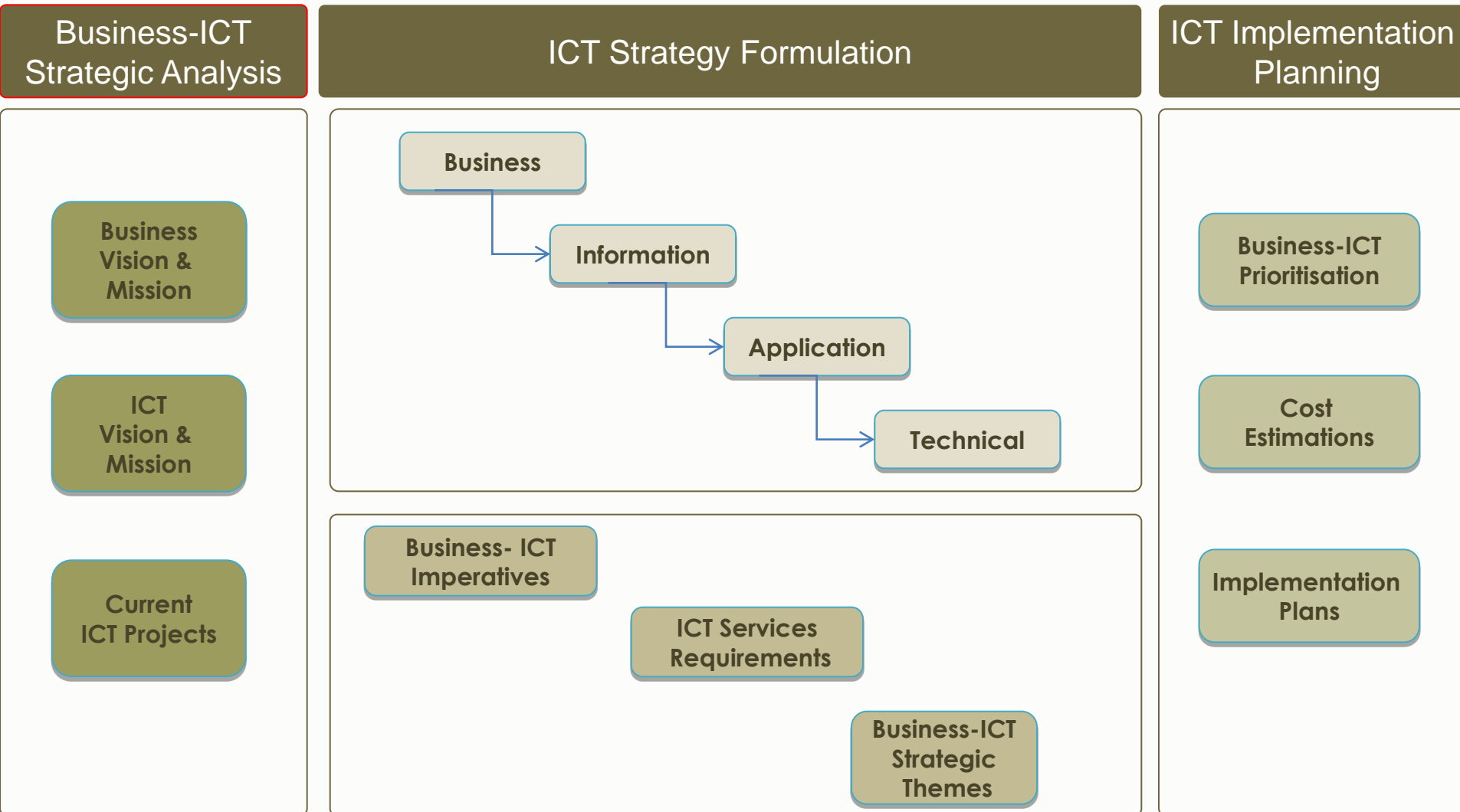
From e-Parliament to e-Democracy



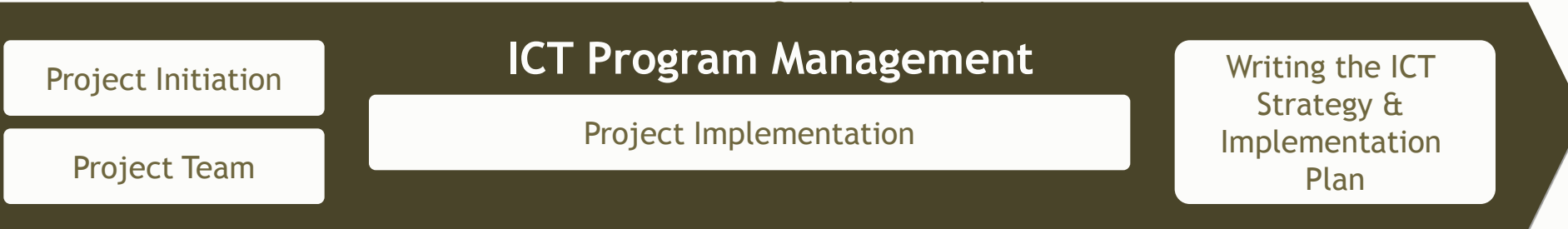
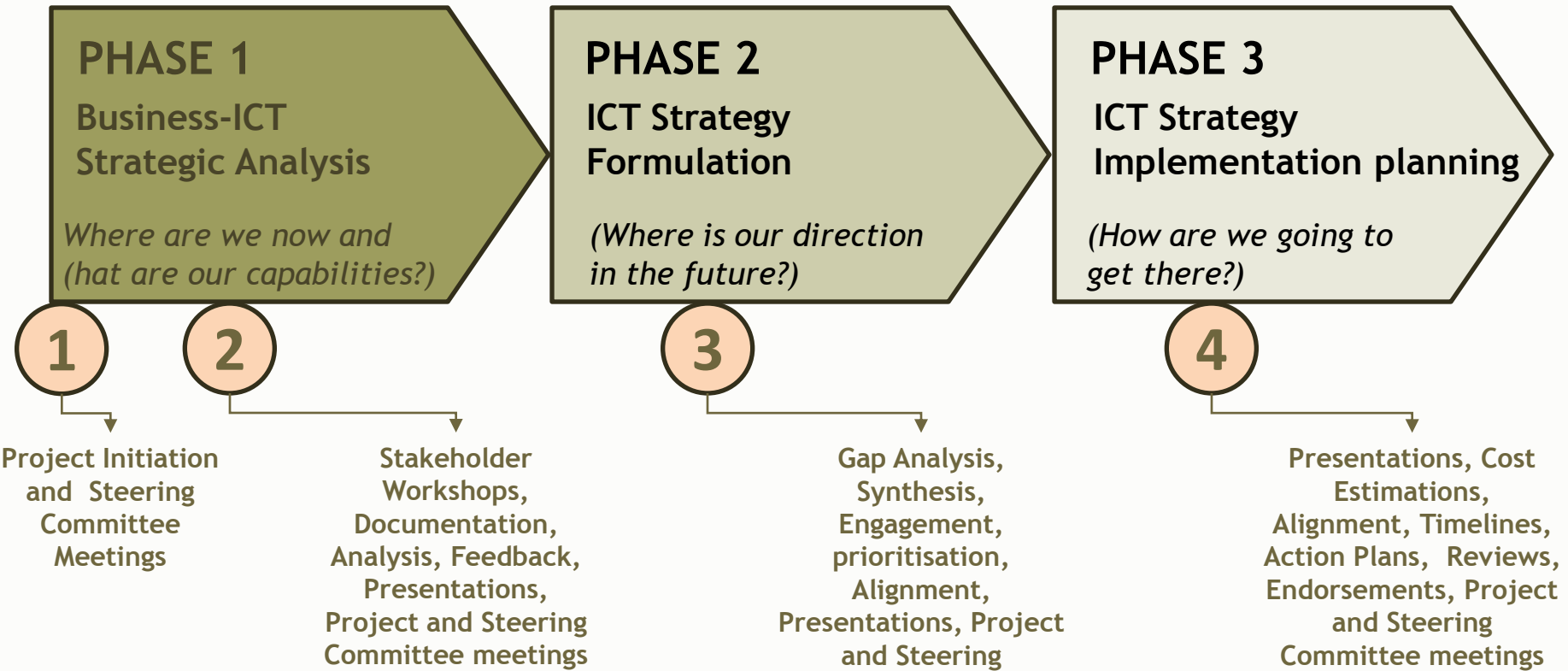
ICT strategy alignment



Methodology (Phases and Steps)



Implementation Methodology



Business-ICT Correlation

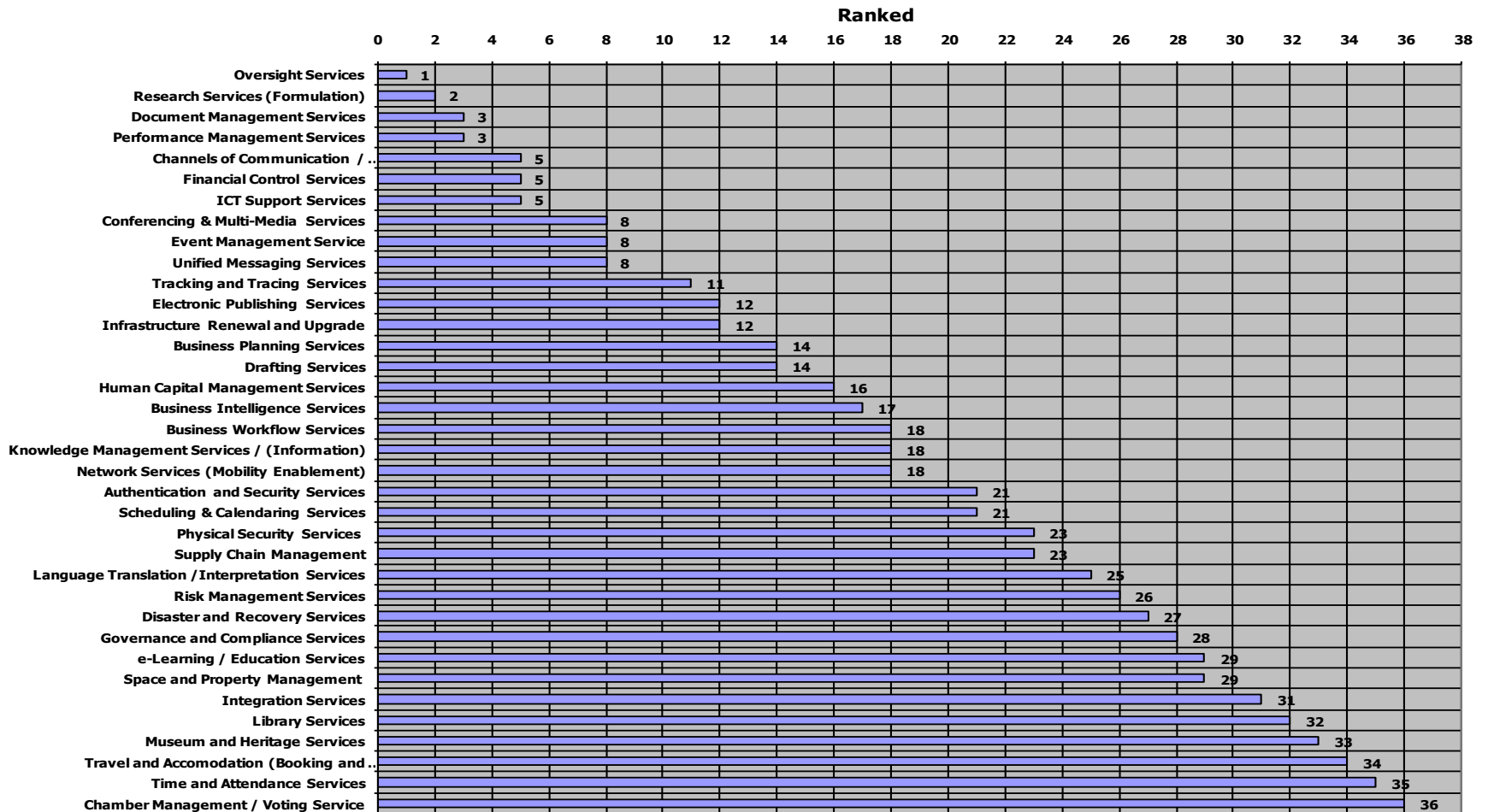
Mapping Statement of Business Imperatives to Initiatives	Coverage																					
	NPIL01 Business Workflow Services	NPIL02 Document Management Services	NPIL03 Tracking and Tracing Services	NPIL04 Electronic Publishing Services	NPIL05 Knowledge Management Services	NPIL06 Scheduling & Calendaring Services	NPIL07 Business Intelligence Services	NPIL08 Channels of Communication / Collaboration Services	NPIL09 Physical Security Services	NPIL10 Language Translation Services	NPIL11 Library Services	NPIL12 Drafting Services	NPIL13 Integration Services	NPIL14 Conferencing & Multi-Media Services	NPIL15 Chamber Management / Voting Service	NPIL16 Research Services (Formulation)	NPIL17 Performance Management Services	NPIL18 Financial Control Services	NPIL19 Booking and Reservation Services	NPIL20 Oversight Services	NPIL21 e-Learning / Education Services	NPIL22 ICT Support Services
Statement of Fact to Initiatives - National Parliament																						
Coordinate activities through workflow	⬆	⬆		⬆	⬆		⬆		⬆				⬆		⬆			⬆	⬆			
Improve document management	⬆	⬆	⬆	⬆	⬆	⬆	⬆	⬆	⬆		⬆	⬆	⬆	⬆	⬆	⬆				⬆		
Track documentation accurately	⬆	⬆	⬆	⬆		⬆					⬆	⬆	⬆				⬆			⬆		
Reduce Paper wastage	⬆	⬆	⬆	⬆	⬆	⬆	⬆	⬆			⬆	⬆	⬆	⬆	⬆	⬆	⬆	⬆	⬆		⬆	
Manage questions more effectively	⬆	⬆	⬆	⬆	⬆	⬆	⬆	⬆		⬆	⬆	⬆	⬆	⬆	⬆	⬆				⬆		
Improve management of reports to Parliament	⬆	⬆	⬆	⬆	⬆	⬆	⬆	⬆		⬆	⬆		⬆		⬆	⬆	⬆			⬆		
Track and monitor issues arising from accountability and oversight activities	⬆	⬆	⬆	⬆	⬆	⬆	⬆	⬆	⬆		⬆	⬆	⬆	⬆	⬆		⬆			⬆		
Ensure reporting back by the executive	⬆	⬆	⬆	⬆	⬆	⬆	⬆	⬆	⬆		⬆	⬆	⬆		⬆	⬆	⬆			⬆		
Track house resolutions	⬆	⬆	⬆	⬆	⬆	⬆	⬆	⬆			⬆	⬆	⬆		⬆		⬆			⬆		
Support specialisation of committees	⬆	⬆	⬆	⬆	⬆	⬆	⬆	⬆	⬆	⬆	⬆	⬆	⬆	⬆	⬆	⬆	⬆	⬆	⬆	⬆	⬆	⬆
Support committees to manage knowledge	⬆	⬆	⬆	⬆	⬆	⬆	⬆	⬆	⬆	⬆	⬆	⬆	⬆	⬆	⬆	⬆				⬆	⬆	
Improve timeliness and relevance of communication to public	⬆	⬆	⬆	⬆	⬆	⬆	⬆	⬆	⬆	⬆	⬆			⬆		⬆	⬆	⬆		⬆		
Increase the audience in the public reached with Parliament communications	⬆			⬆	⬆		⬆	⬆		⬆				⬆		⬆	⬆					
Facilitate feedback from the public	⬆	⬆	⬆	⬆	⬆	⬆	⬆	⬆	⬆	⬆				⬆		⬆						
Manage visitors to parliament more effectively	⬆			⬆	⬆		⬆		⬆	⬆	⬆			⬆					⬆			

Prioritization model

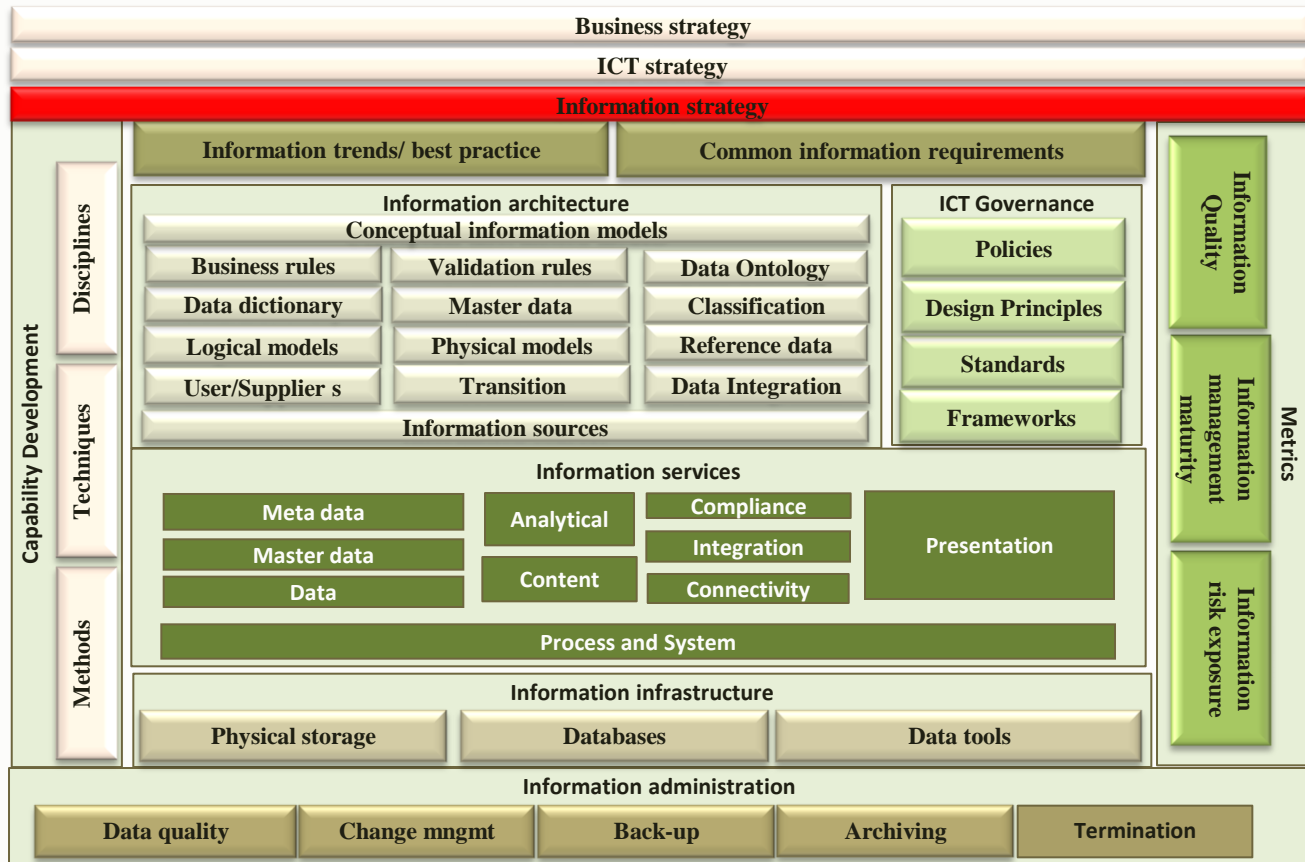
Initiative & Code	Scoring Criteria	Weight	10 /	8 /	6 /	4 /	2 /	Rating	
			9.5 /	7.5 /	5.5 /	3.5 /	1.5 /		
			9 /	7 /	5 /	3 /	1 /		
			8.5	6.5	4.5	2.5	0.5		
			Very Good	Good	Med	Poor	Very Poor	W X C	
NPIL01	Strategic Fit (Alignment)	2						0	
	Citizen Focus	1						0	
	Internal Efficiencies	1						0	
	Consistent with Technical Competence	1						0	
	Sub Total	50%						0.0%	
	Use of Personnel / Contractors: (Few is Good)	2						0	
	Cost: (Low is 'Good'; Expensive is 'Poor')	1						0	
	Duration: (Short is 'Good'; Long is 'Poor')	1						0	
	Touchpoint with Current Projects: (Touchpoint is 'Good')	4	1					0	
	Sub Total	50%						0.0%	
	Summary	100%						Actual Score	0.0%

ICT Services Priorities

National Parliament - Initiatives Ranked in terms of Part A Scoring (Strategic Focus)



Information strategy development



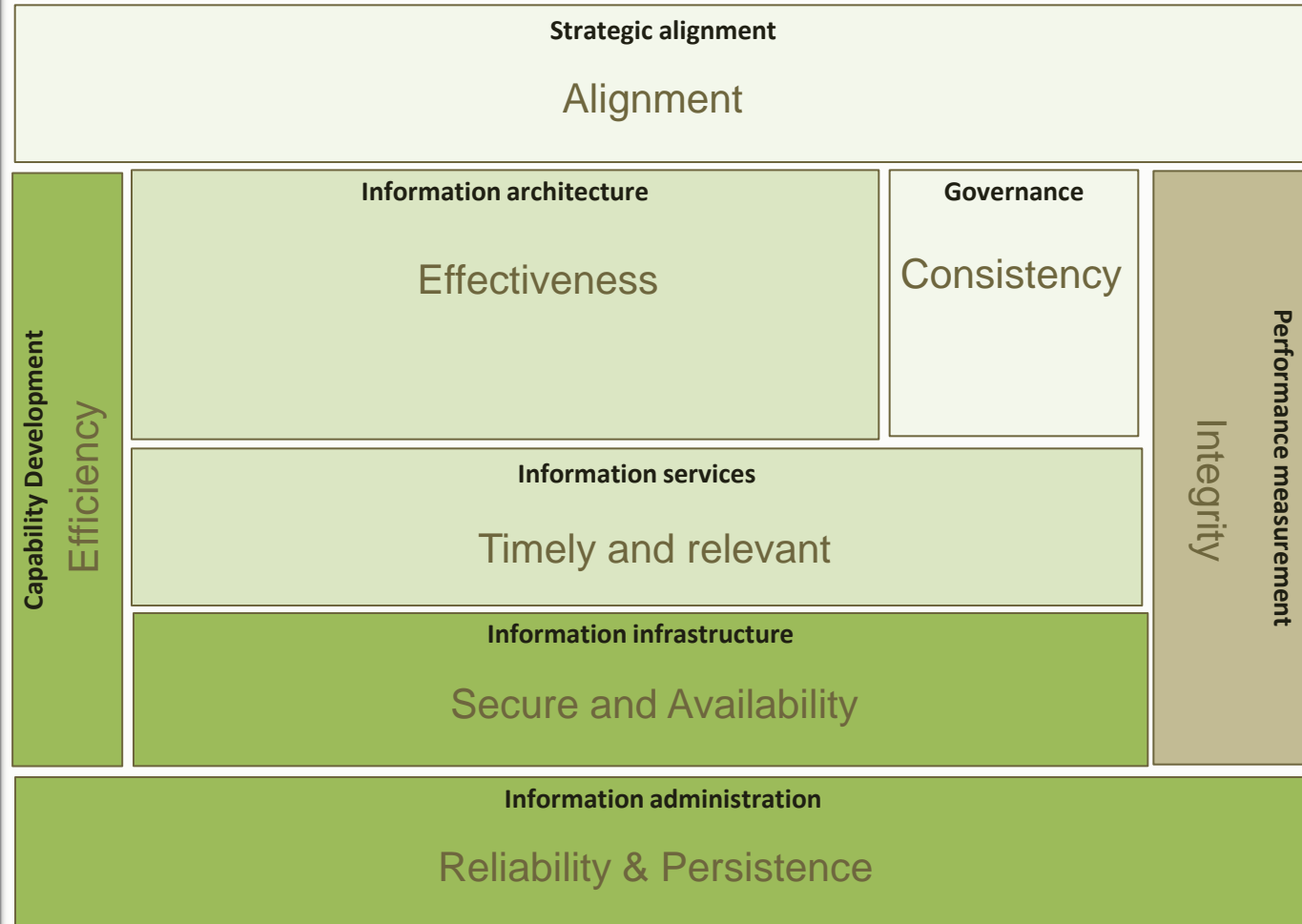
Information strategy

Key performance areas

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INFORMATION MANAGEMENT FRAMEWORK



Quality information is a prerequisite for a management dashboard

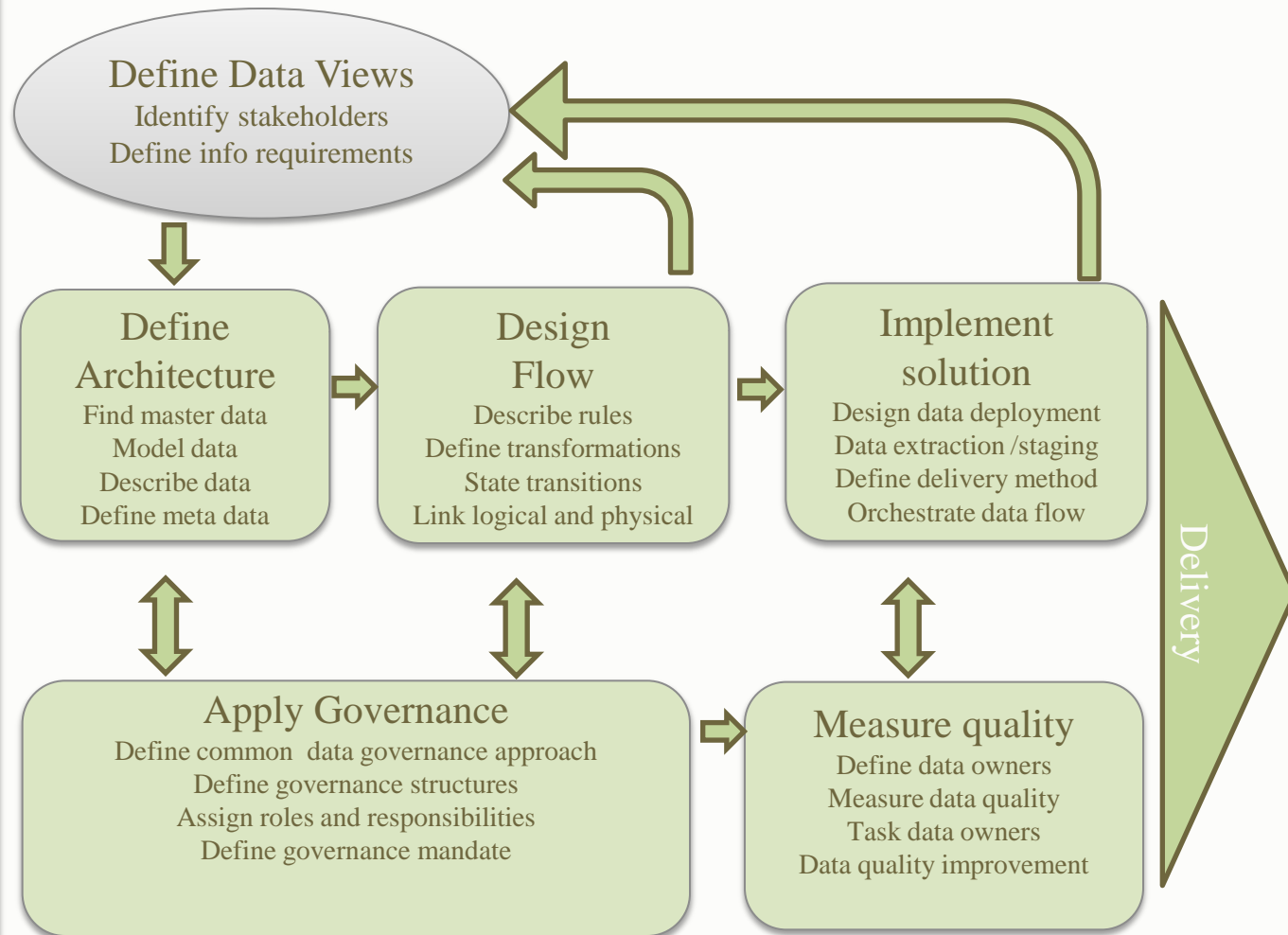


Information strategy

MIS solutions is delivered through a repeating process that clearly define data structures and information flows to enable the reuse of information and the consistent use and interpretation of information.



Development process



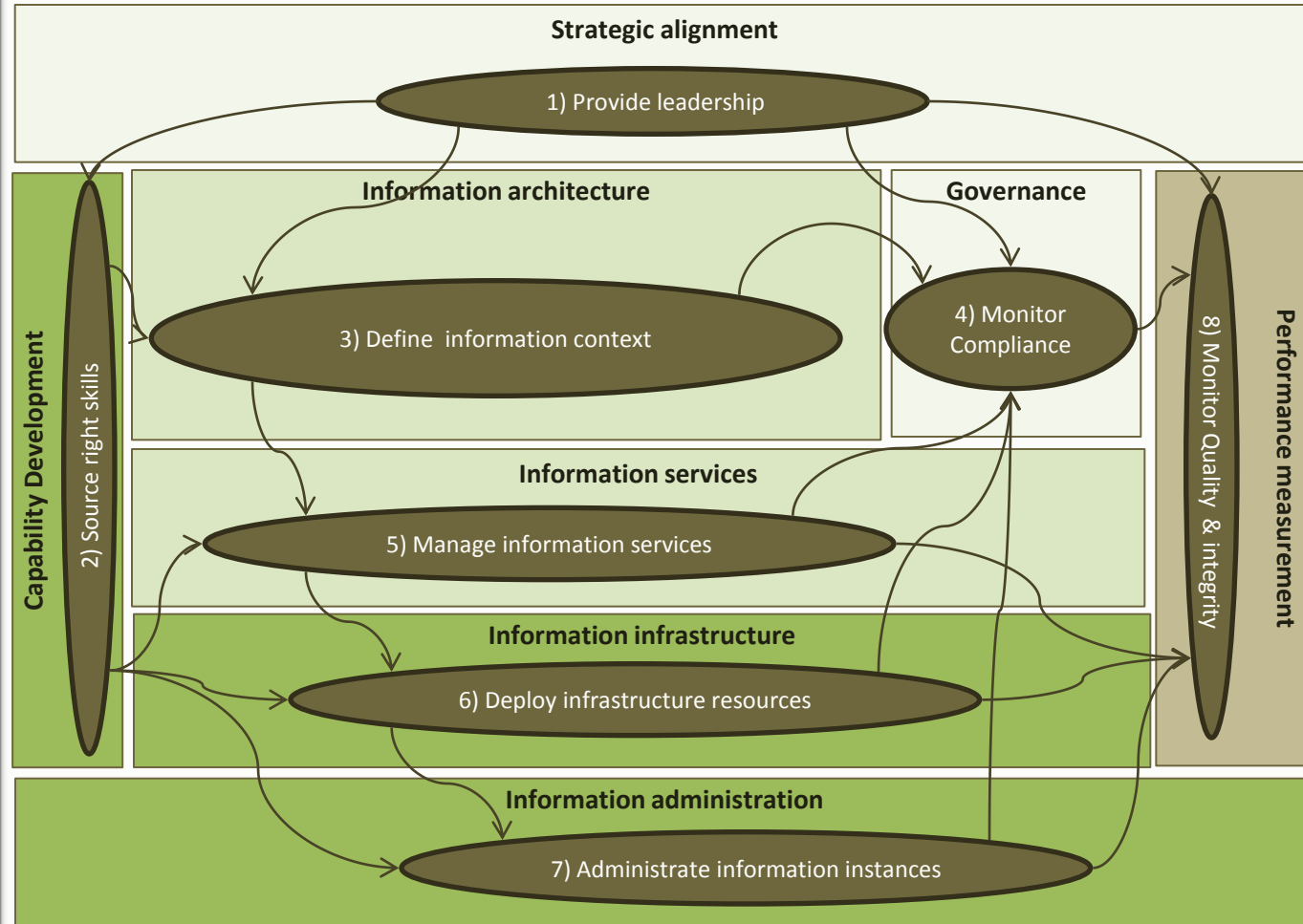
Information strategy

An MIS environment enables the translation of business requirements into deployed solution that will satisfy the business requirements.

In order to maintain that flow from requirement to solution the MIS manager must build and enhance the capacity to deliver and ensure information quality.

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High level activities



Information strategy

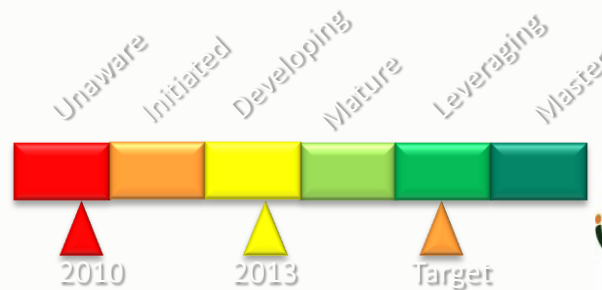
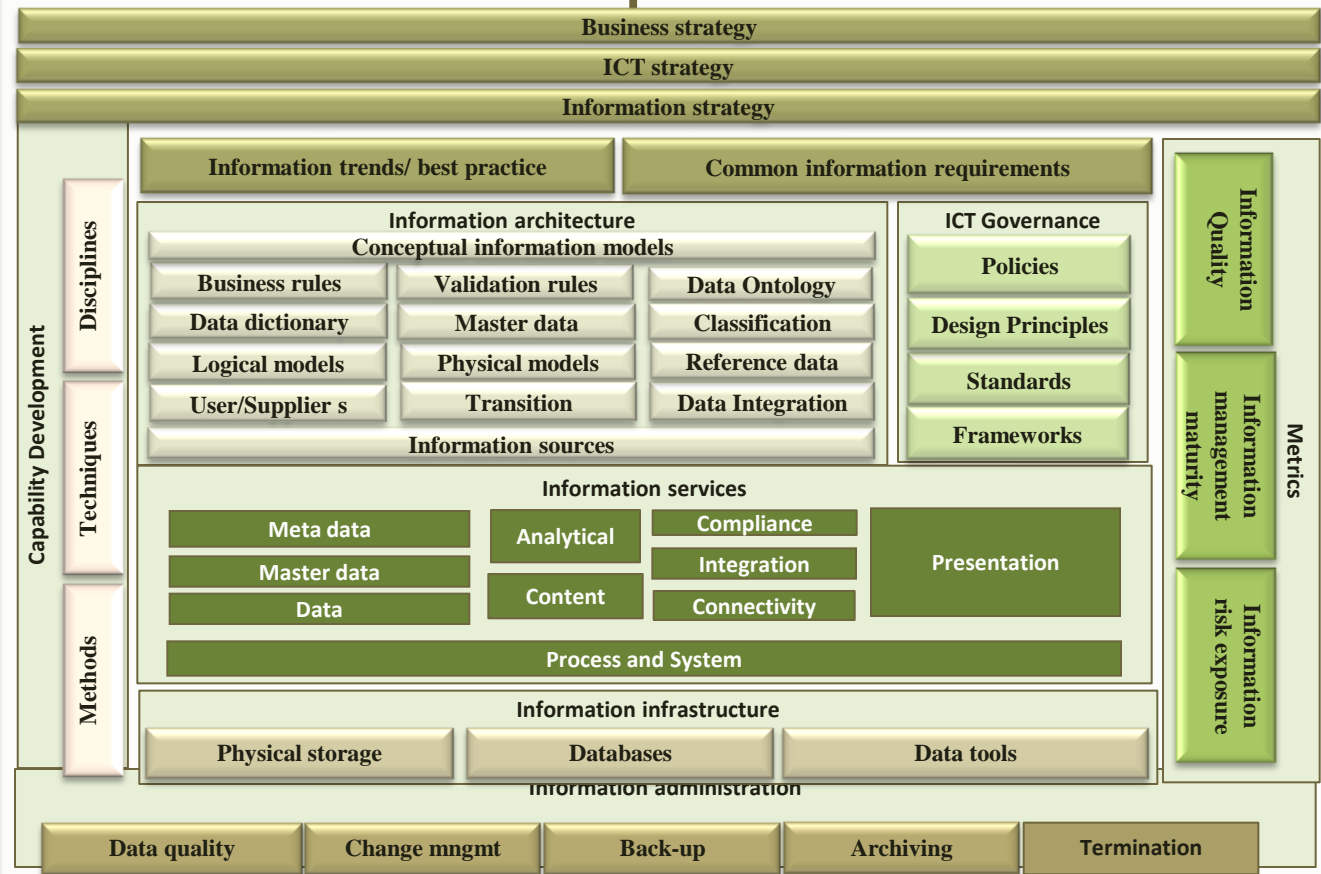
Information management components

The information management framework a whole must be established over time to ensure information integrity

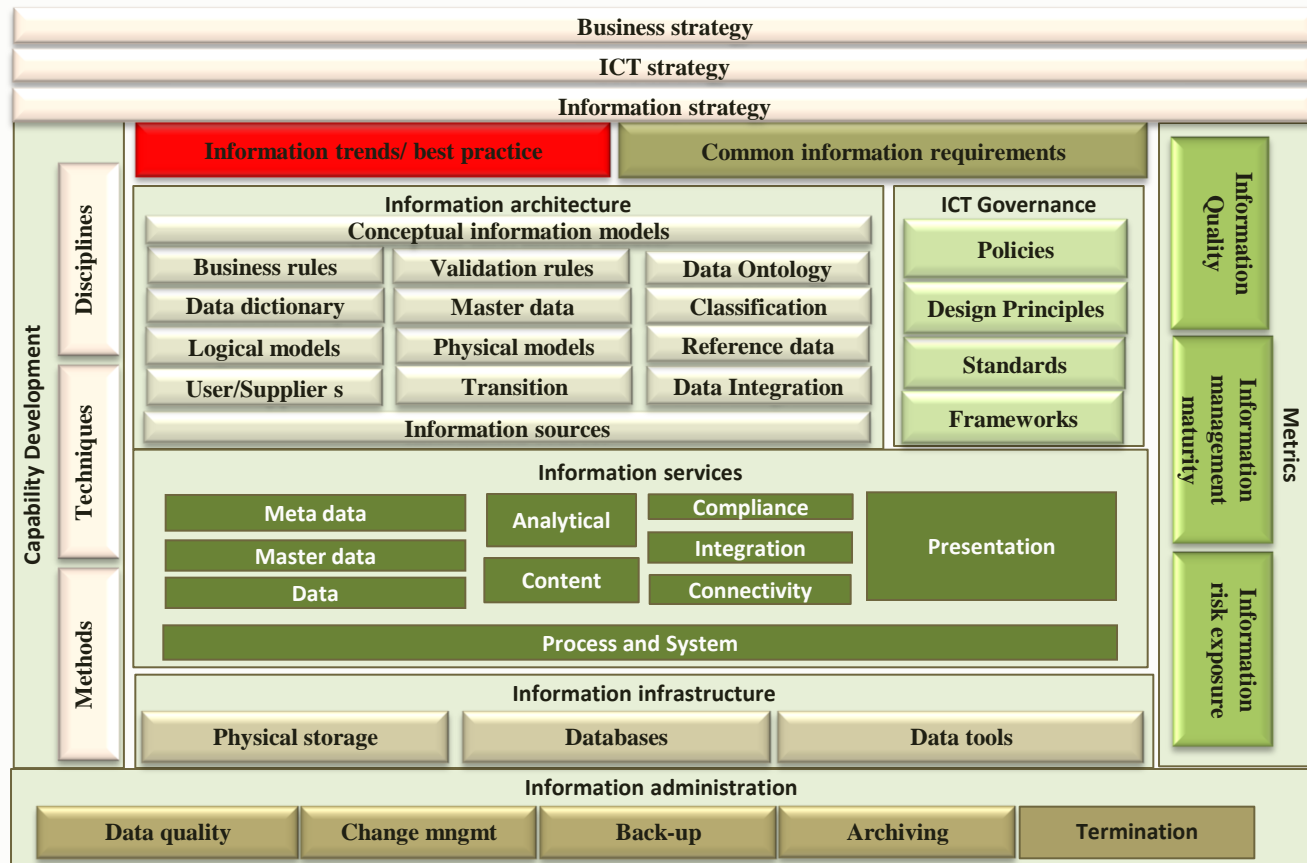
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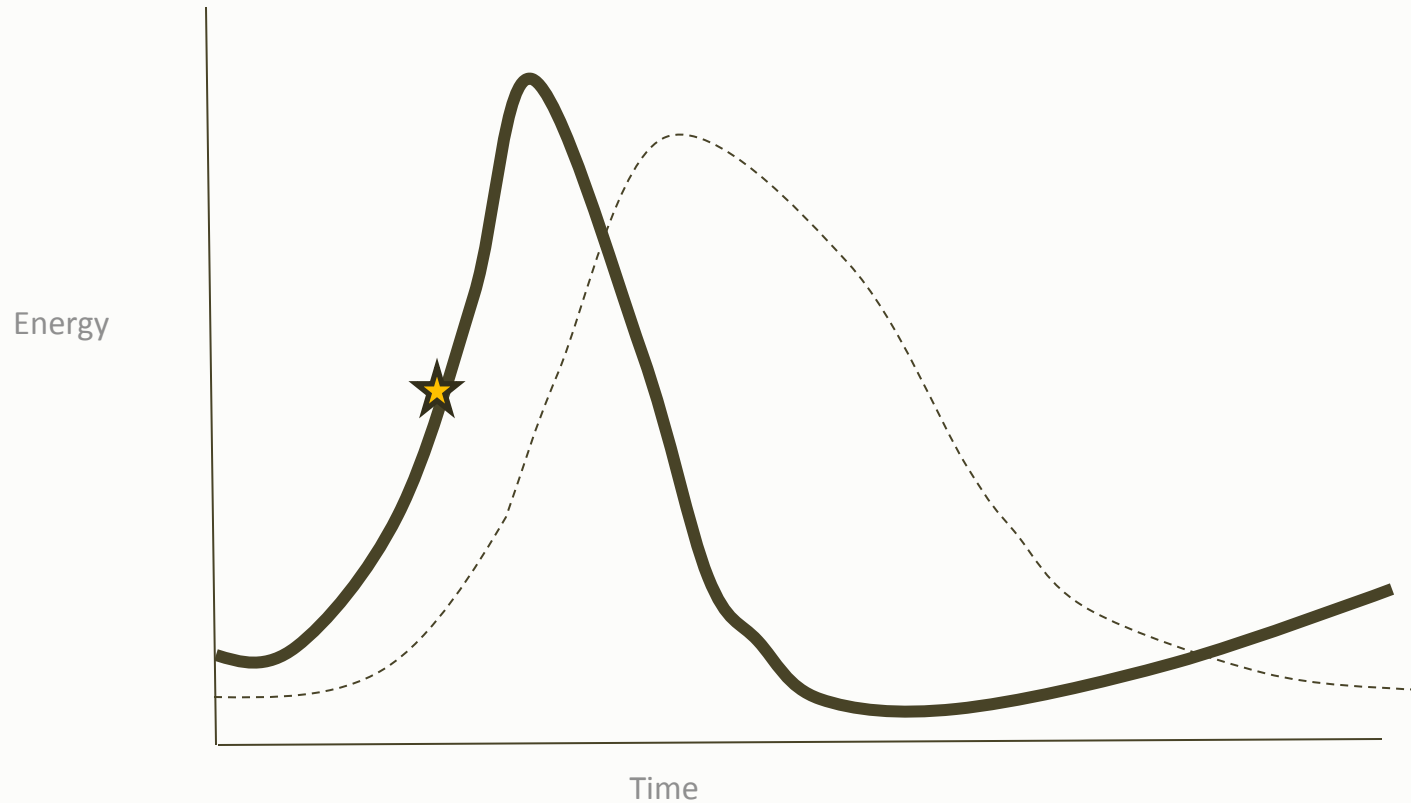
- 2010 World e-Parliament report



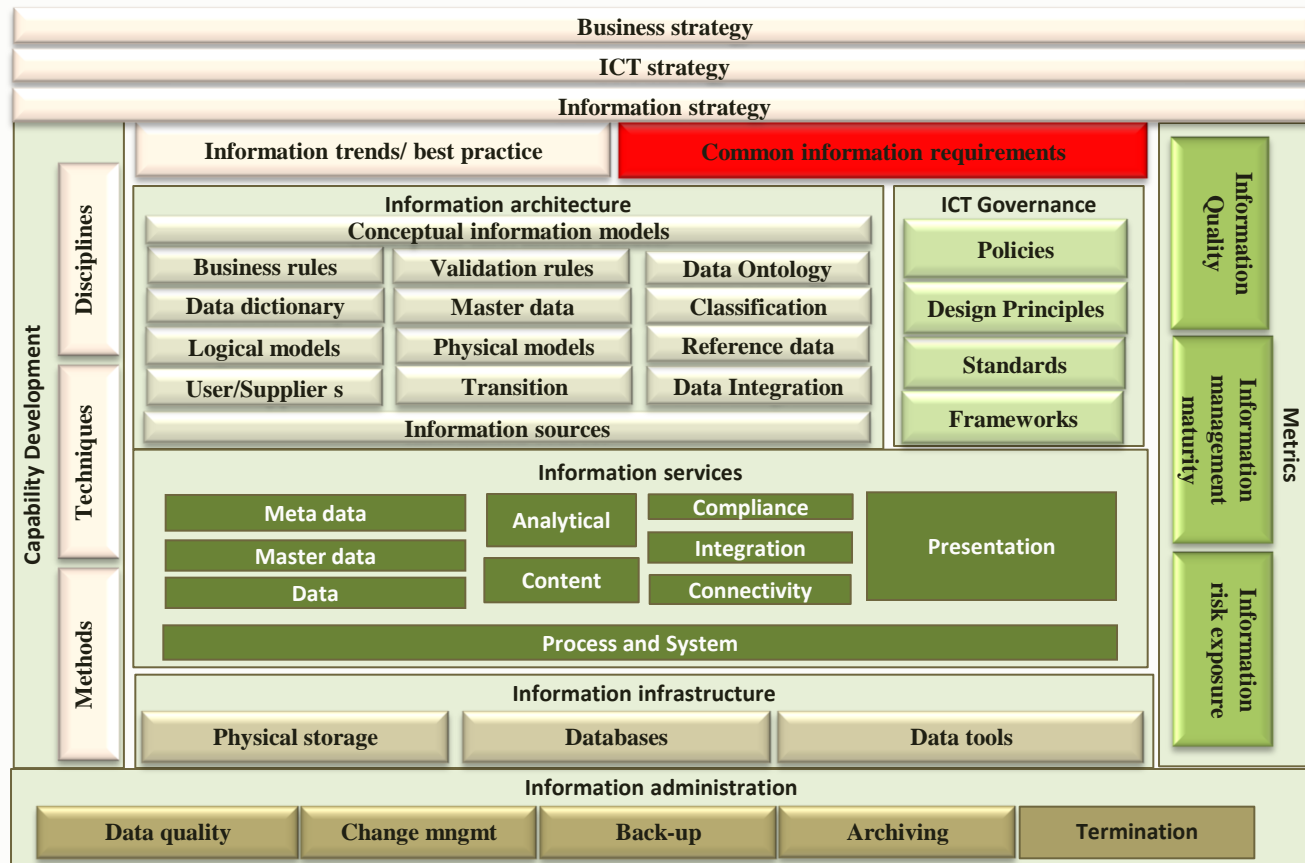
Information Trends/Best practice



Hype cycle and learning curve



Common information requirements



Information requirements

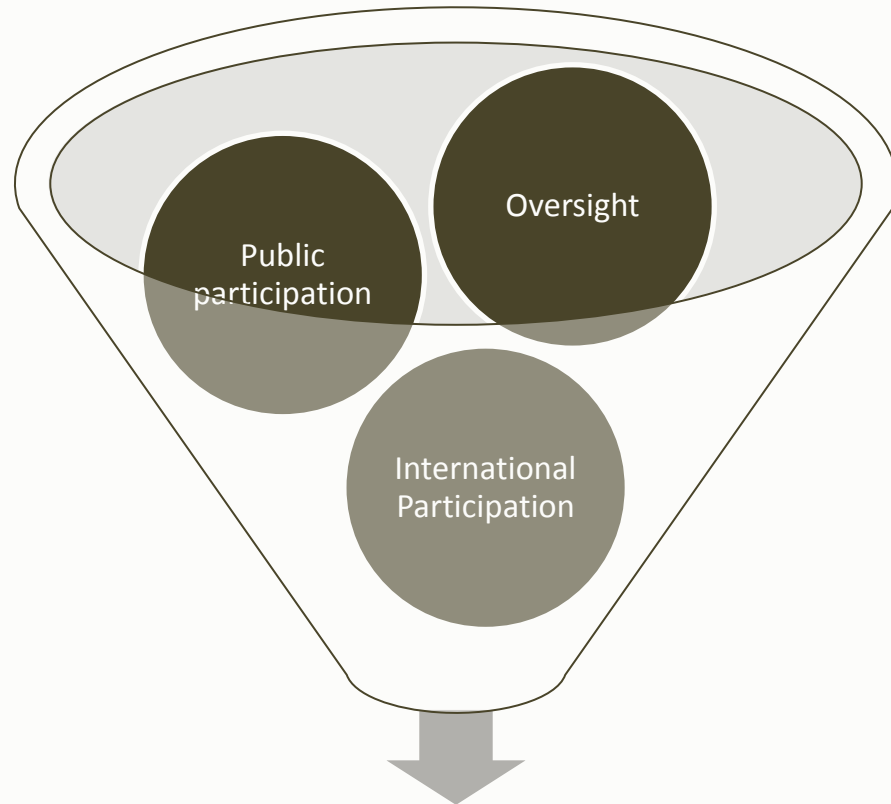
Leadership in information management assists business to translate strategic objectives into information requirements

Strategic objectives determines the priority of the information requirement

“We believe things have shifted and businesses have shifted to real time, and in order to get increased [success] they have to take new approaches to **management**. Businesses leveraging **information** as an asset do a better job driving incremental ROI.”

– Steve Mills

Information requirements library

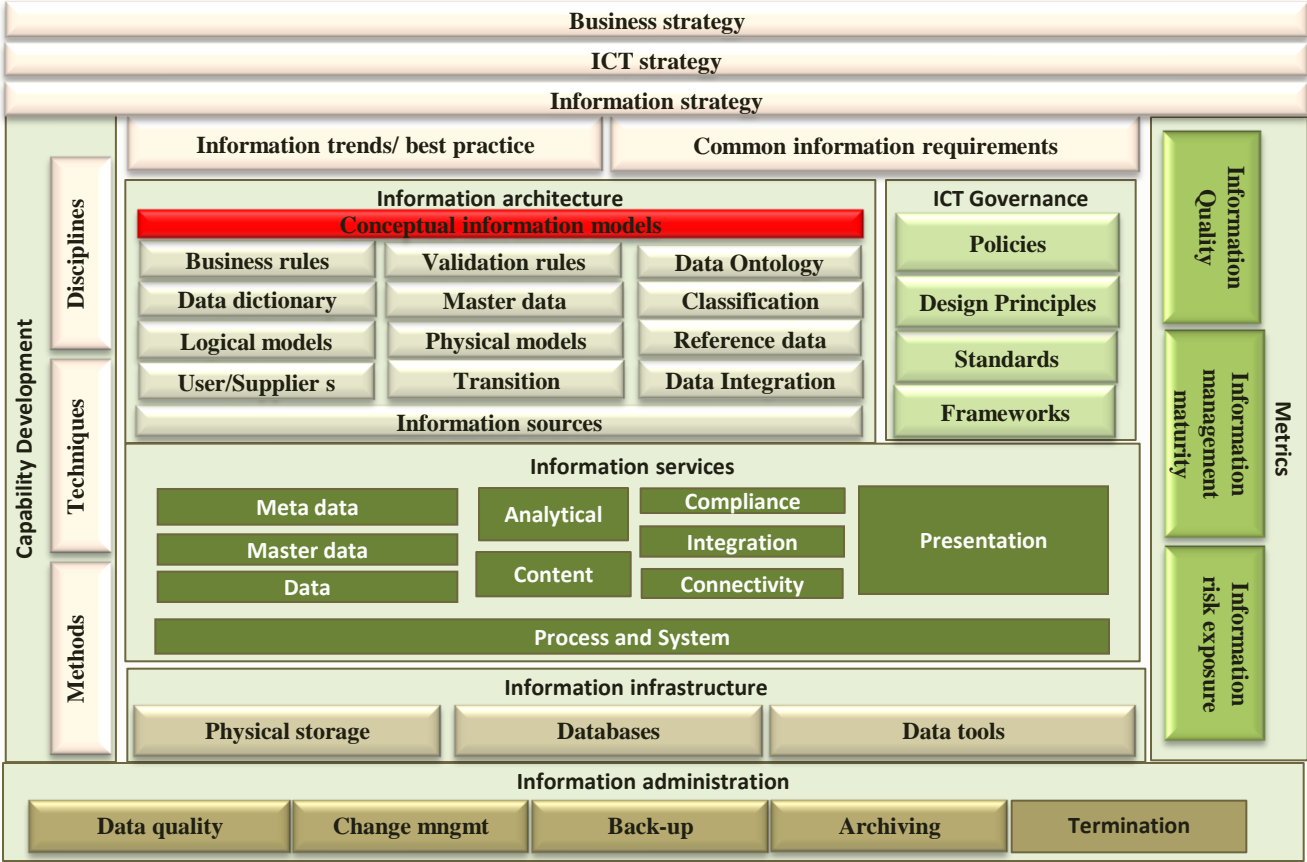


Getting useable feedback from the public
Better follow up on questions not answered
Contact management for international relationships

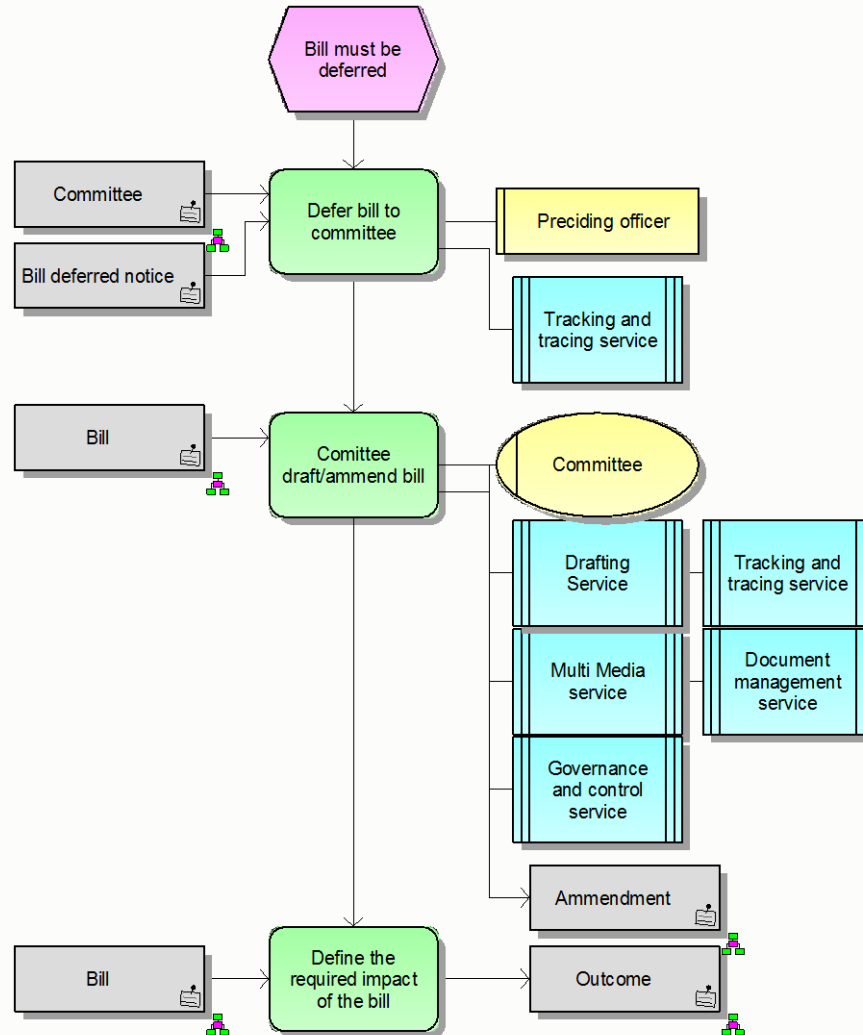


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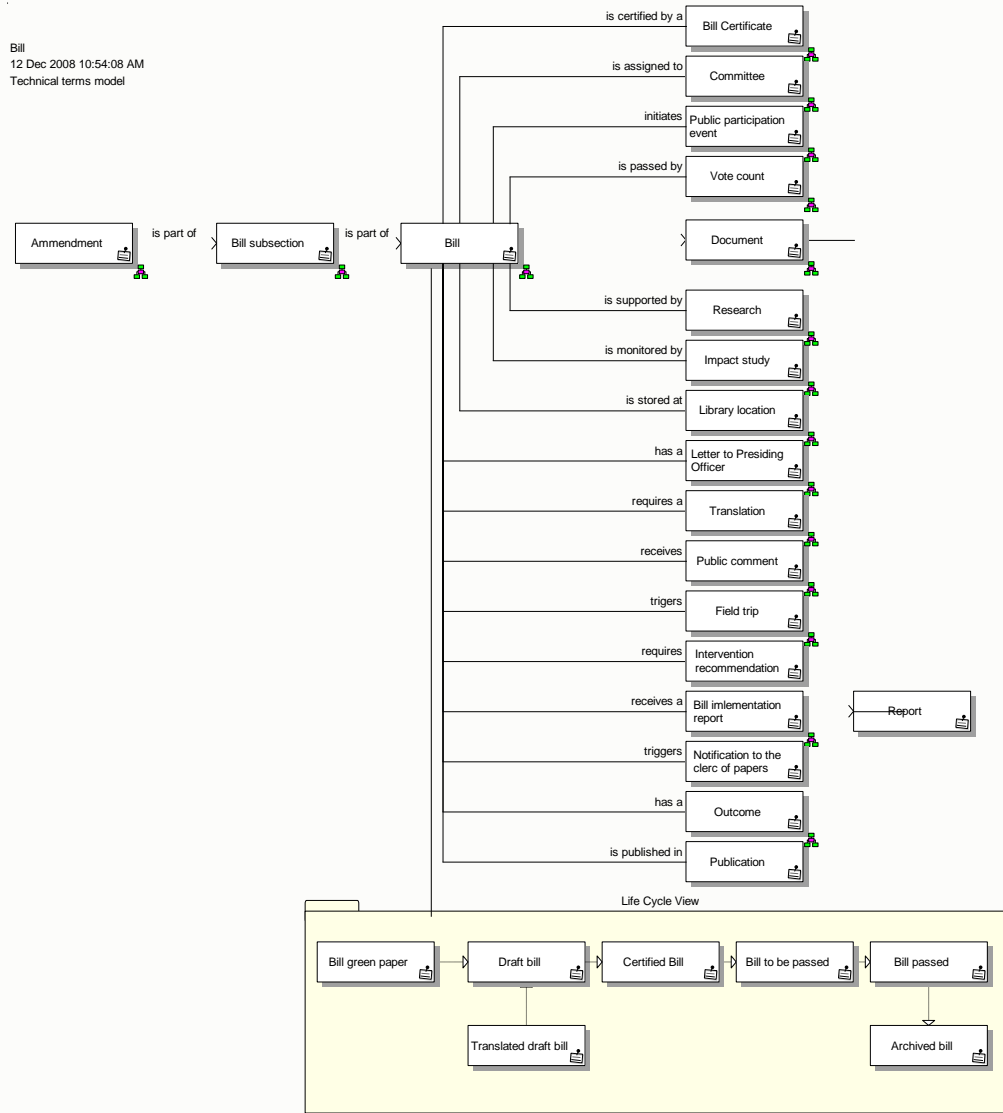
Conceptual information models



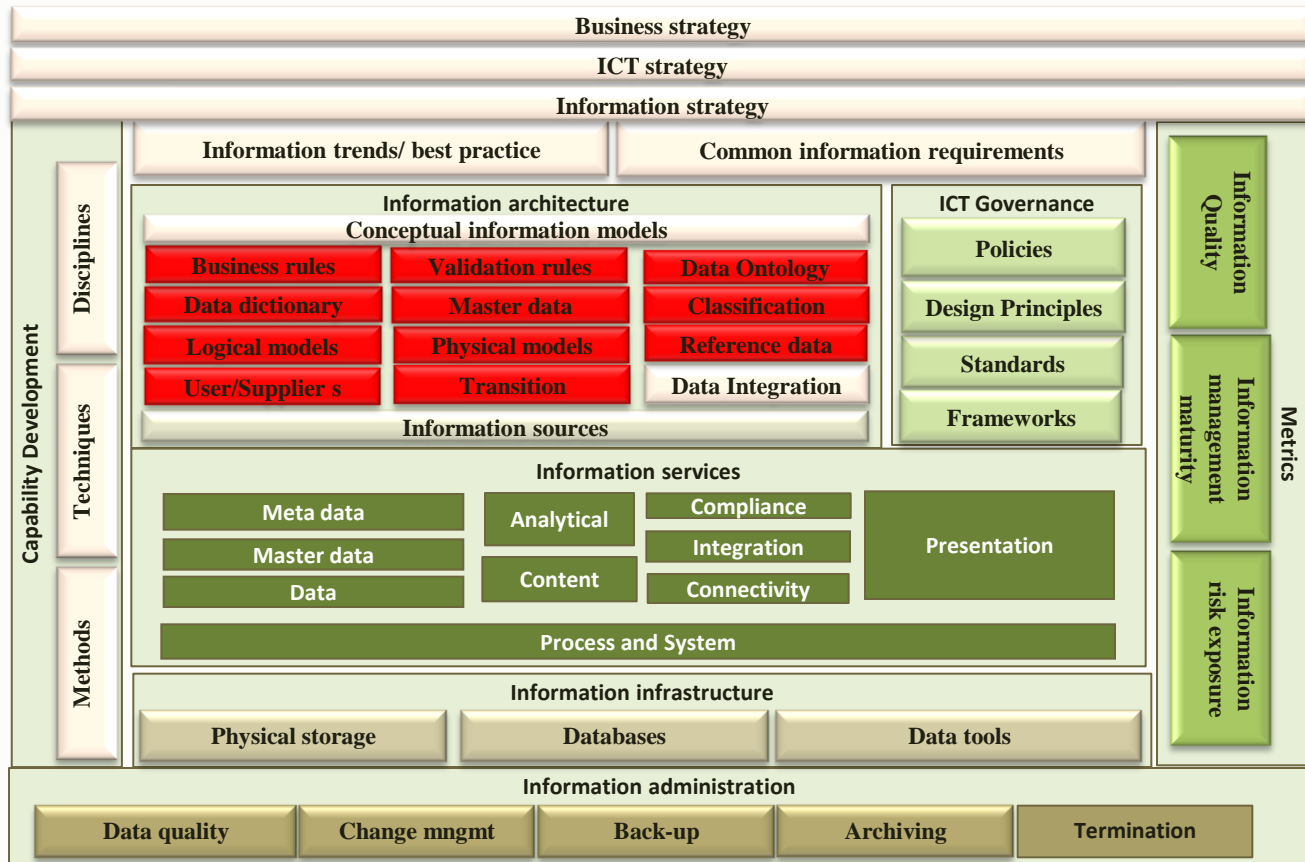
Process modelling



Bill conceptual model



Information architecture



Information architecture

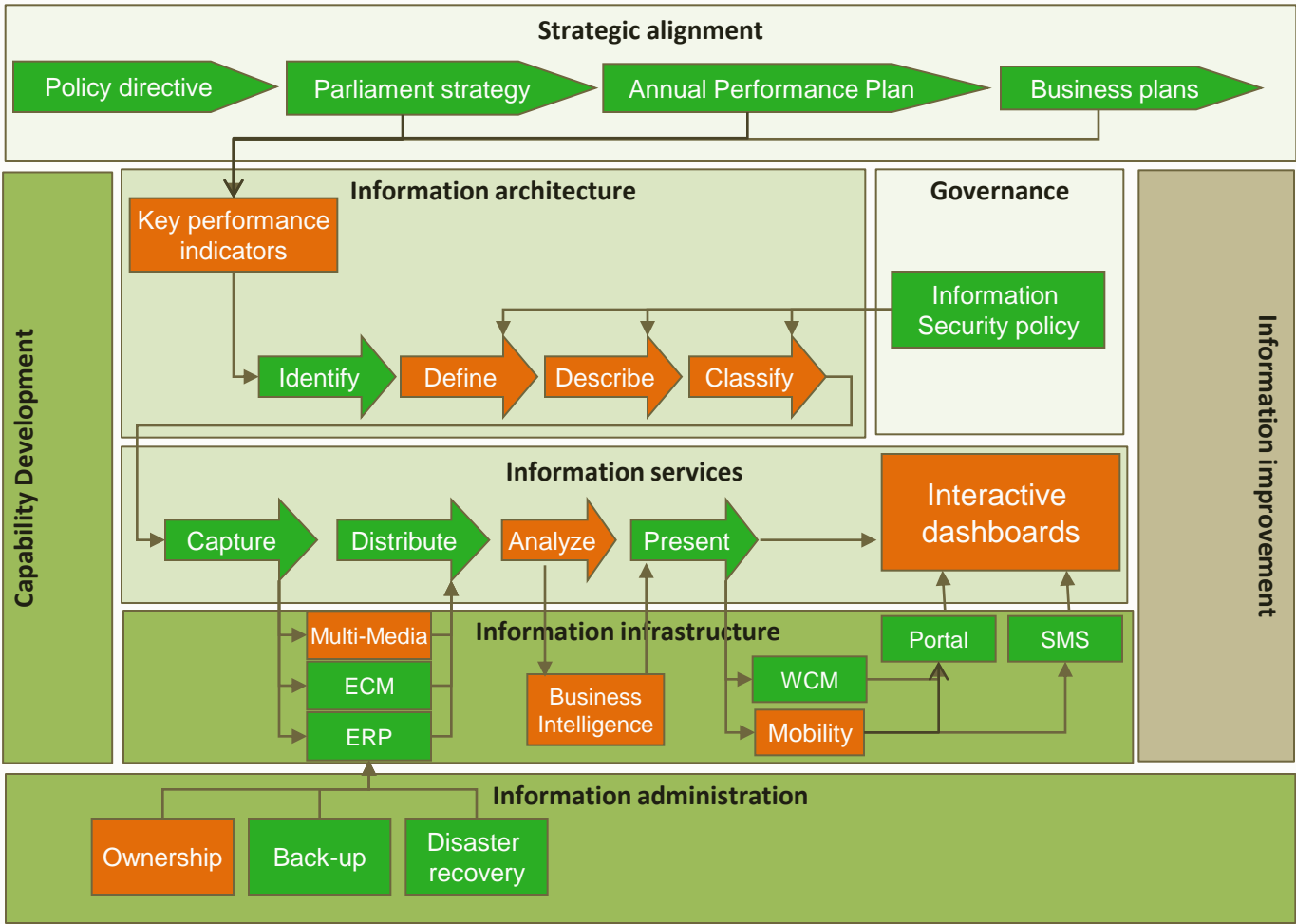
An MIS environment enables the translation of business requirements into a deployed solution that will satisfy the business requirements.

In order to maintain that flow from requirement to solution the MIS manager must build and enhance the capacity to deliver and ensure information quality.

“In large organizations the dilution of information as it passes up and down the hierarchy, and horizontally across departments, can undermine the effort to focus on common goals.”

Mihaly Csikszentmihalyi

Connecting the dots



Legend use in diagram:

Legend use in diagram:

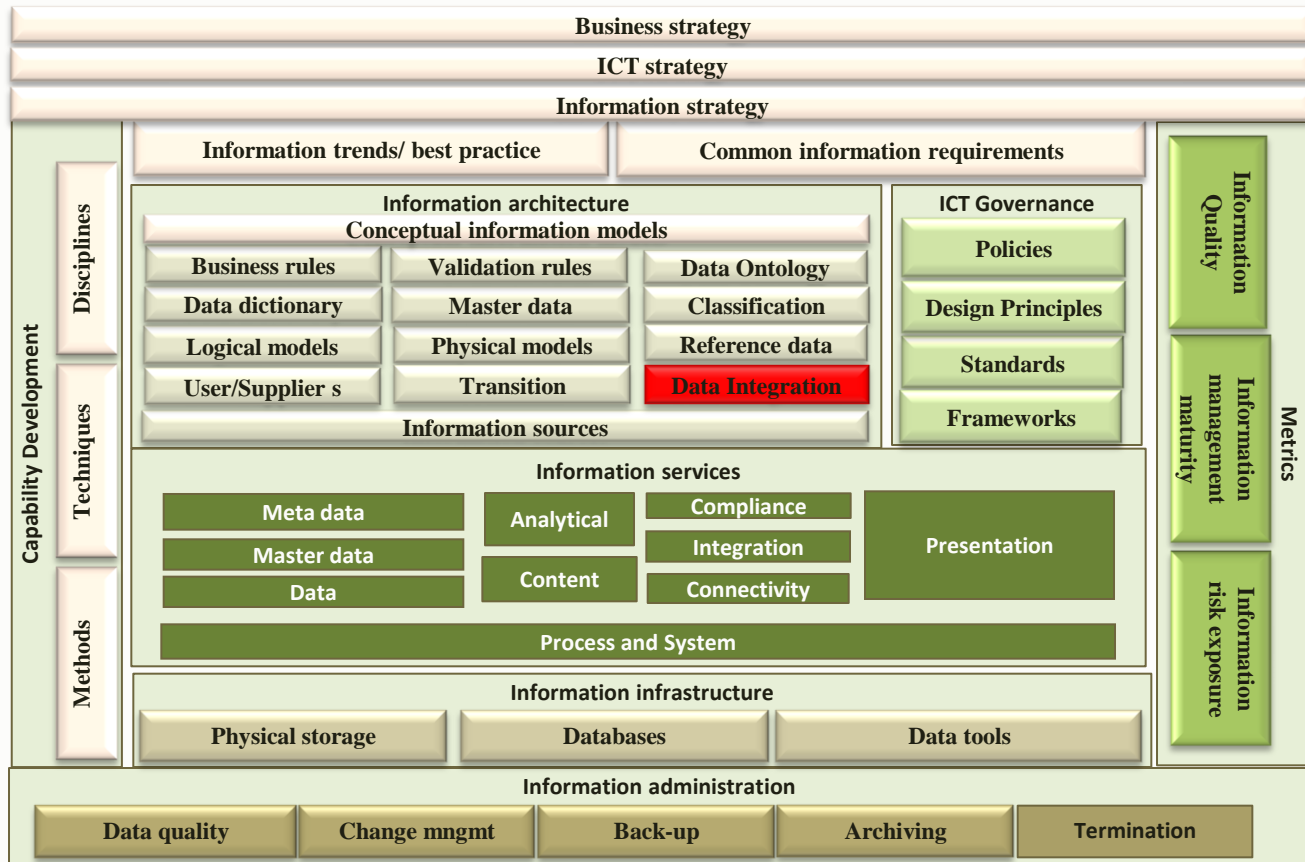
- Need (orange box)
- Have (green box)

The Interactive dashboards must be enabled through designed information processes and services

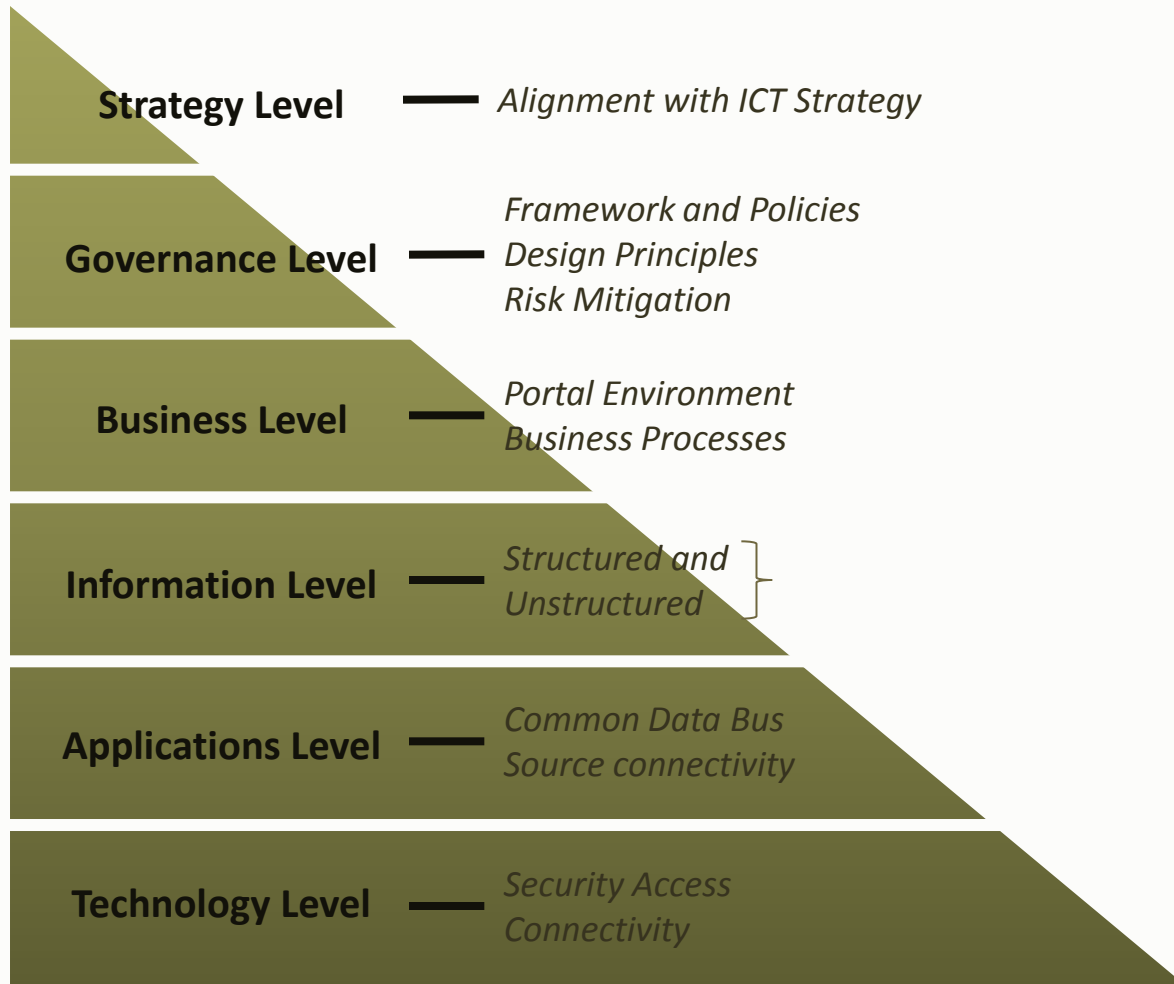


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Data integration



Integration levels



Business Requirement

Strategic Goal

Enable managed visibility, secure access of related information across the operational spectrum of Parliament and the interoperability between the disparate application components in the environment.

Managed Visibility

External Sources

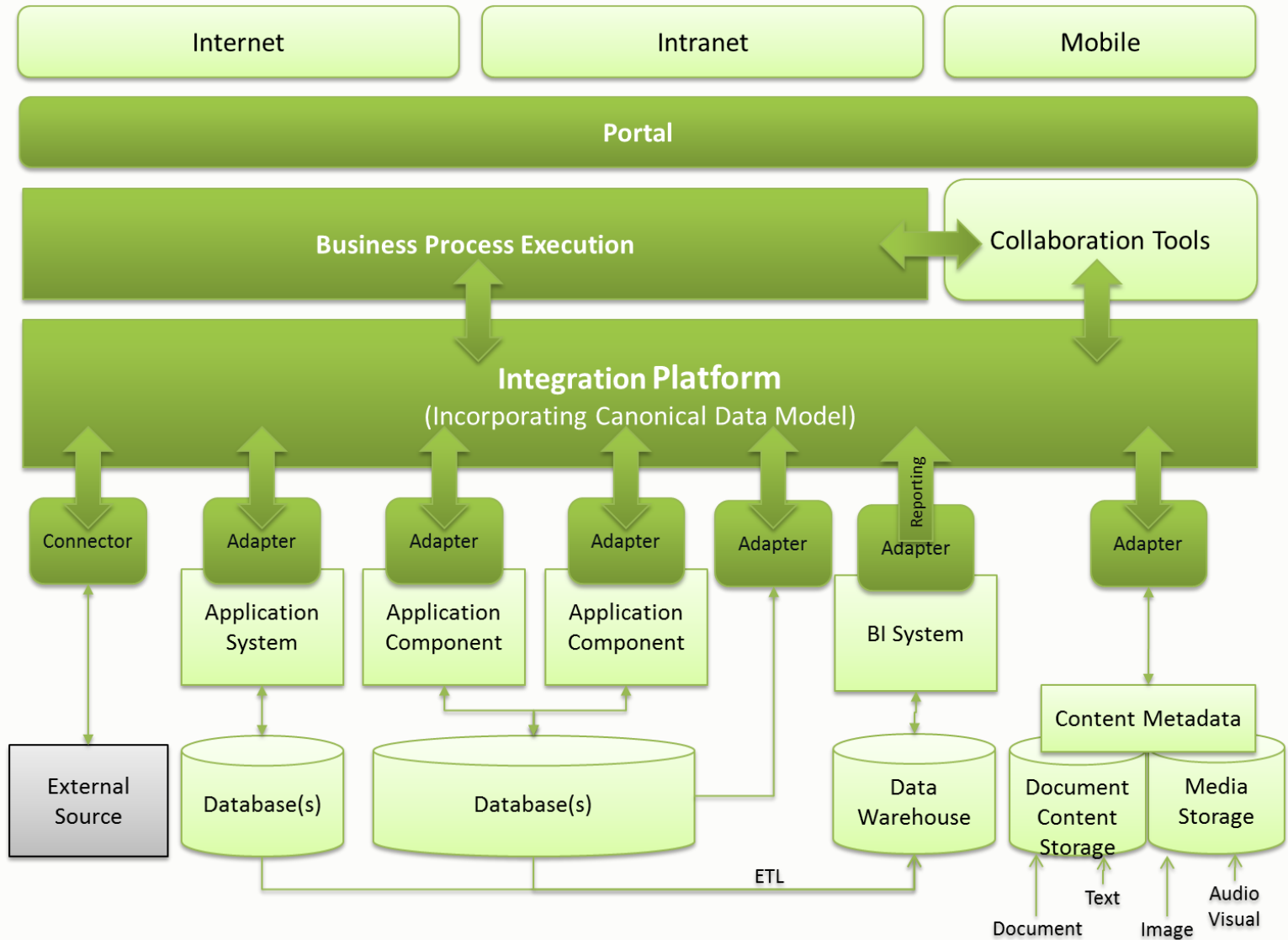
Structured Data

Collaboration

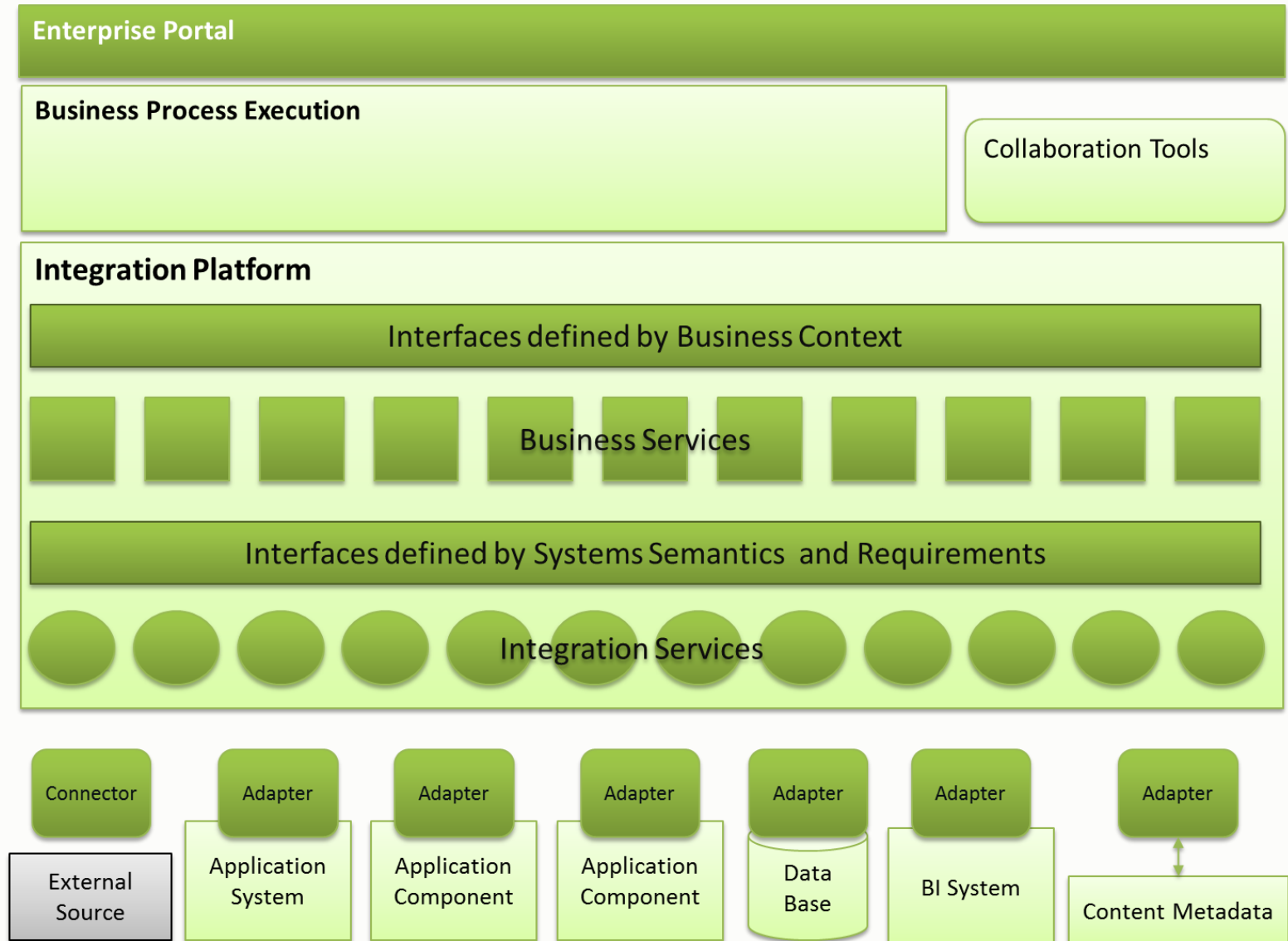
Unstructured Data

External
Stakeholders

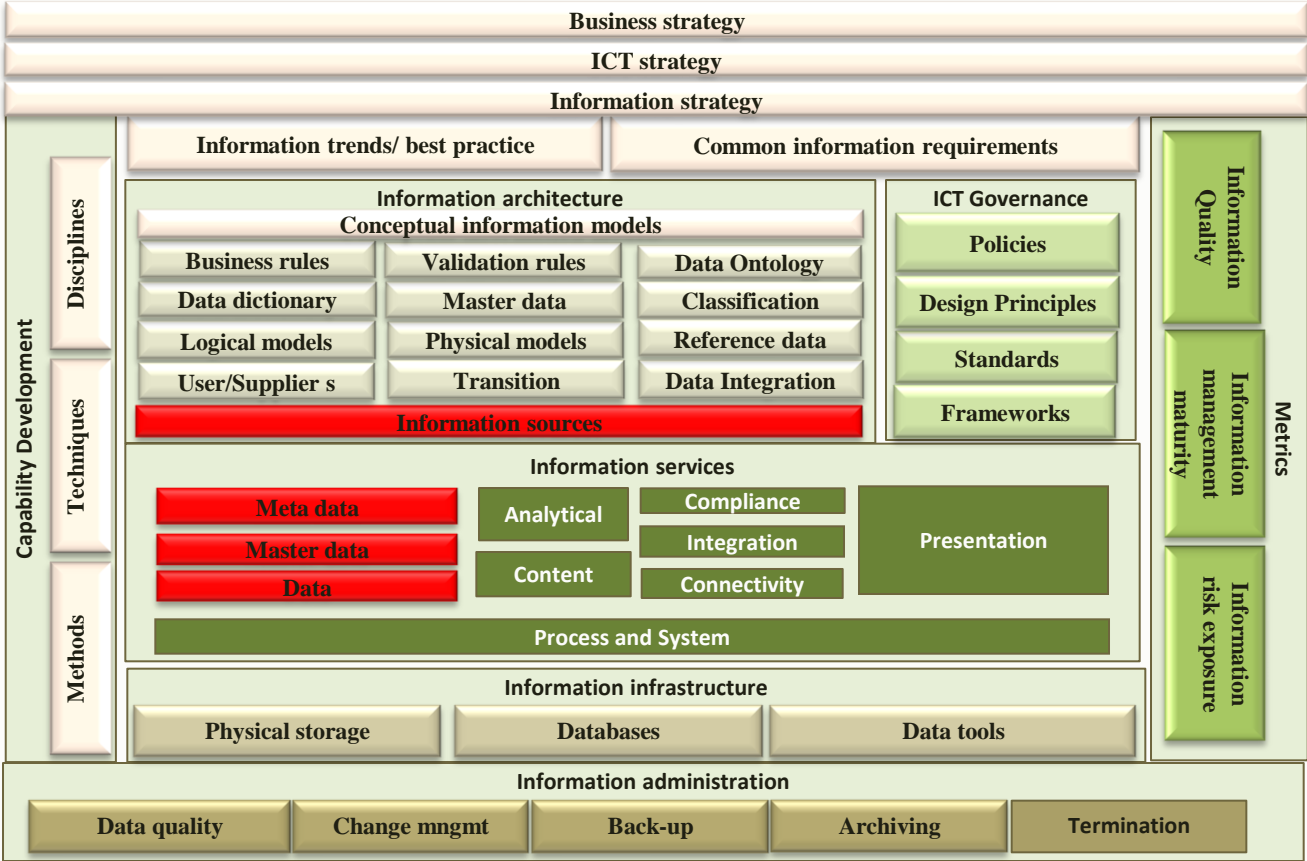
Conceptual Design



Application Level



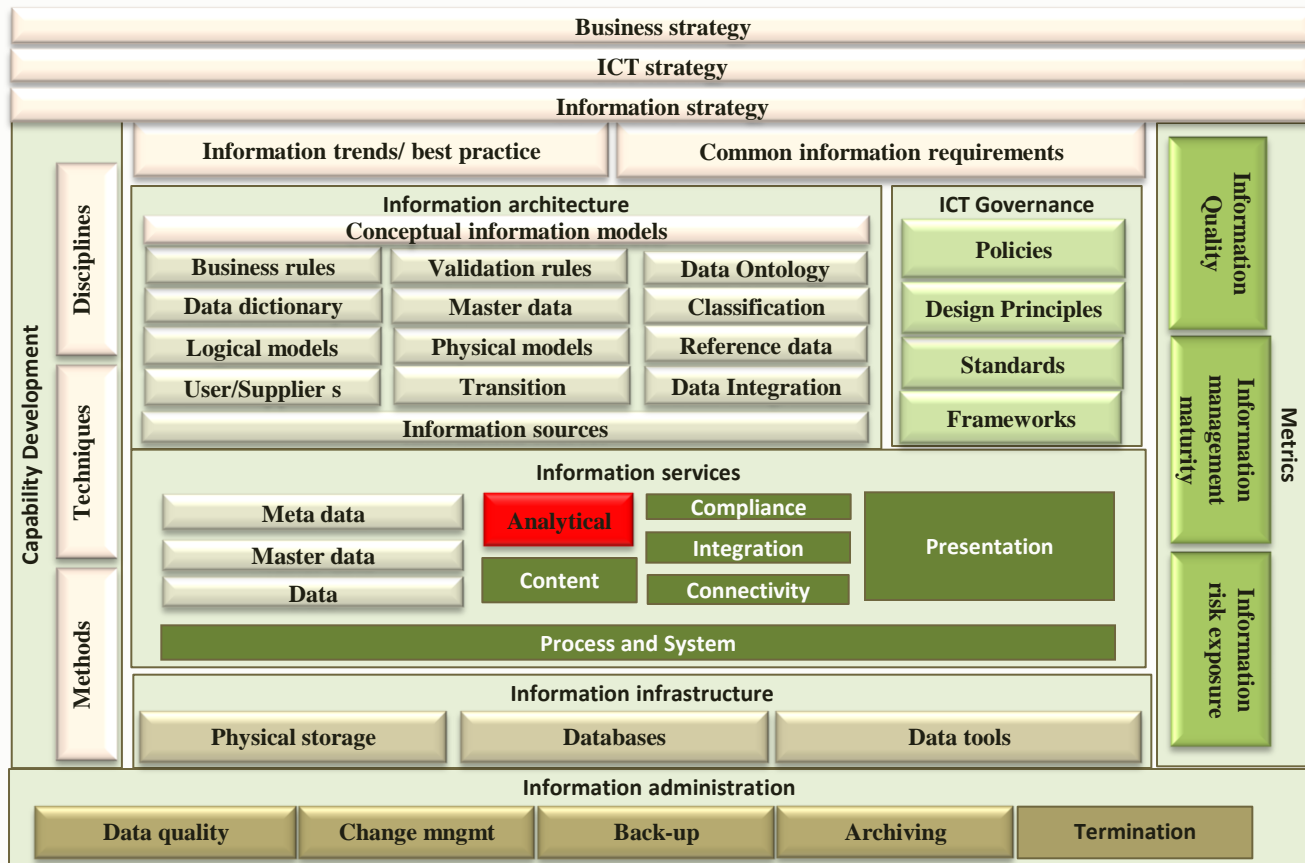
Information provisioning



Data principles

- One source of truth.
- Common definition of context, purpose and value of information.
- Proper data management.

Business intelligence and analytics

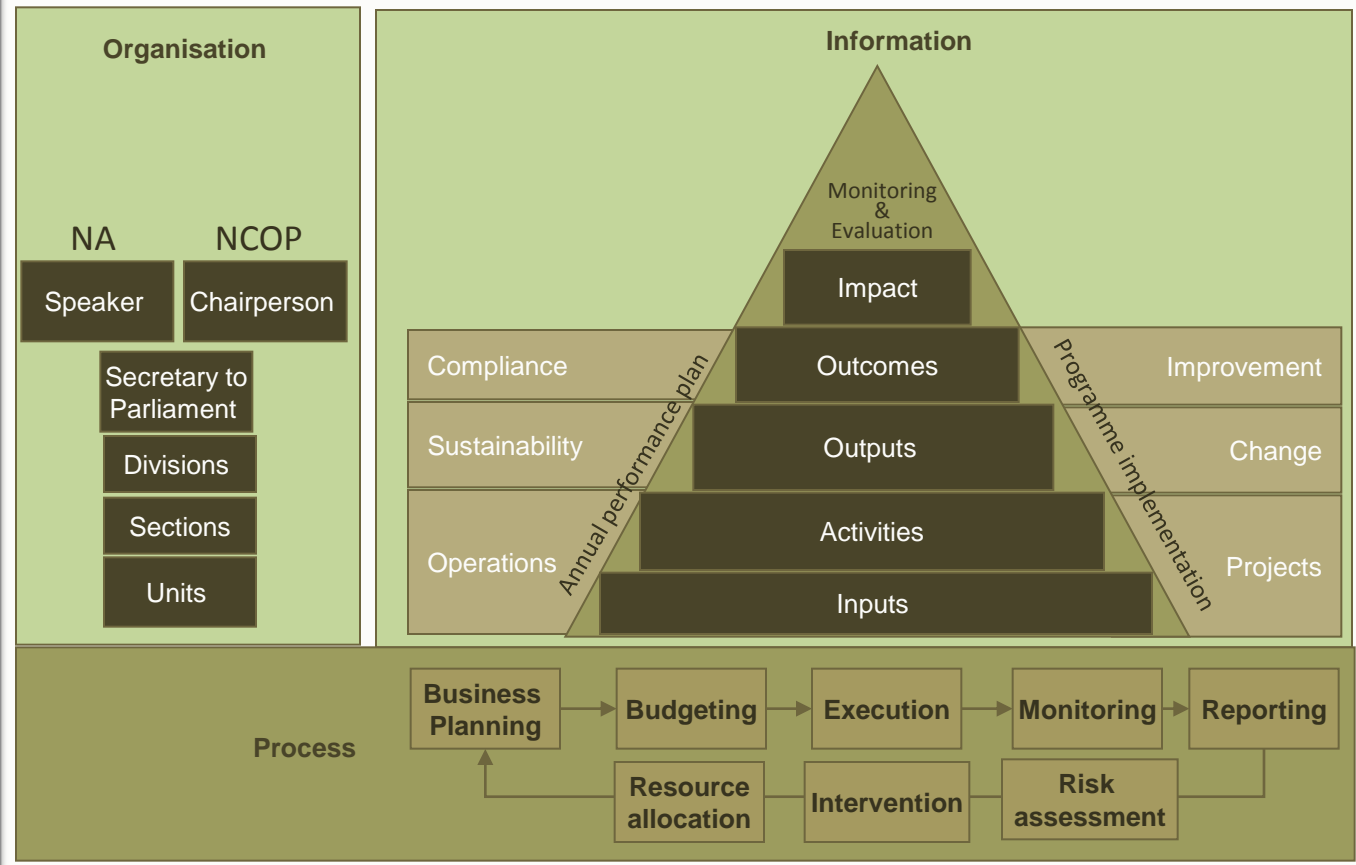


Business intelligence

The Parliament performance Dashboard must link together the organisational design, process execution and performance information showing how **effectiveness and efficiency** is sustained and improved by being clear about who does what and when.

“When monitoring and assessing outcomes and impacts, it needs to be kept in mind that government interventions can also have unintended consequences. These also need to be identified and monitored.”
Framework of managing performance information – National treasury.

Institutional performance



The Management Dashboard must deliver consolidated and integrated reporting of both structured and unstructured information

Business Intelligence

Dashboard: Rich, interactive Web based display of personalized information to help guide managers in effective decision making.

Scorecard: visualizations that graphically communicate strategy & strategic dynamics views

Intelligence: Powerful reporting environment.



Software components

Management dashboard

Personalised for management area

Strategic scorecard

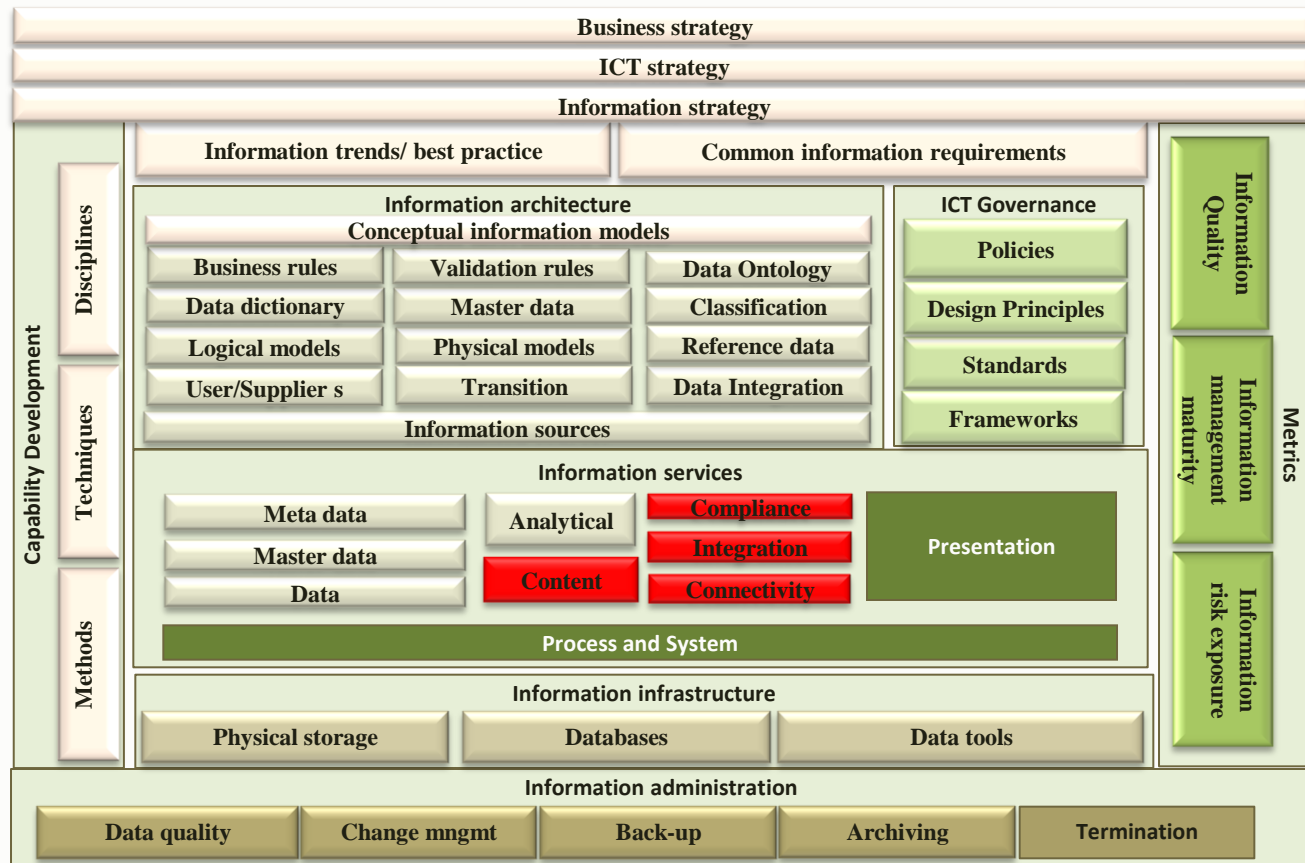
Institutional focus areas

Business intelligence

Reporting environment



Information services

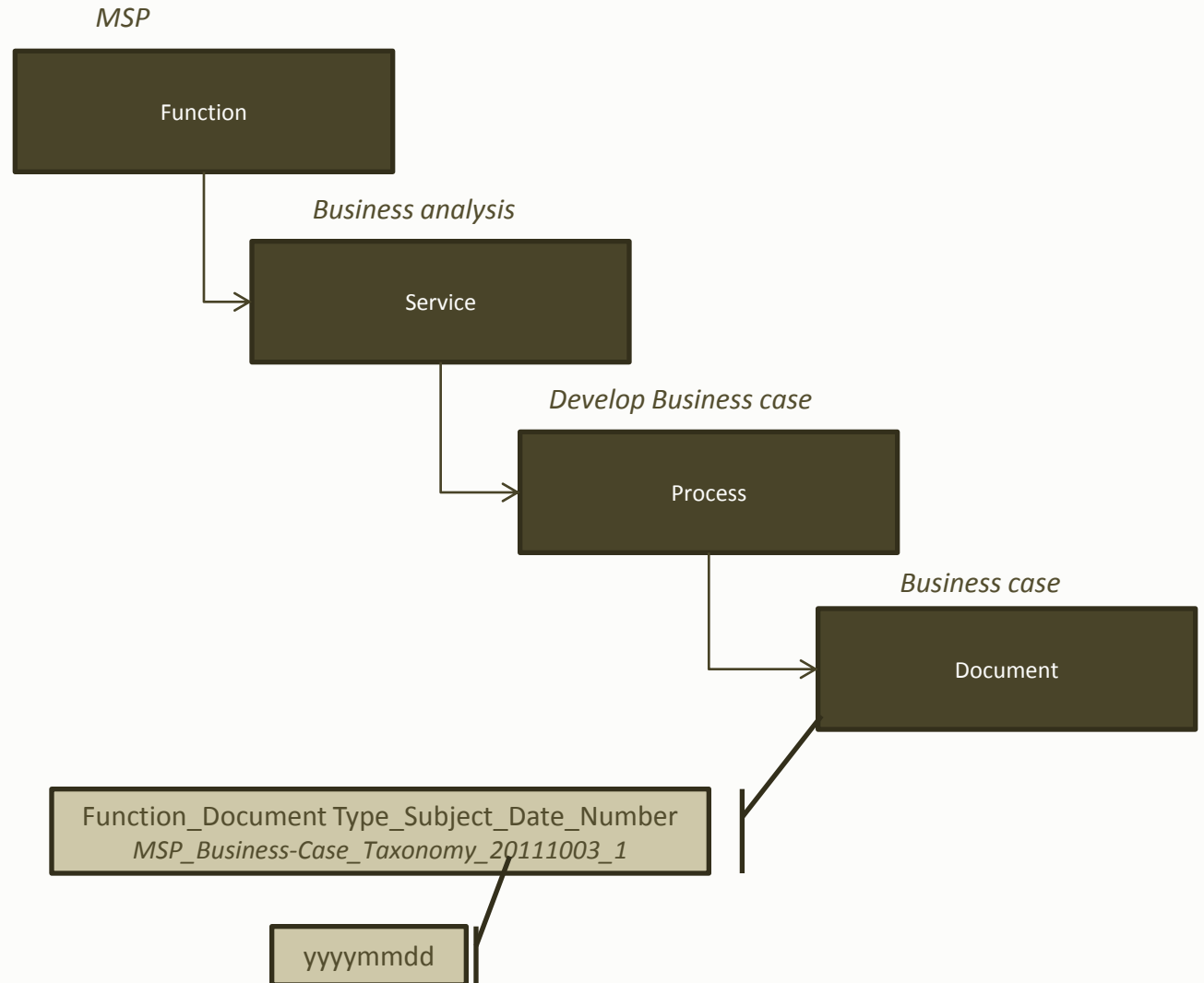


4) Methodology

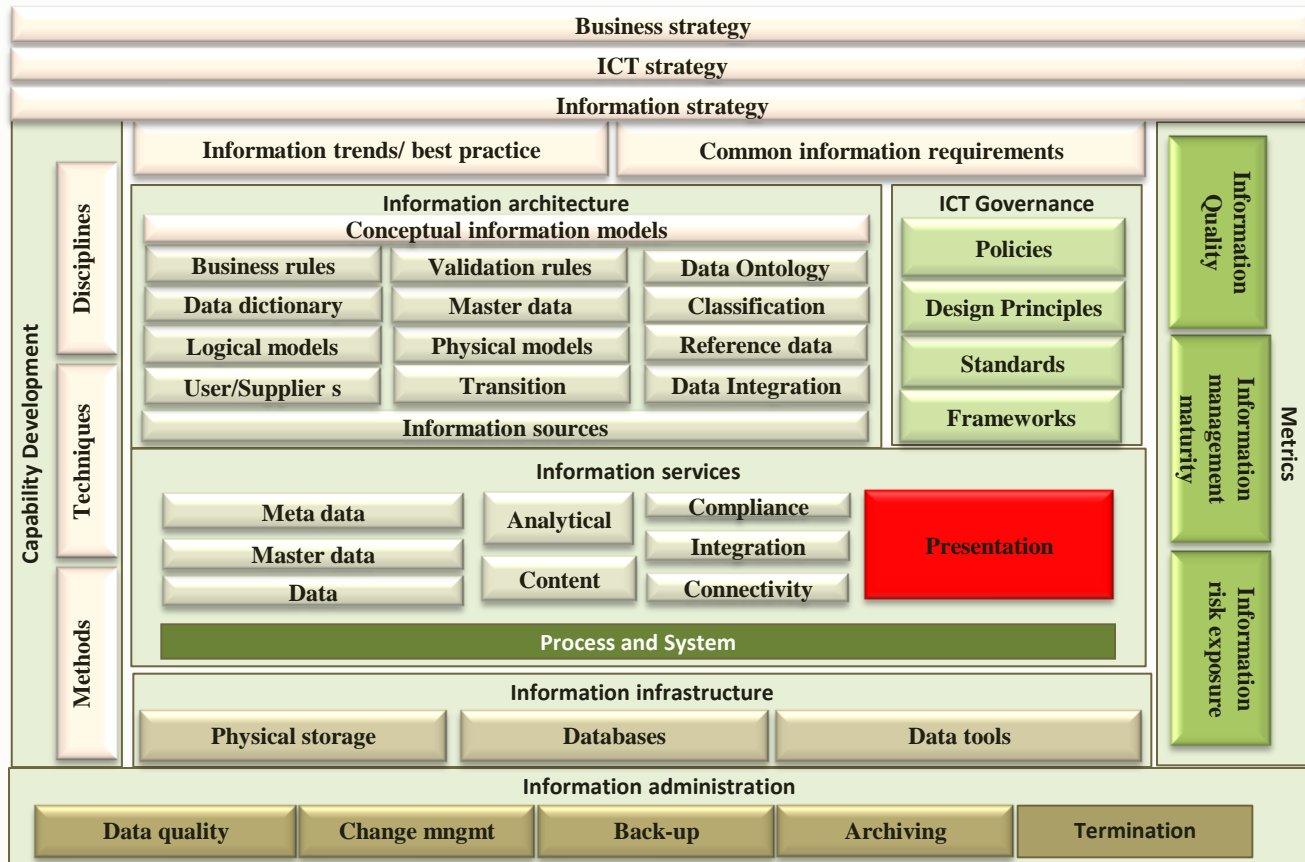
Taxonomy overview

- Files will be numbered using aa/bb/cc/dd
- aa is a unique function number
- bb is a unique service number associated with the function
- cc is a unique process number associated with the function and service
- dd is a unique document type number associated with the function, service and process.

- Underscore “_” is used to differentiate between function, service, process and document type
- A “-” like a minus sign is used as a space in the name.

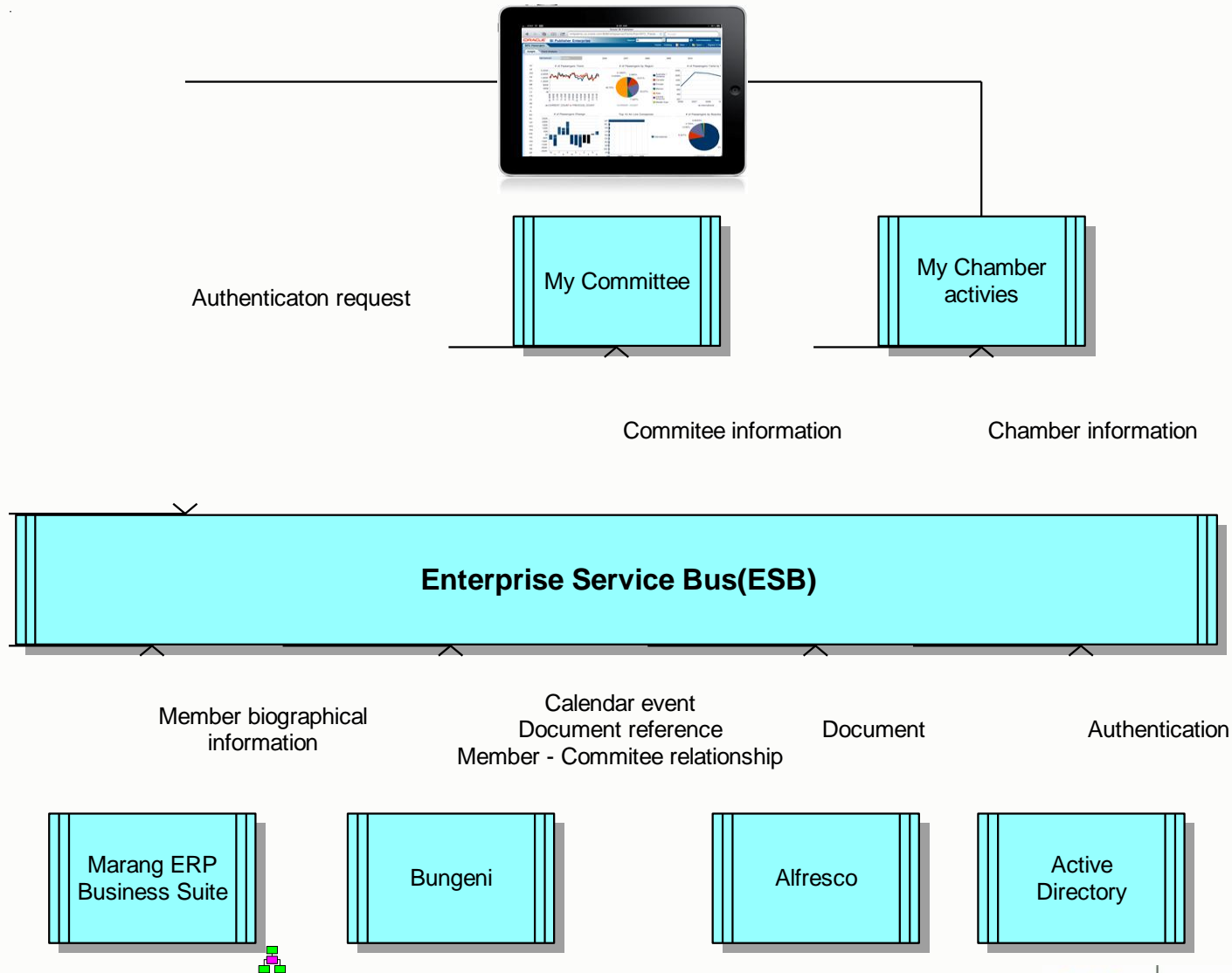


Information Presentation



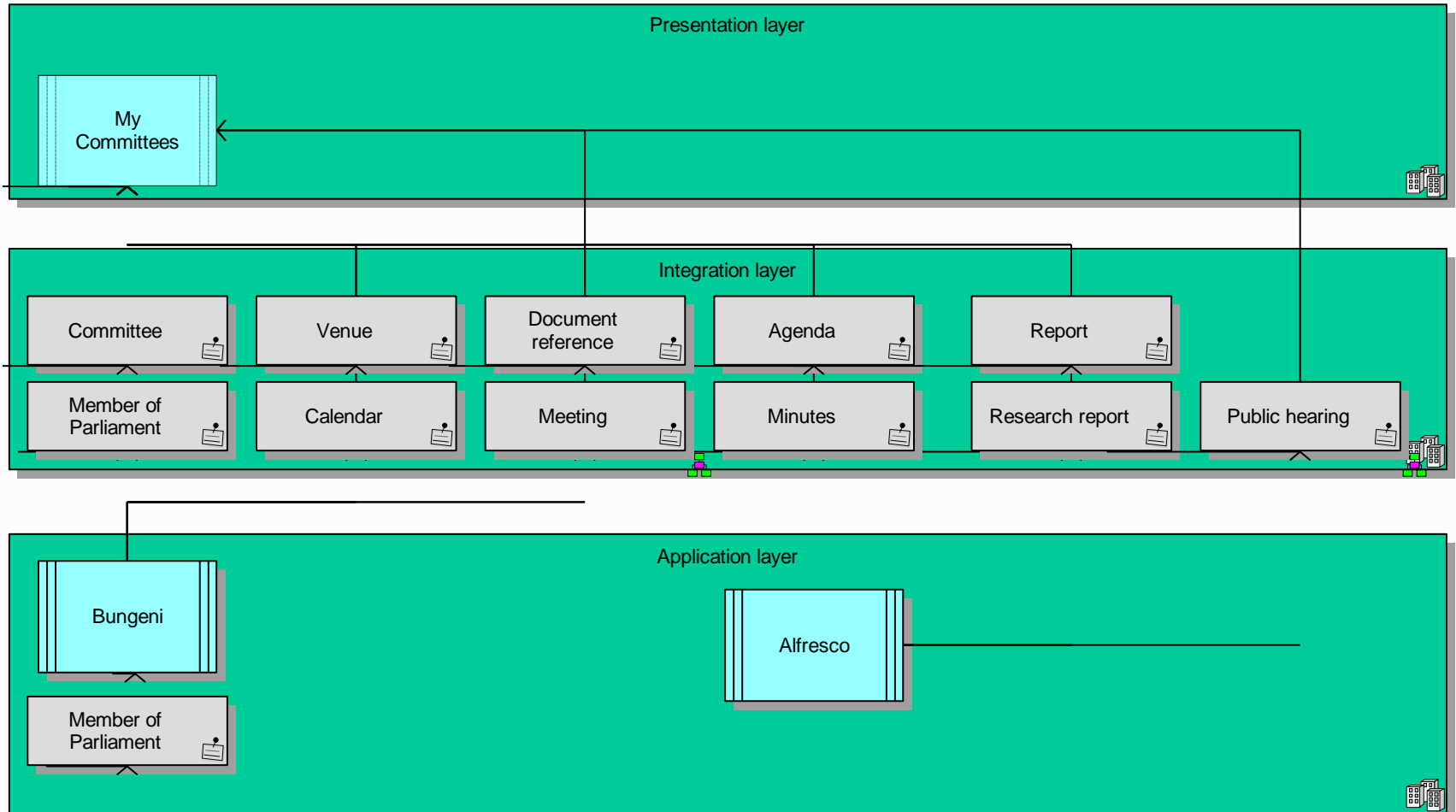


Integration architecture overview



My Committee: Information components

Service-Oriented Architecture



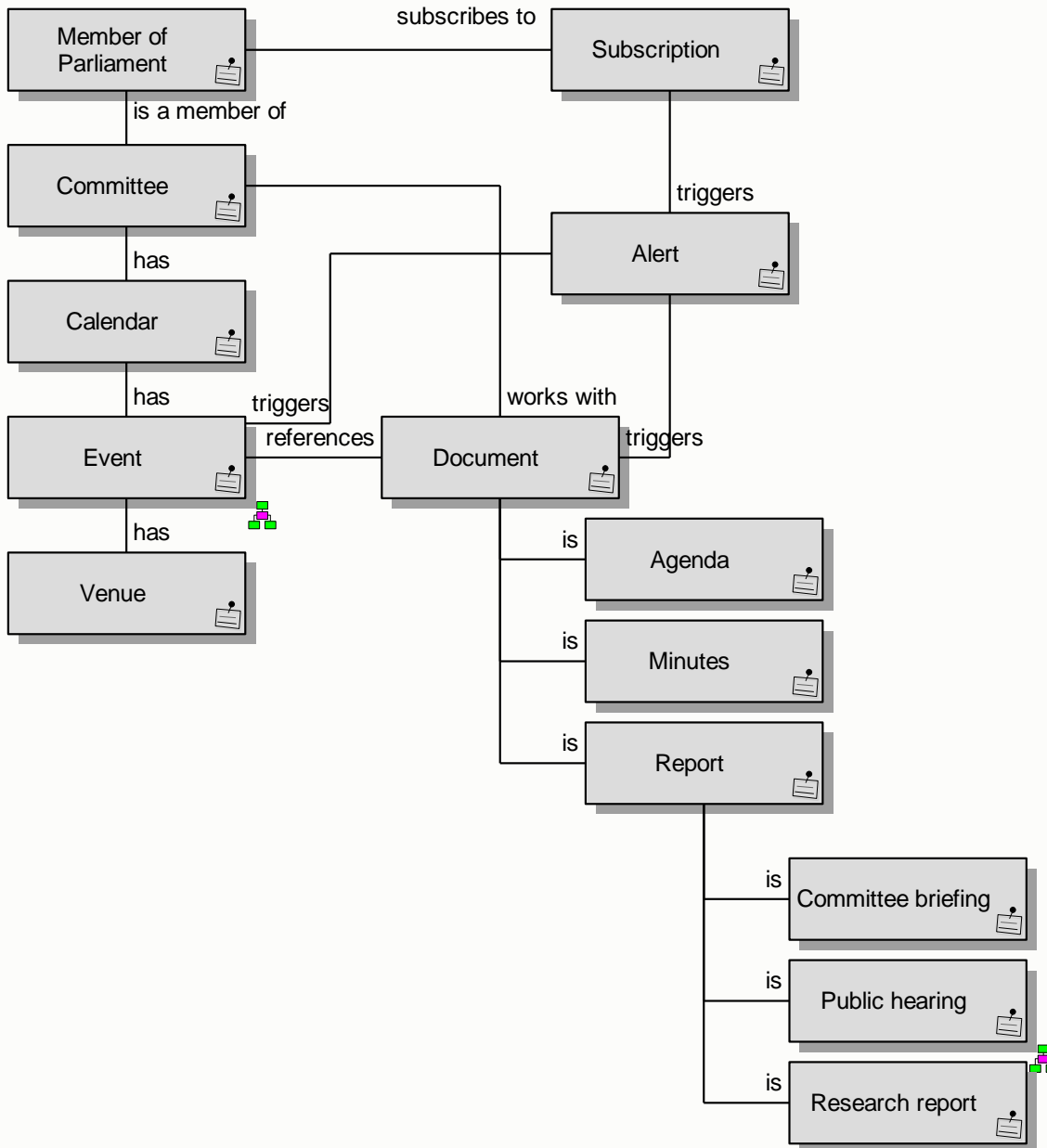
Marang ERP Business Suite



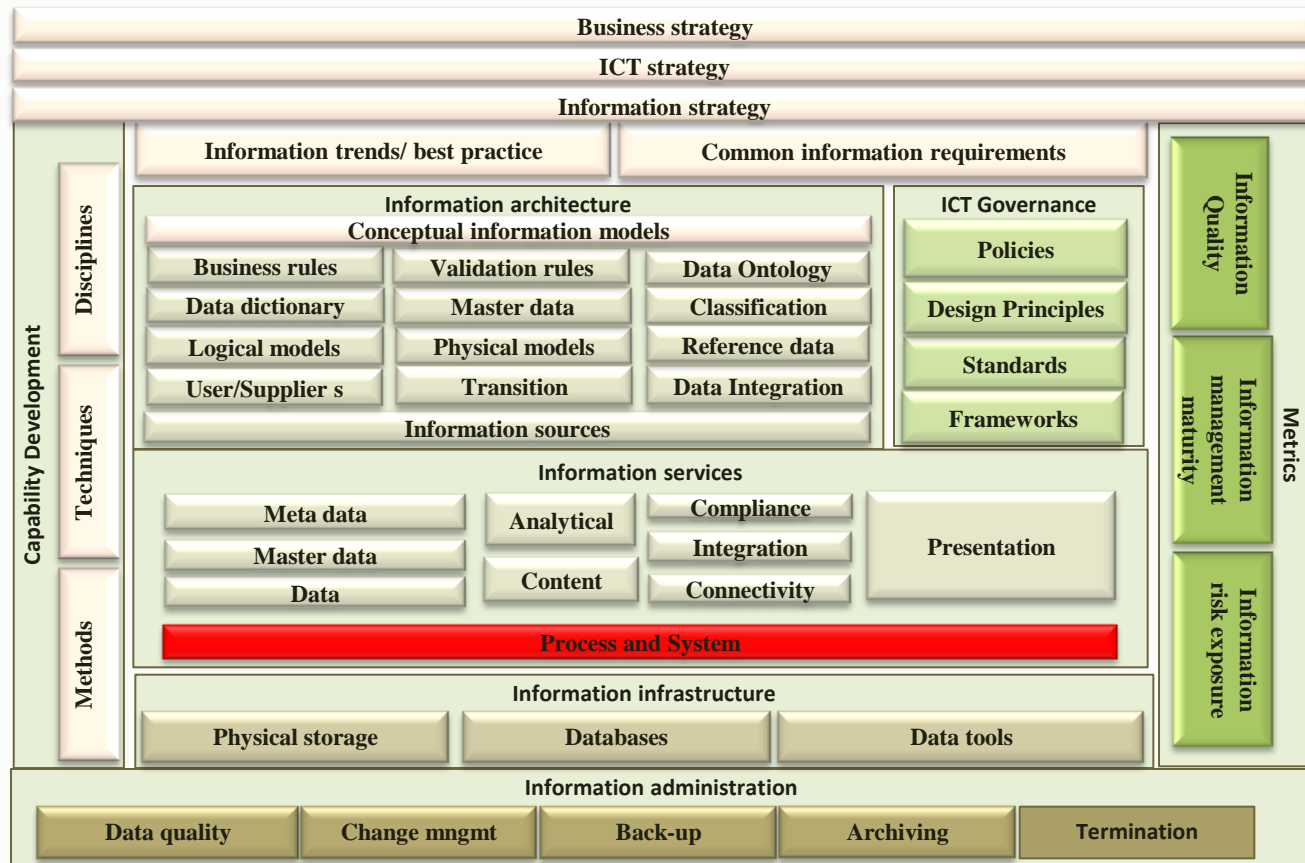
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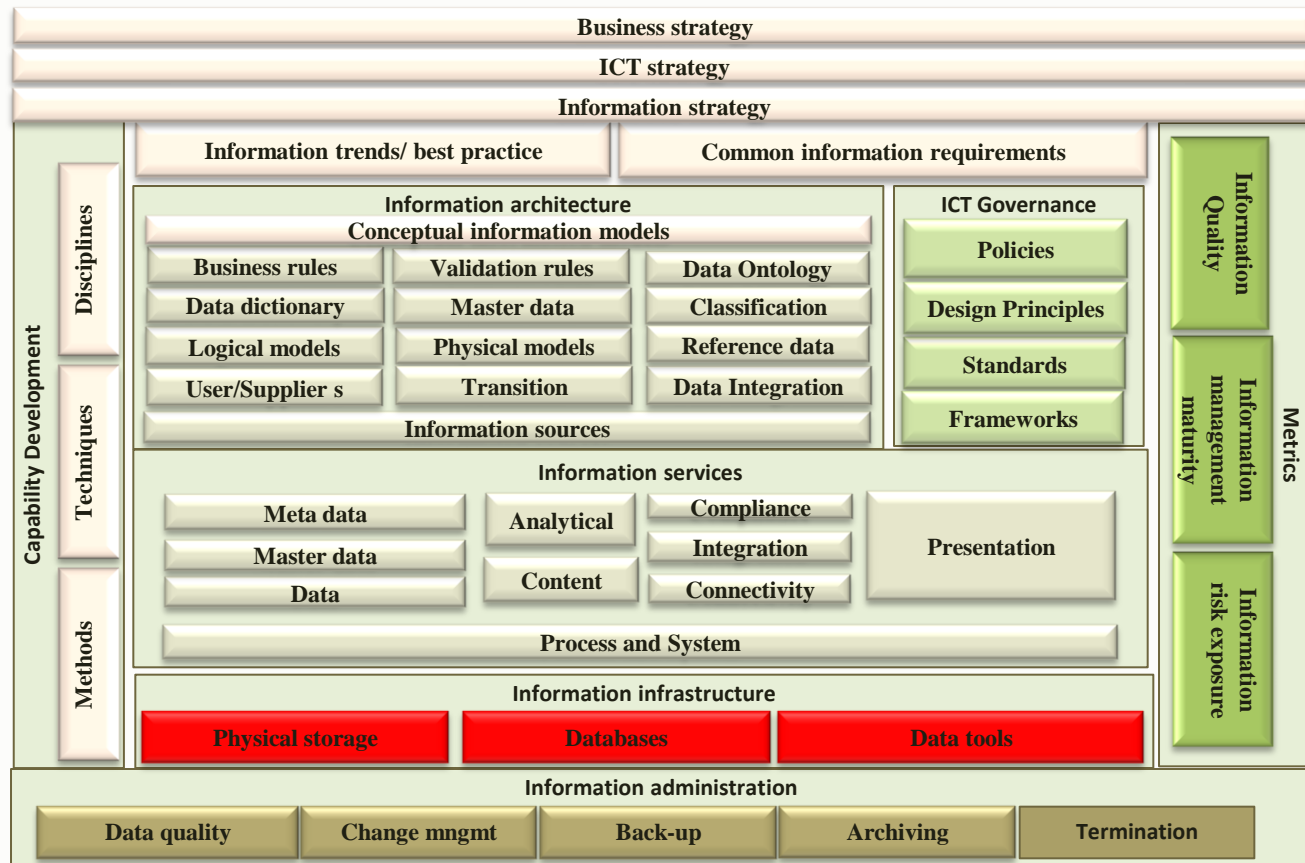
My Committee: Data model



Process integration



Information Infrastructure





Information infrastructure

Information security is not only about technology it must be supported by governance, physical security, the correct skills and most importantly users that take personal responsibility to ensure security.

Information security applies to 5 domains of information technologies.

Source:

IBM information security framework

The art of enterprise information architecture – IBM press

Components of information security



Information infrastructure

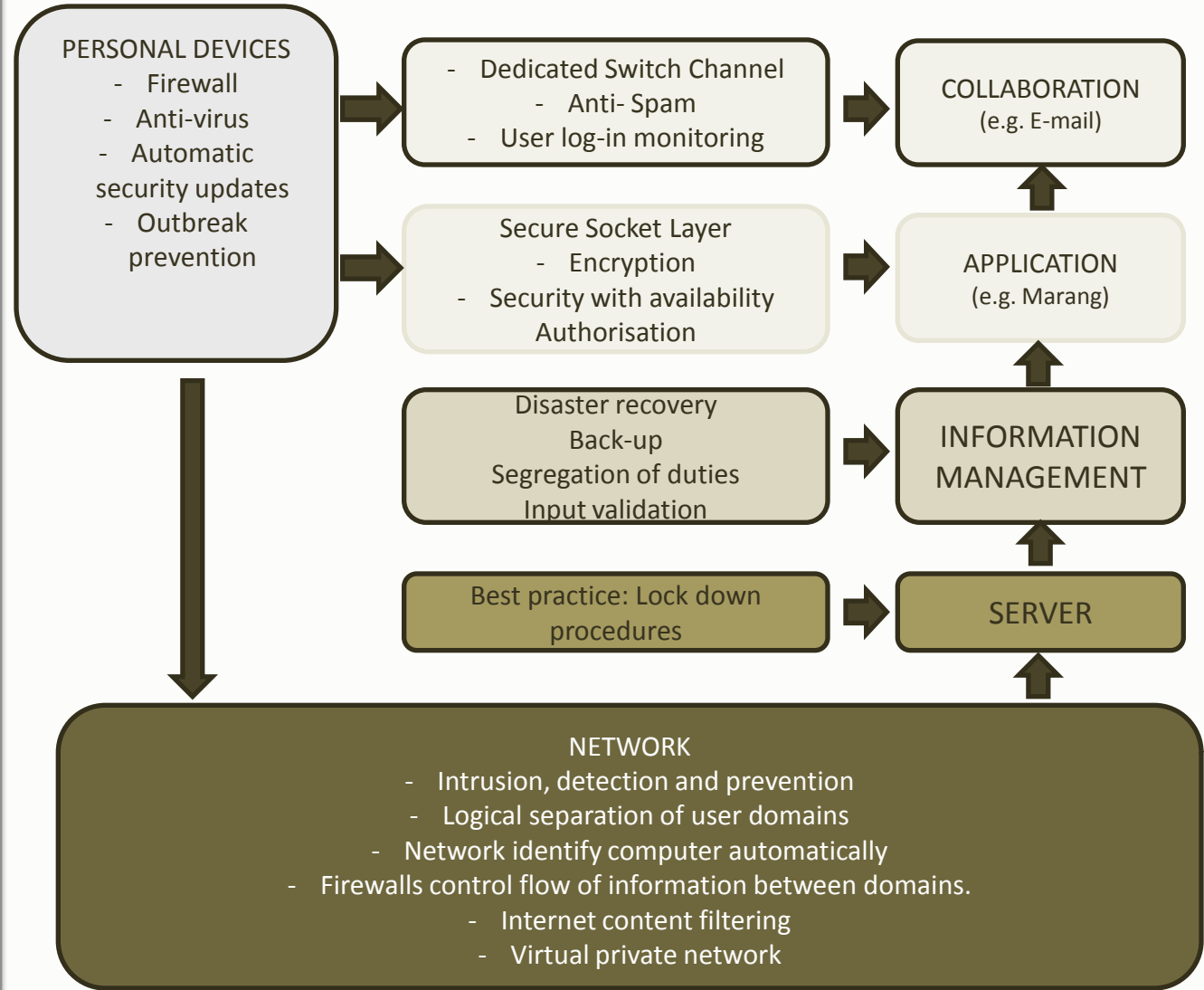
Information security begins by protecting the user's access point

The network controls activity once the user is signed in

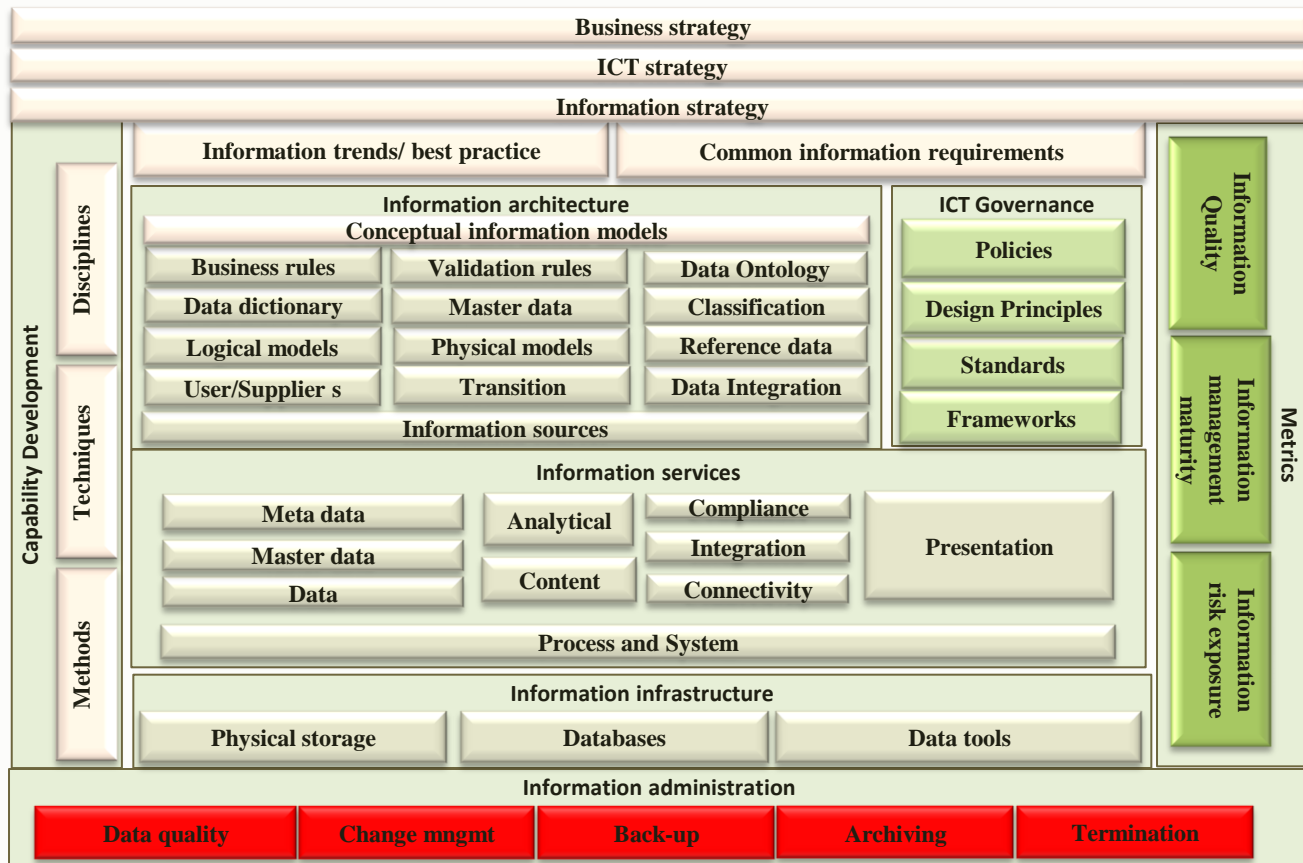
On application level additional security features are applied specific to that application.

Source:
ICT Operations: Network Administrator
MIS manager

Security framework

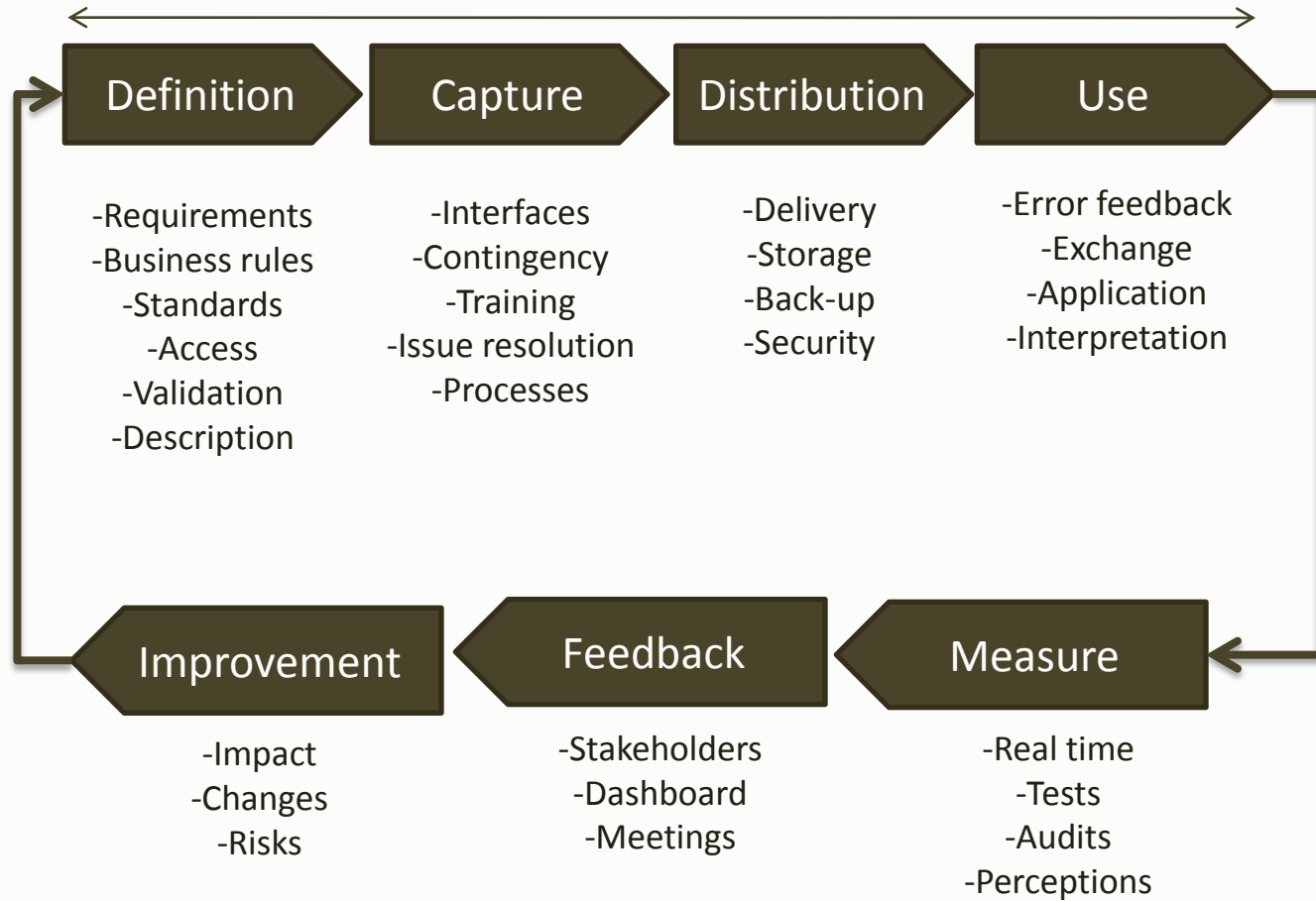


Information administration



Information quality

Data ownership



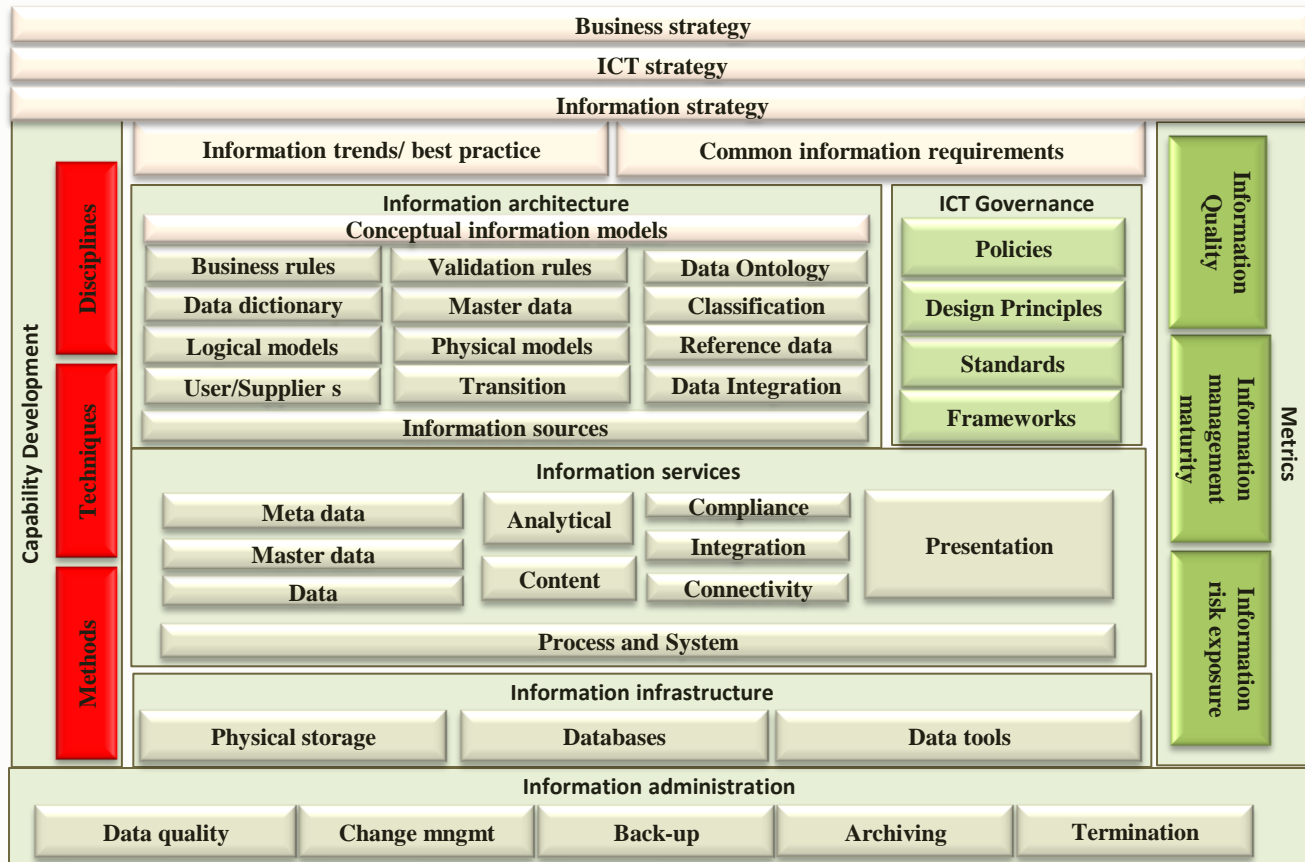
Data quality management must cover the whole information life cycle and it must be linked into a continuous improvement process.

Data quality must be consist of both hard objective and soft subjective measures.

“Checking the results of a decision against its expectations shows executives what their strengths are, where they need to improve, and where they lack knowledge or information” – Peter Drucker



Capability development



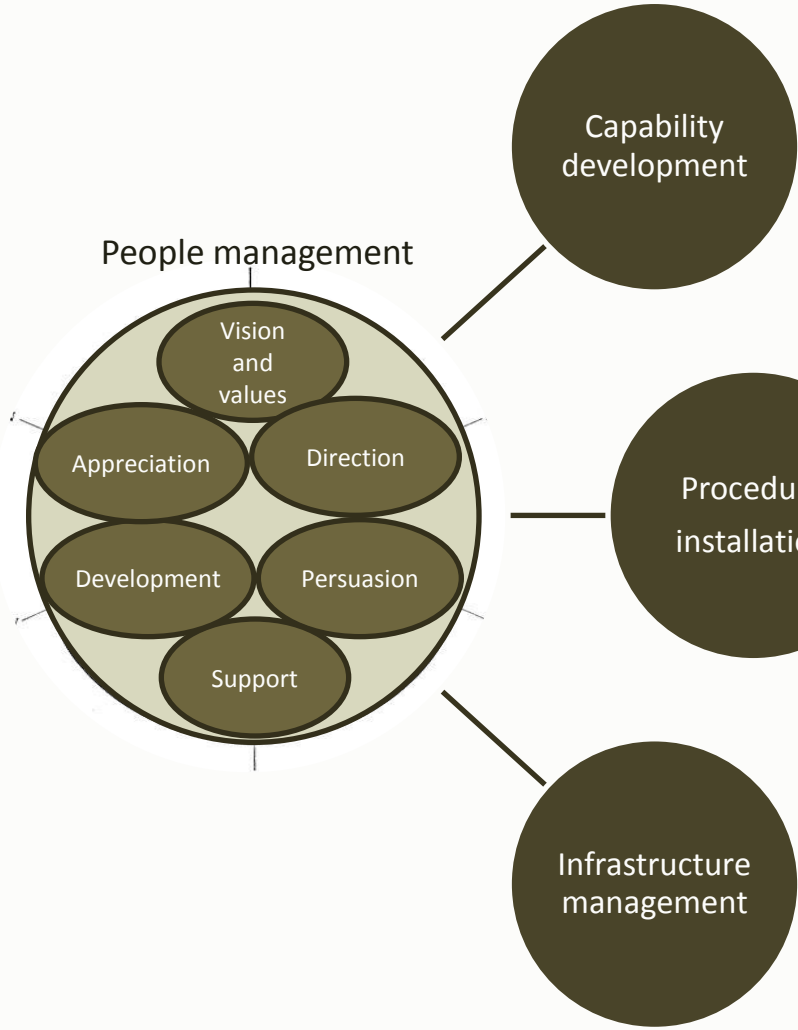
Resource Management

Information resource management ensures that information assets are adequately managed.

MIS management empowers the people enabling the information life cycle

The MIS manager builds capacity, installs procedures and secure infrastructure to manage information assets.

“Progress happens when somebody decides that a better way exists and influences others to find that better way.” P Drucker



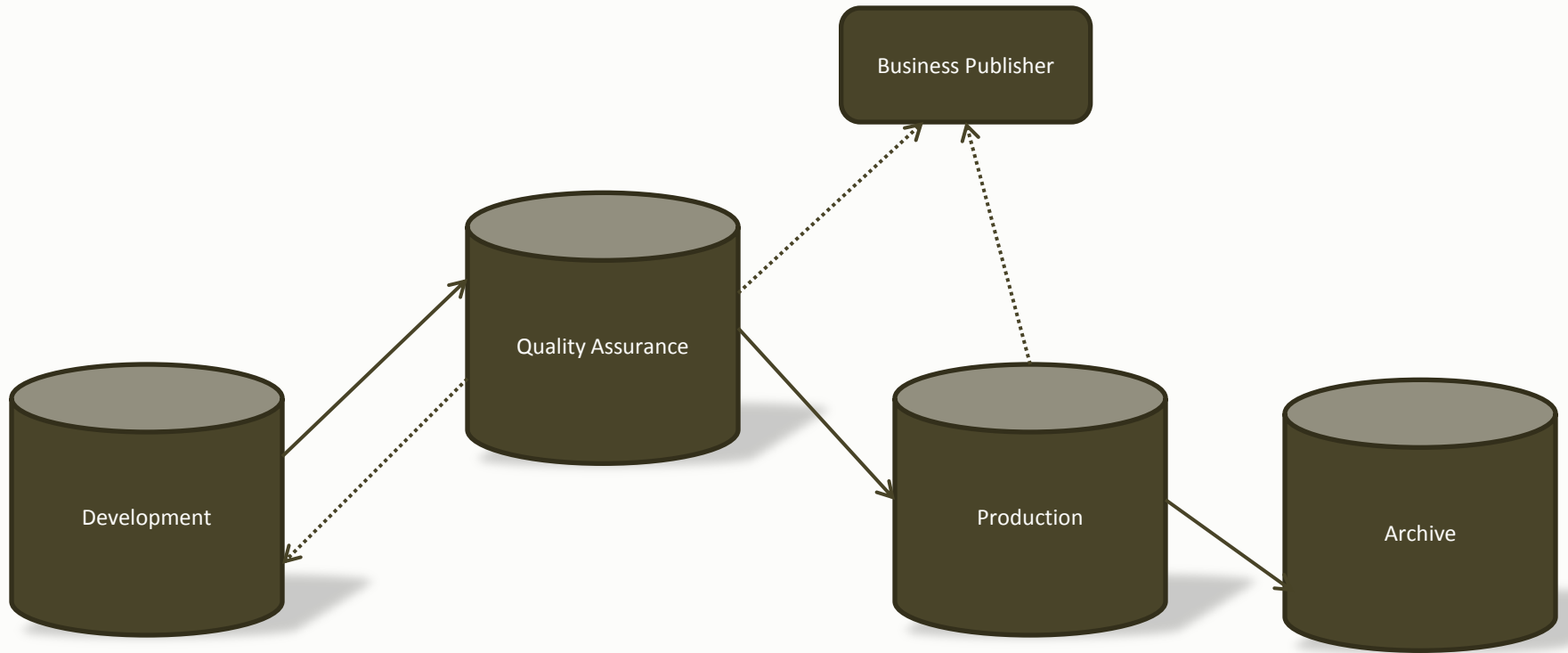
- Methods
- Techniques
- Disciplines

- Back-up
- Archiving
- Security

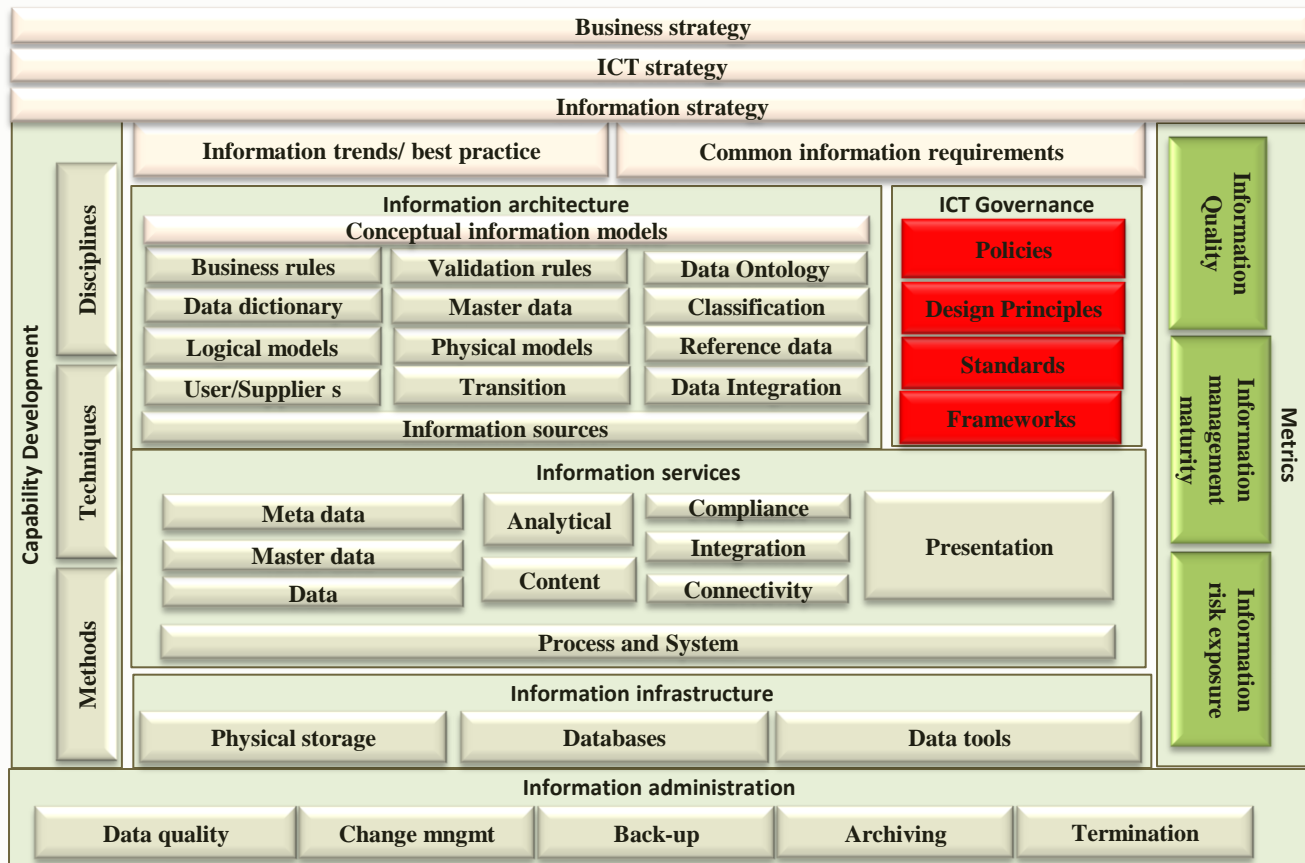
- Databases
- Data tools
- Integration



Quality Assurance Capability



ICT Governance



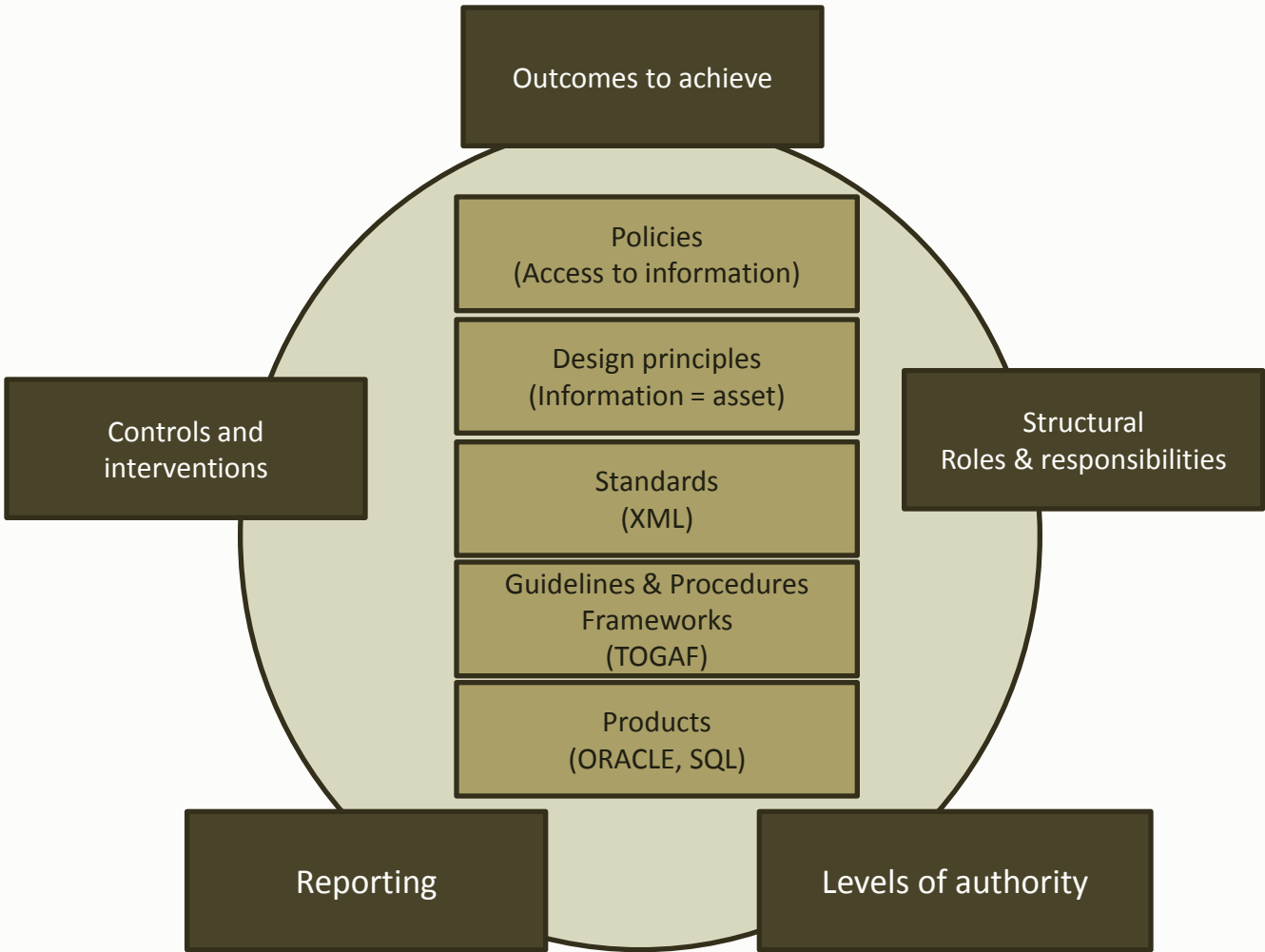
2B) LEADERSHIP

Governance ensures accountability and transparency in the decision making processes

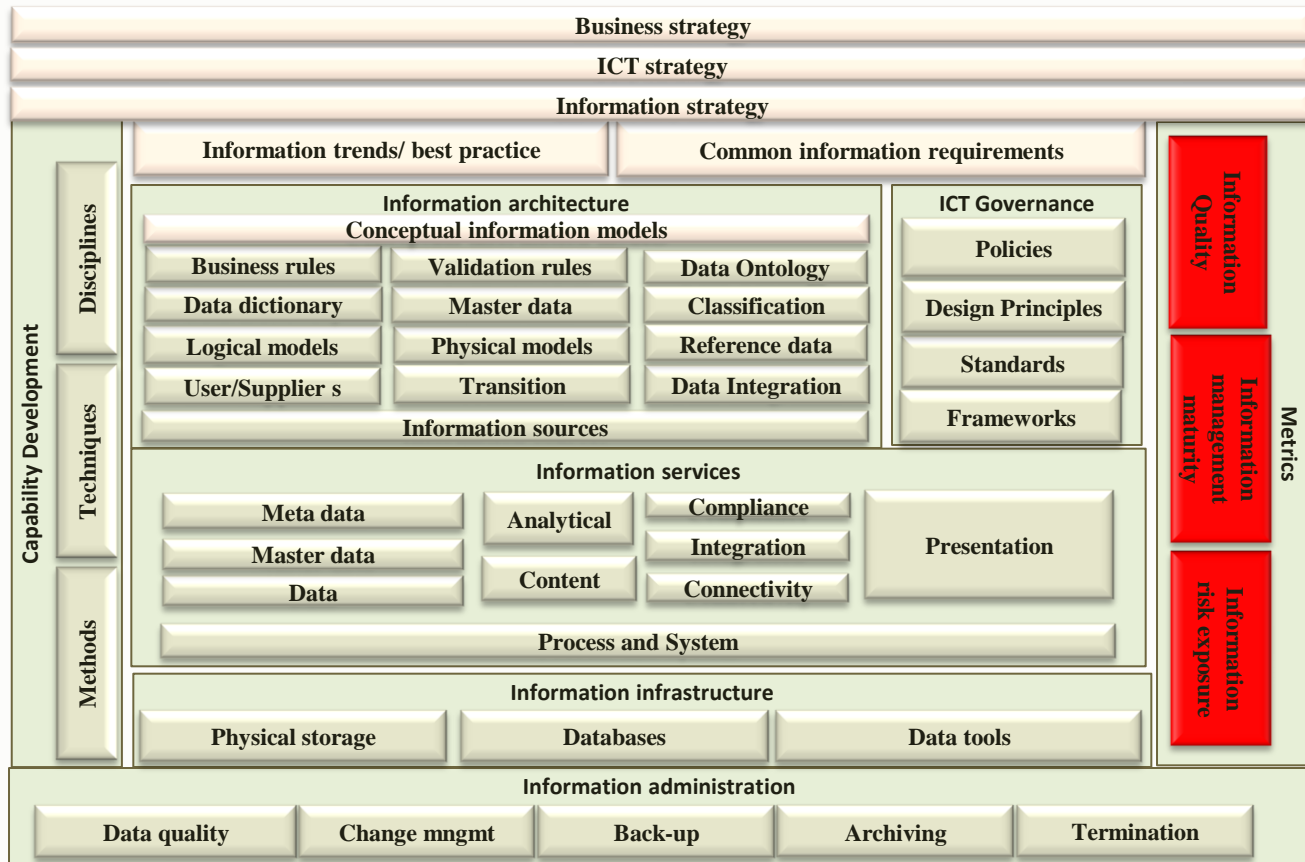
MIS management must ensure that the correct governance is in place by ensuring all governance levels are well defined and documented.

“Forward-thinking organizations are instituting processes to gain agreement on roles, responsibilities, policies, and procedures surrounding the maintenance of a single view of the entities needed for conducting business and measuring its performance,”
– Henry Morris

Governance



Performance Metrics



Performance metrics

The information management maturity assessment provides a method to identify Parliament's maturity in information management. Maturity is an indication of the proficiency with which Parliament manages and executes its operations in terms of each of the components in the information management framework.



Information maturity levels

- 0 Unaware:** The institution is not aware of the components nor is there any plans to address the particular component.
- 1 Initiated:** The institution is aware of a need but has not auctioned any activity to address the component
- 2 Developing:** The institution is in the process of establishing of developing the component but it has not yet reached a mature state of usage. If the component is in place it still has many inconsistencies across the institution.
- 3 Mature:** The principles and concepts associated with the component is known, well-defined and adhered to in a consistent manner.
- 4 Leverage:** The institution is able to innovate its business process and gain benefit from the implementation and utilisation of the information component that offers significant improvement in terms of cost and/or productivity gains
- 5 Master:** The information management component is an integral part of the organisation and considered to represent best practices and showing leadership in the industry in terms of the use of the particular management component.



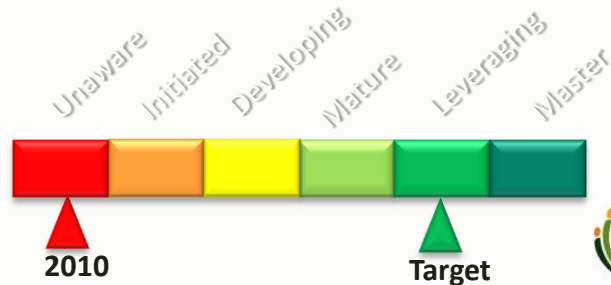
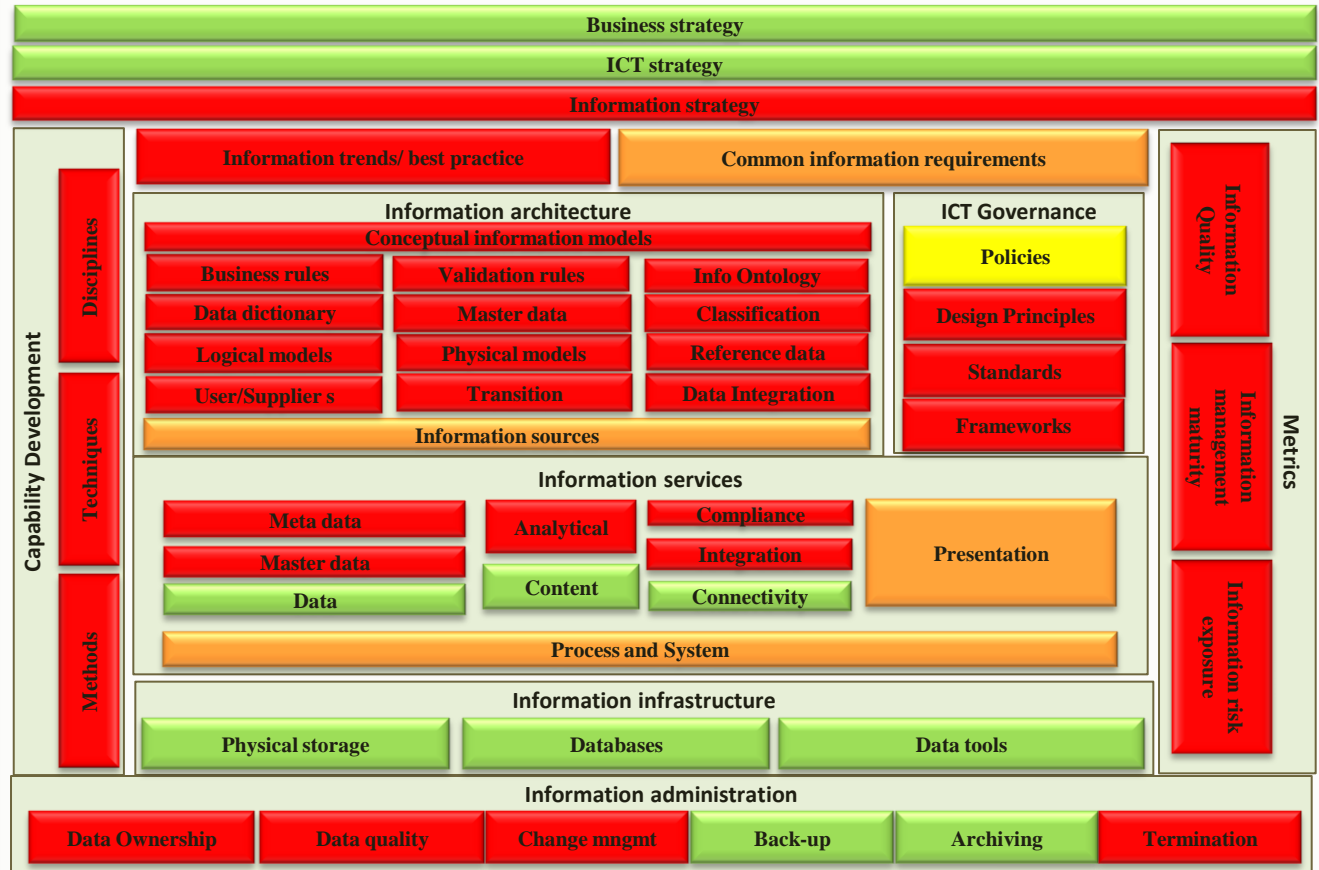
> Performance metrics

The information management framework as a whole must be established over time to ensure information integrity

Frequent evaluations of the maturity of all the components within the information framework is needed to show progress over time.

Baseline 15% maturity

2010



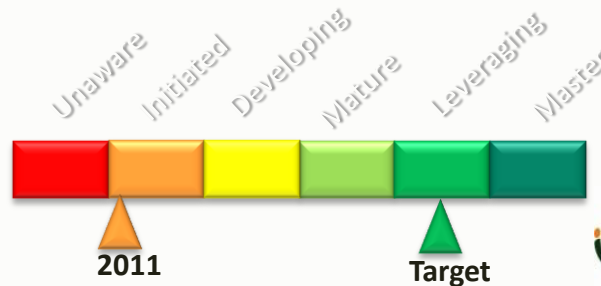
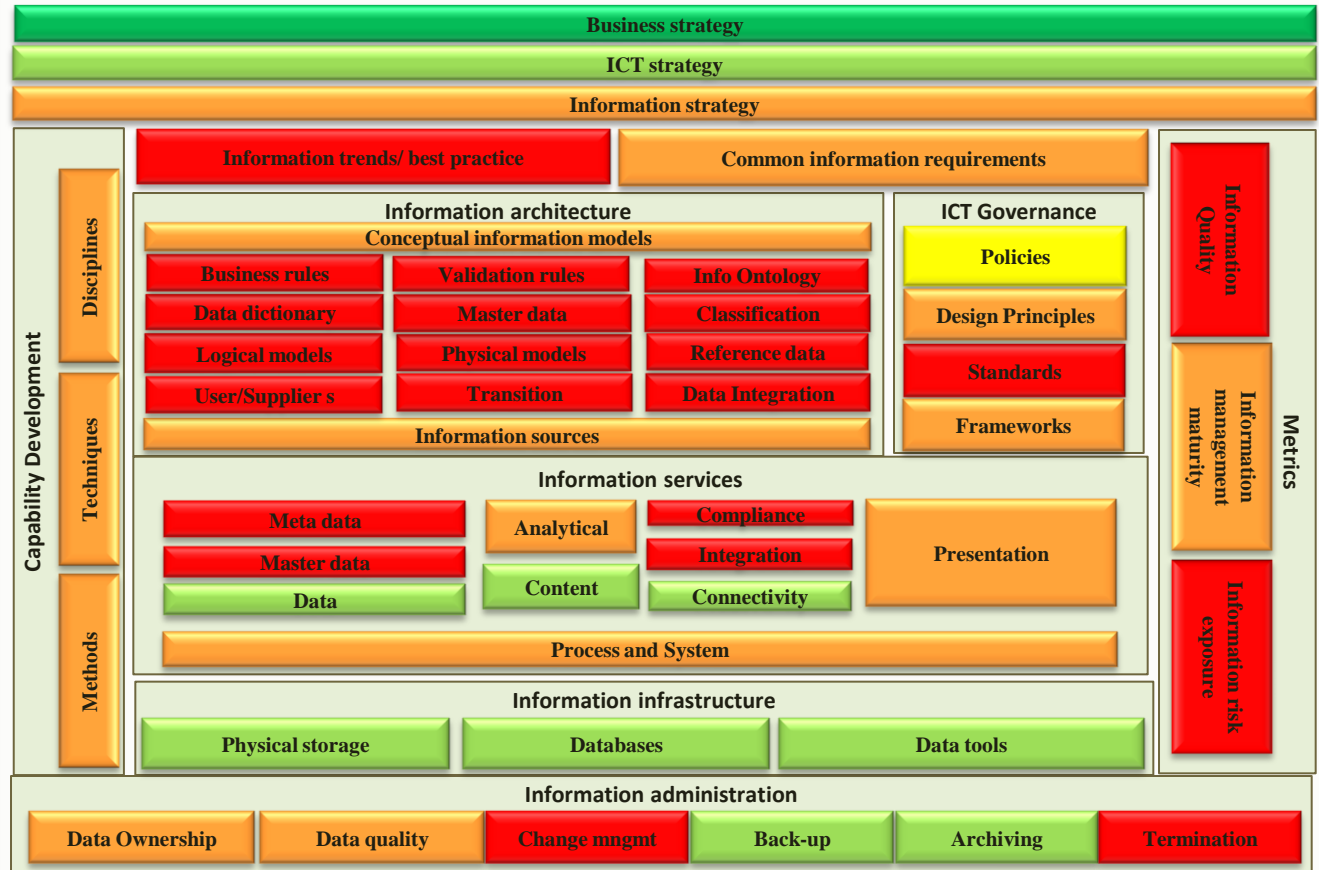
> Performance metrics

2011

In 2011 several initiatives were launched:

- Information strategy
- Conceptual information models
- Analytics
- Information maturity
- Data ownership

Achieved 20% information maturity
5% increase from previous year



> Performance metrics

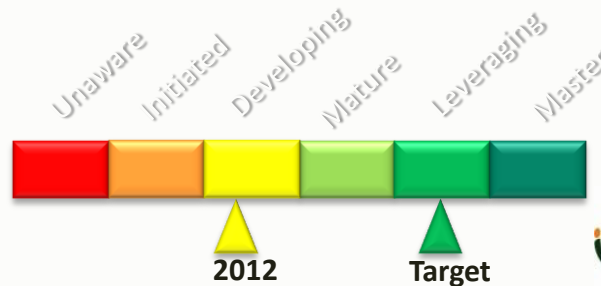
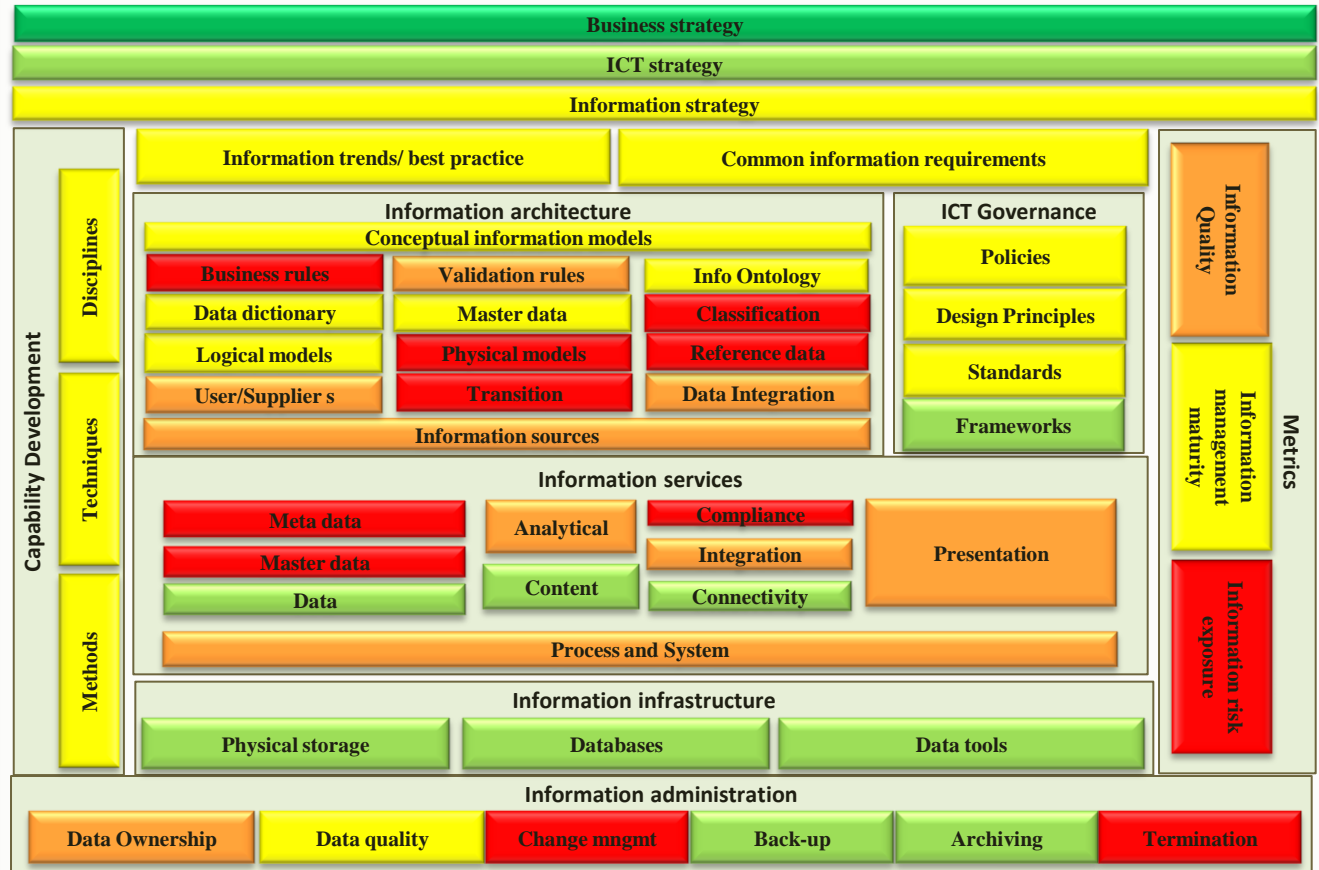
2012

2012: Begin to develop capability

- Information strategy
- Information modelling
- Information definition
- Trends/best practice tracking
- Design principles

Achieved 31.7% information maturity

Improvement 11.7% improvement

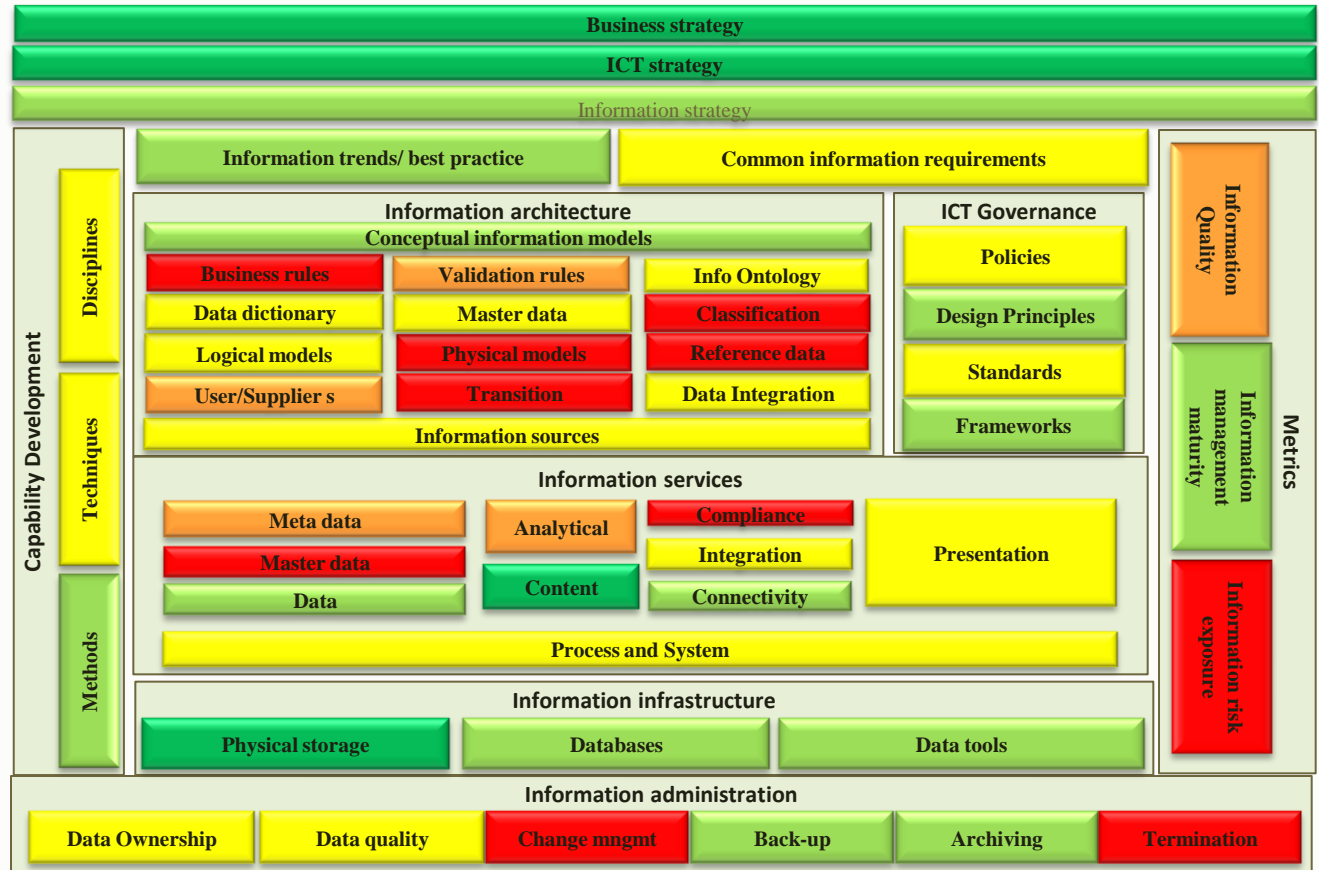


> Performance metrics

2013

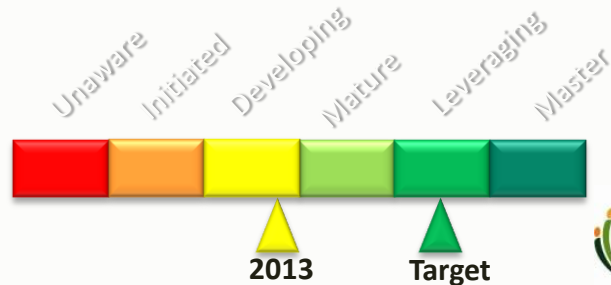
- 2013: Leverage ICT strategy
- Initiate implementation of integration layer
- Upgrade SAN
- Multiple conceptual information models linked to processes
- Begin to develop standards

- Achieved 38.3% information maturity
- Improvement 6.6% improvement



Capability Development
Disciplines
Techniques
Methods

Metrics
Information Quality
Information management maturity
Information risk exposure



Performance metrics

48 components are being evaluated in terms of maturity

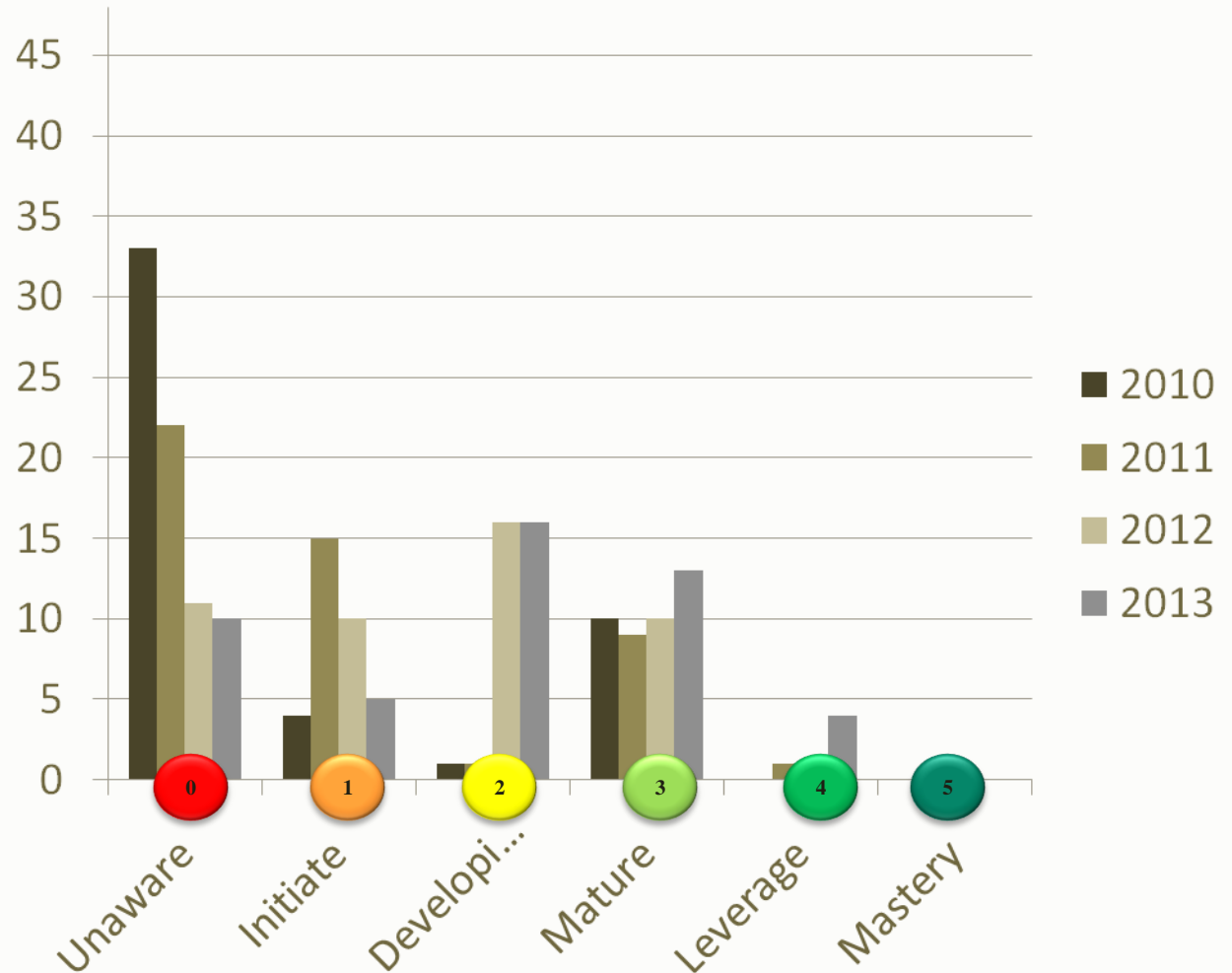
2010: Unaware

2011: Initiating

2012: Developing



Information maturity levels



Performance metrics

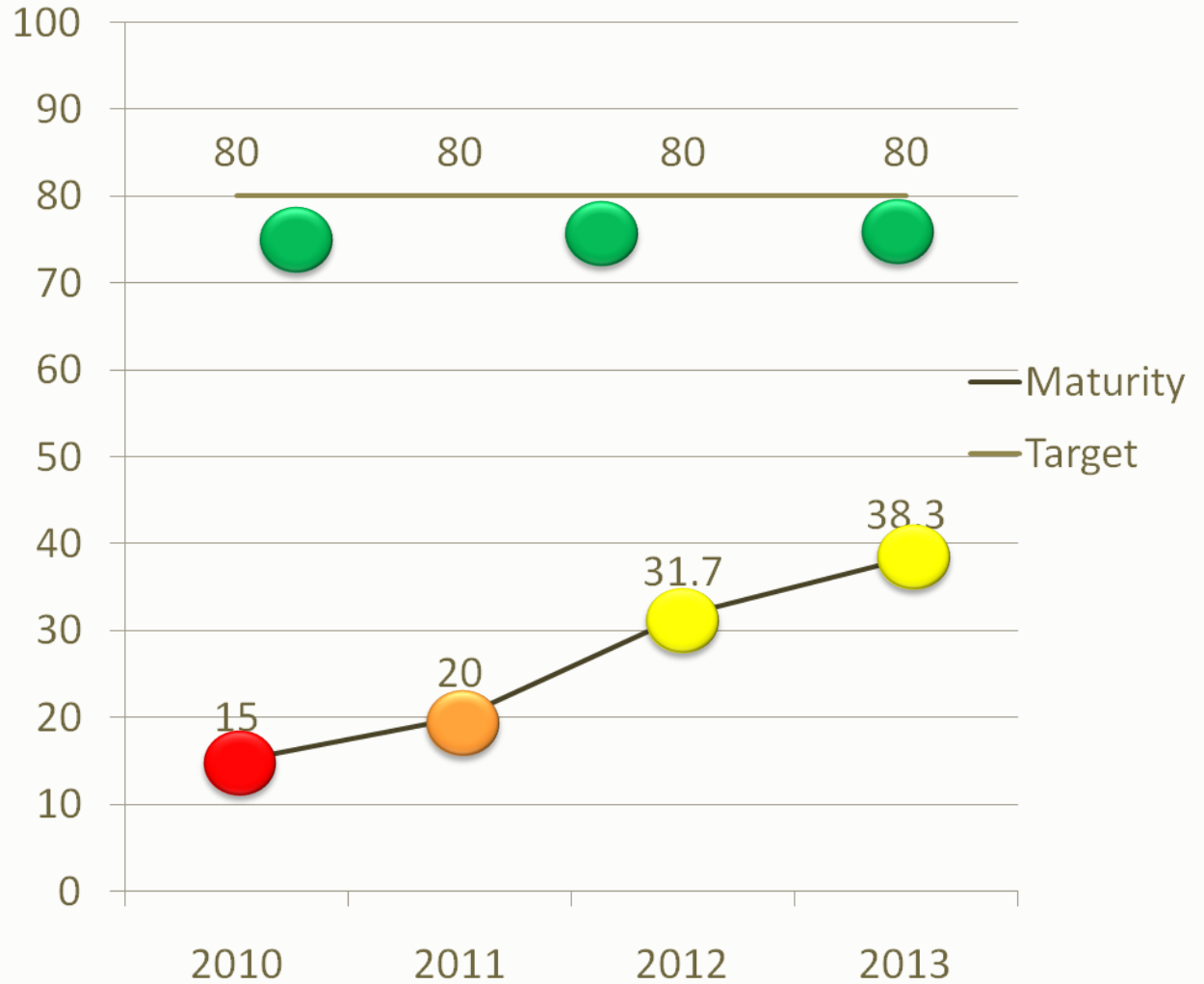
48 components

All mastery = $48 \times 5 = 240$

Maturity % = number components x value of maturity level.

Although maturity is low the maturity has doubled in value.

Maturity improvement



5) Conclusion

It can be argued that in the age of the Information Society, the ability of parliaments to fulfil their responsibilities as representatives of the people and to attain the highest levels of openness requires the effective and creative application of ICT in their daily work.

- 2010 World e-Parliament Report

2002, Celent Communication analysis shows:

20-30 % increase in project efficiencies

20%-30% reduction in integration costs

60% efficiency improvement integrating with external parties

Technical Benefits

- *More leverage from existing IT investments*
- *Agility to adapt quicker to change*
- *Traceability and transparency of information*
- *Faster information provisioning*
- *Sustainability of Information solutions*
- *Better coordination between IT projects*
- *Interoperability between IT systems*
- *Standards reduce time and cost of implementation*

