Driving Innovation Through ICT Maturity Assessment in Public Sector

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The Current Malaysian Public Sector ICT Environment

- A Public Sector ICT Study conducted in 2010 concluded that agencies are aware that comprehensive ICT Planning is essential in achieving sound ICT Management Practices.

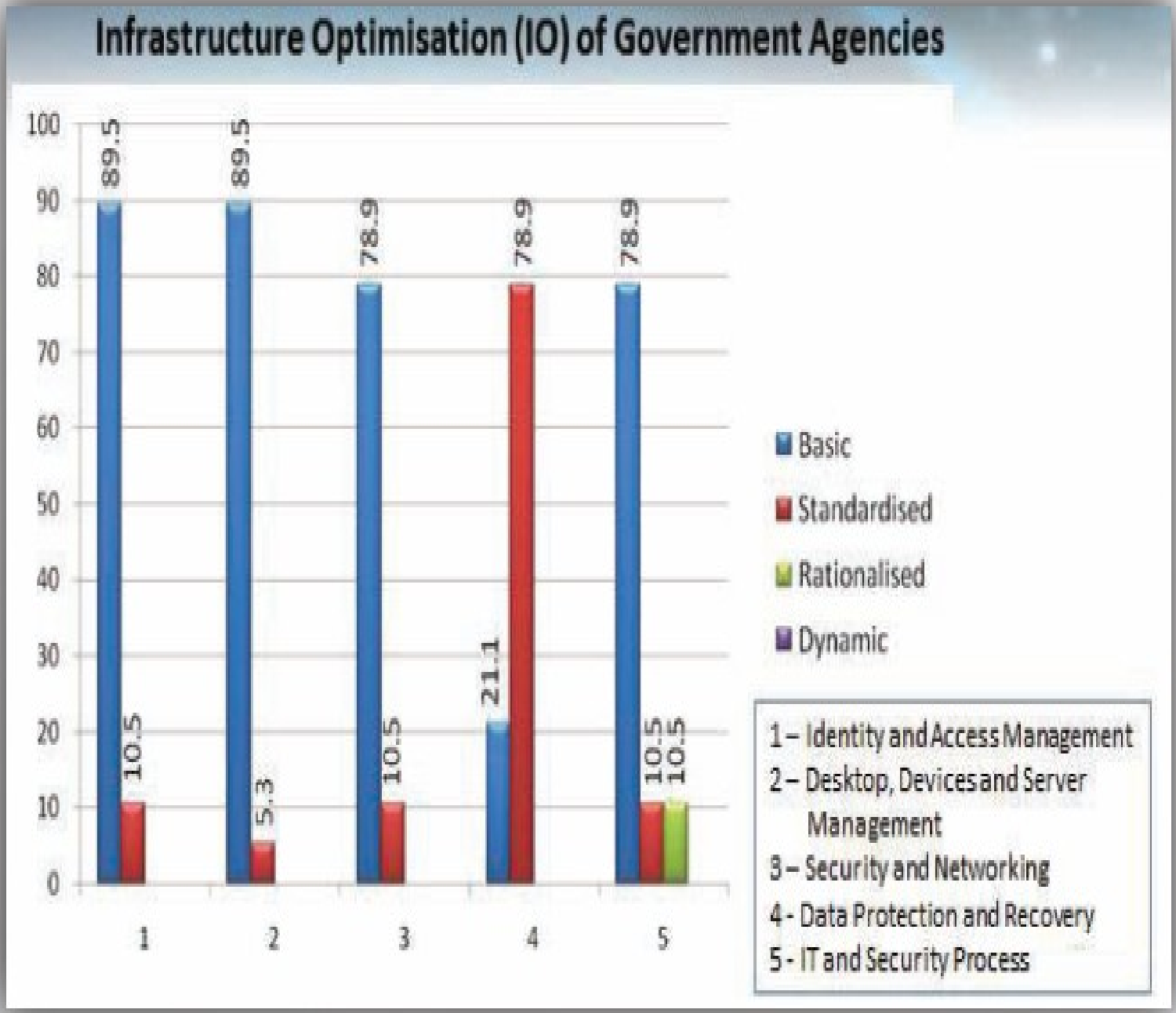
(Source: The Malaysian Public Sector ICT Strategic Plan)

OVERALL AGENCIES PROCESS MATURITY LEVELS

The process selected for this assessment was based on ITIL (Information Technology Infrastructure Library) Service Management processes. The Acculturation & Capacity building was included in this assessment to assess the human element of agencies from a skills and capacity perspective

(Source: The Malaysian Public Sector ICT Strategic Plan)

Infrastructure Optimisation (IO) of Government Agencies



(Source: The Malaysian Public Sector ICT Strategic Plan)

Gartner on External Assessments

By 2015, most external assessments of enterprise value and viability will include explicit analysis of IT assests and capabilities.

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(Source: Gartner Webinar)

Enhancing Organisational Performance

- ICT can support business process improvement.
- But, how well does ICT support business needs?
- There is a need for a measurement driven framework to assess ICT performance.

Elements of A Proposed Framework for ICT Assessment

- Alignment with business
- Optimisation of IT resources
- Process orientation
  - ICT Planning
  - ICT Implementation
  - ICT Support
  - Knowledge Sharing
- Project and risk management controls
- Benefits realisation

Established Industry ICT Control Frameworks

- **COBIT-** Control Objectives for Information and Related Technology
- **PRINCE2 -** Projects in Controlled Environment 2
- **ITIL -** IT Industry Library
- **TOGAF -** The Open Group Architecture Framework

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PRINCIPLES OF ICT CONTROL

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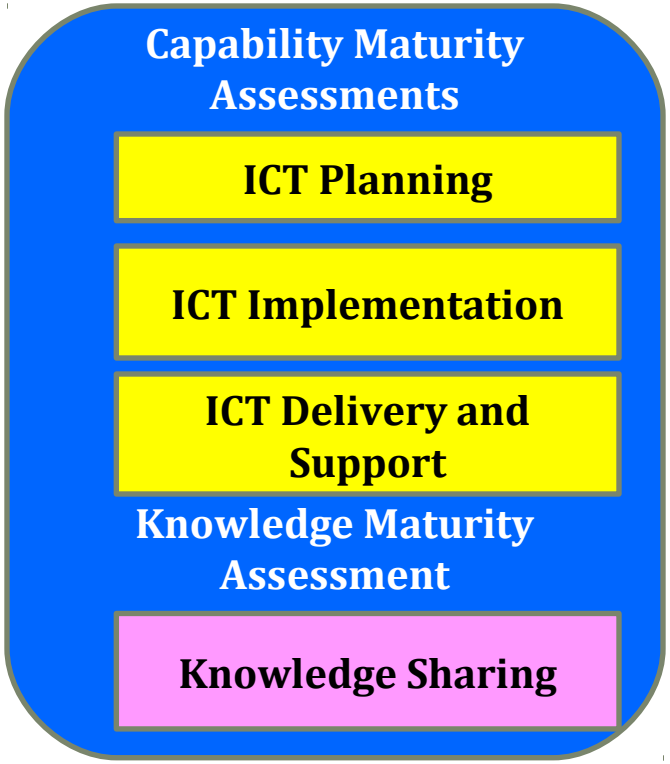
BUILDING ON COBIT CRITERIA FOR ICT GOVERNANCE



A Proposed
ICT Process Maturity Assessment Framework

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MEASUREMENT-DRIVEN

Where are we? Where is improvement required?

COBIT provides:

- **Maturity models**
  - **Benchmarking**
  - **Capability improvements**
- **Performance goals and metrics**
  - **How processes meet business and IT goals**
  - **Internal process performance**
  - **(balanced scorecard principles)**
- **Activity goals**
  - **Enabling effective process performance**

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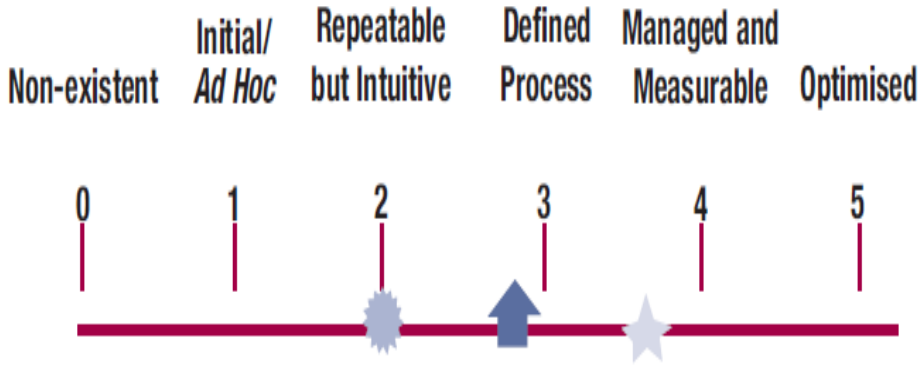
MATURITY MODELS



LEGEND FOR SYMBOLS USED

- Enterprise current status
- Industry average
- Enterprise target

LEGEND FOR RANKINGS USED

0—Management processes are not applied at all.
1—Processes are *ad hoc* and disorganised.
2—Processes follow a regular pattern.
3—Processes are documented and communicated.
4—Processes are monitored and measured.
5—Good practices are followed and automated.

Graphic Representation of Maturity Models

MATURITY MODELS

0 Non-existent—Complete lack of any recognisable processes. The enterprise has not even recognised that there is an issue to be addressed.

1 Initial/*Ad Hoc*—There is evidence that the enterprise has recognised that the issues exist and need to be addressed. There are, however, no standardised processes; instead, there are *ad hoc* approaches that tend to be applied on an individual or case-by-case basis. The overall approach to management is disorganised.

2 Repeatable but Intuitive—Processes have developed to the stage where similar procedures are followed by different people undertaking the same task. There is no formal training or communication of standard procedures, and responsibility is left to the individual. There is a high degree of reliance on the knowledge of individuals and, therefore, errors are likely.

3 Defined Process—Procedures have been standardised and documented, and communicated through training. It is mandated that these processes should be followed; however, it is unlikely that deviations will be detected. The procedures themselves are not sophisticated but are the formalisation of existing practices.

4 Managed and Measurable—Management monitors and measures compliance with procedures and takes action where processes appear not to be working effectively. Processes are under constant improvement and provide good practice. Automation and tools are used in a limited or fragmented way.

5 Optimised—Processes have been refined to a level of good practice, based on the results of continuous improvement and maturity modelling with other enterprises. IT is used in an integrated way to automate the workflow, providing tools to improve quality and effectiveness, making the enterprise quick to adapt.

Generic Maturity Model

A Proposed ICT Process Maturity Assessment Framework

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ICT PROCESS MATURITY ASSESSMENT

Capability Maturity Assessments	
1	**ICT Planning**
	1.1 Define a Strategic IT Plan
	1.2 Define the Information Architecture
	1.3 Manage the IT Investment
	1.4 Manage Projects
2	**ICT Implementation**
	2.1 Acquire and Maintain Application Software
	2.2 Acquire and Maintain Technology Infrastructure
	2.3 Enable Operation and Use
3	**ICT Delivery and Support**
	3.1 Define and Manage Service Levels
	3.2 Educate and Train Users
4	**Knowledge Sharing**

ICT PROCESS MATURITY ASSESSMENT

Examples for ICT PLANNING - Define a Strategic IT Plan

- Sample questions:

Level 2 - Updating of the IT plans occurs in response to requests by management.

Level 3 - IT strategic planning is discussed at business management meetings.

Level 4 – Management is able to monitor the IT strategic planning process, make informed decisions based on it and measure its effectiveness.

ICT PROCESS MATURITY ASSESSMENT

Examples for ICT PLANNING – Manage Projects

- Sample questions:

Level 2 - Senior management gains and communicates an awareness of the need for IT project management.

Level 3 - Senior IT and business management are beginning to be committed and involved in the management of IT projects.

Level 4 – There is strong and active project support from senior management sponsors as well as stakeholders.

Example of ICT Planning Assessment Criteria : Strategic IT Plan

No.	Statement	Exceeded
Level 0 – Non-existent		
1.	IT strategic planning is not performed.	Yes/No
2.	There is no management awareness that IT strategic planning is needed to support business goals.	Yes/No
Level 1 – Initial/Ad Hoc		
3.	The need for IT strategic planning is known by IT management.	Yes/No
4.	IT planning is performed on an as-needed basis in response to a specific business requirement.	Yes/No
5.	The alignment of business requirements, applications and technology takes place reactively rather than by an organization wide strategy.	Yes/No
6.	The strategic risk position is identified informally on a project-by-project basis.	Yes/No
Level 2 – Repeatable but Intuitive		
7.	IT strategic planning is shared with business management on an as-needed basis.	Yes/No
8.	Updating of the IT plans occurs in response to requests by management.	Yes/No
9.	Strategic decisions are driven on a project-by-project basis without consistency with an overall organisation strategy.	Yes/No
10.	The risks and user benefits of major strategic decisions are recognized in an intuitive way.	Yes/No
Level 3 - Defined		
11.	A policy defines when and how to perform IT strategic planning.	Yes/No
12.	IT strategic planning follows a structured approach that is documented and known to all staff.	Yes/No
13.	The IT planning process is reasonably sound and ensures that appropriate planning is likely to be performed.	Yes/No
14.	However, discretion is given to individual managers with respect to implementation of the process, and there are no procedures to examine the process.	Yes/No
15.	IT strategic planning is discussed at business management meetings.	Yes/No

Example of ICT Planning Assessment Criteria : Strategic IT Plan

Level 4 – Managed and Measurable		
16.	IT strategic planning is standard practice and exceptions would be noticed by management.	Yes/No
17.	IT strategic planning is a defined management function with senior-level responsibilities.	Yes/No
18.	Management is able to monitor the IT strategic planning process, make informed decisions based on it and measure its effectiveness.	Yes/No
19.	Both short-range and long-range IT planning occurs and is cascaded down into the organization, with updates done as needed.	Yes/No
20.	There is a well-defined process for determining the usage of internal and external resources required in system development and operations.	Yes/No
Level 5 – Optimised		
21.	IT strategic planning is a documented, living process; is continuously considered in business goal setting; and results in discernible business value through investments in IT.	Yes/No
22.	Risk and value-added considerations are continuously updated in the IT strategic planning process.	Yes/No
23.	Realistic long-range IT plans are developed and constantly updated to reflect changing technology and business-related developments.	Yes/No
24.	Benchmarking against well-understood and reliable industry norms takes place and is integrated with the strategy formulation process.	Yes/No
25.	The strategic plan includes how new technology developments can drive the creation of new business capabilities and improve the competitive advantage of the organization.	Yes/No

ICT Process Capability Maturity Assessment Toolkit

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Toolkit as Innovation

- Toolkit available on the web for self assessment by agencies.
- Assessment criteria derived from COBIT (9 out of 34 ICT COBIT processes were selected)
- Knowledge sharing assessment added to the toolkit.
- Cluster the interpretation of the criteria.
- Determination of level based on %(pre-determined) of criteria complied.
- Automatic computation of level achieved.
- Agencies results can be displayed individually, e.g. dashboard.
- Maturity levels indicate capability gaps.
- Recommendations provided to agencies to remedy gaps.
- Gap analysis helps agencies benchmark against best practices.
- ICT benchmarking can enhance performance and service delivery.

TOOLKIT WEB INTERFACE

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EVALUATION CRITERIA :
IT STRATEGIC PLANNING (EXAMPLE)

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EVALUATION CRITERIA :
INFORMATION ARCHITECTURE (EXAMPLE)

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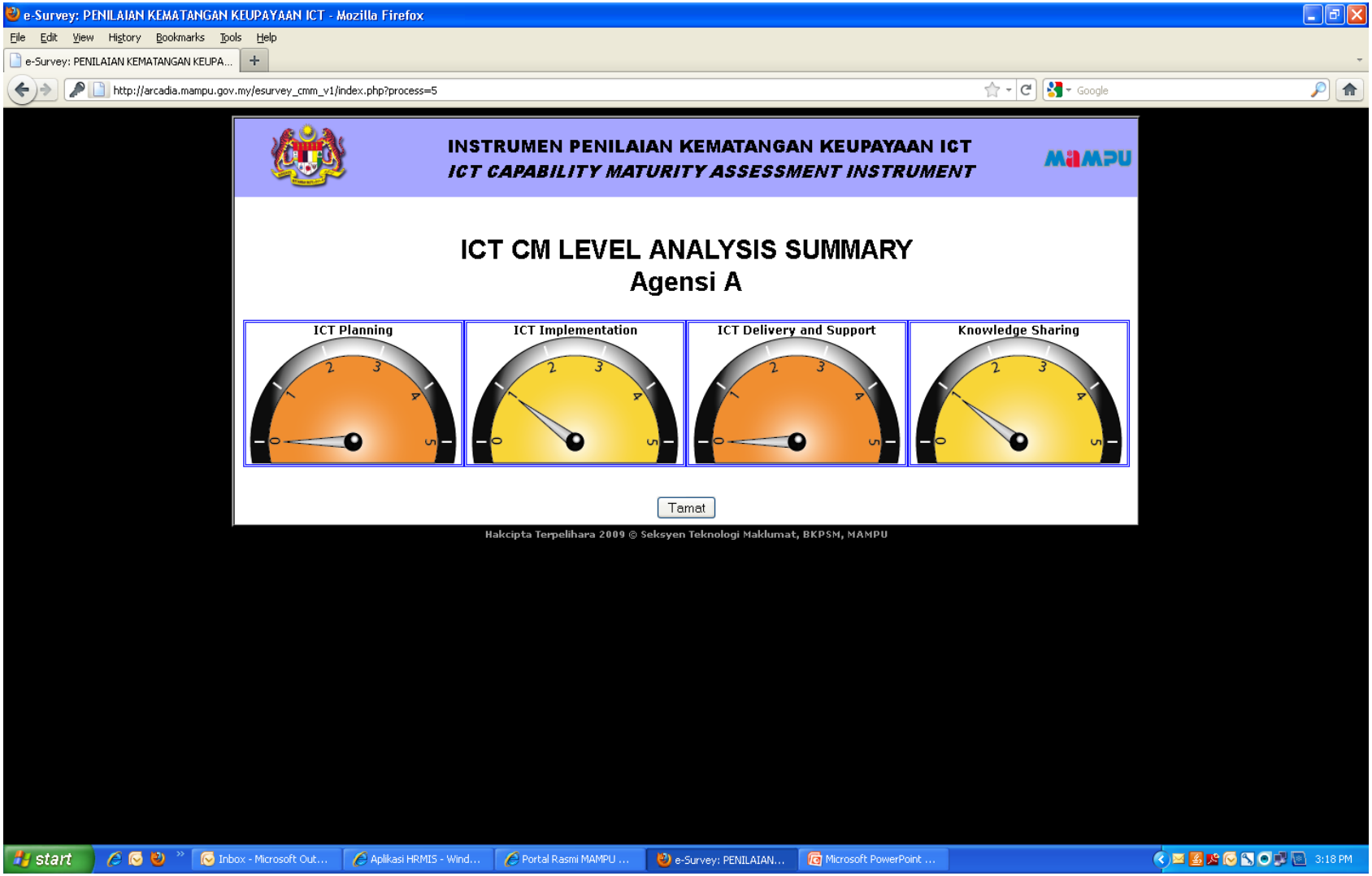
ICT CAPABILITY MATURITY DASHBOARD



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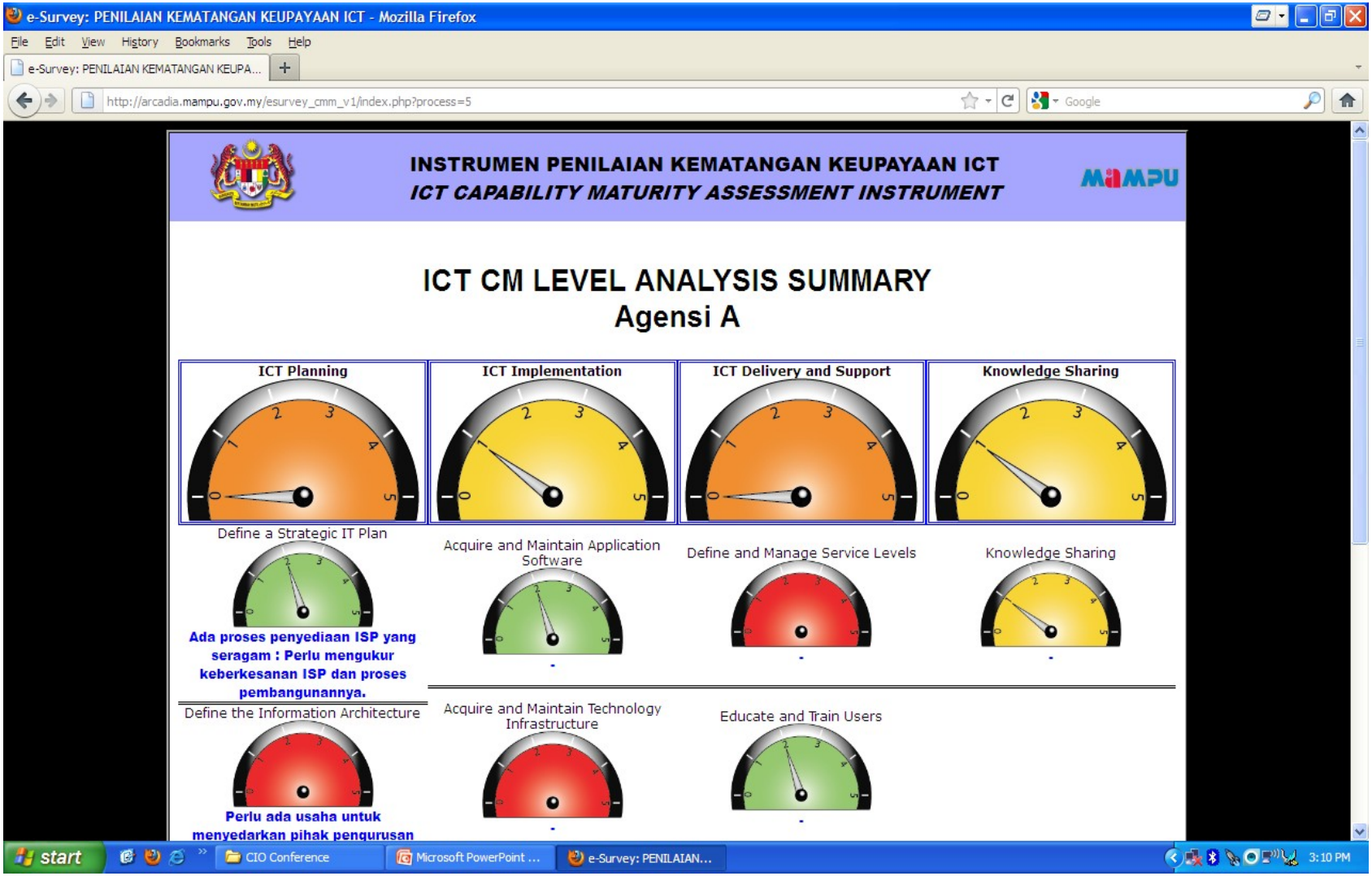
ICT CAPABILITY MATURITY GAP ANALYSIS AND RECOMMENDATIONS



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TOOLKIT NOW AVAILABLE

URL:http://arcadia.mampu.gov.my/esurvey_cmm_v1/login.php?

Project developed as a seamless collaboration between

PPICT and STM, BKPSM, MAMPU

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Pilot Assessment:
ICT Capability Maturity Criteria Assessment
MyGDI Geospatial Agencies

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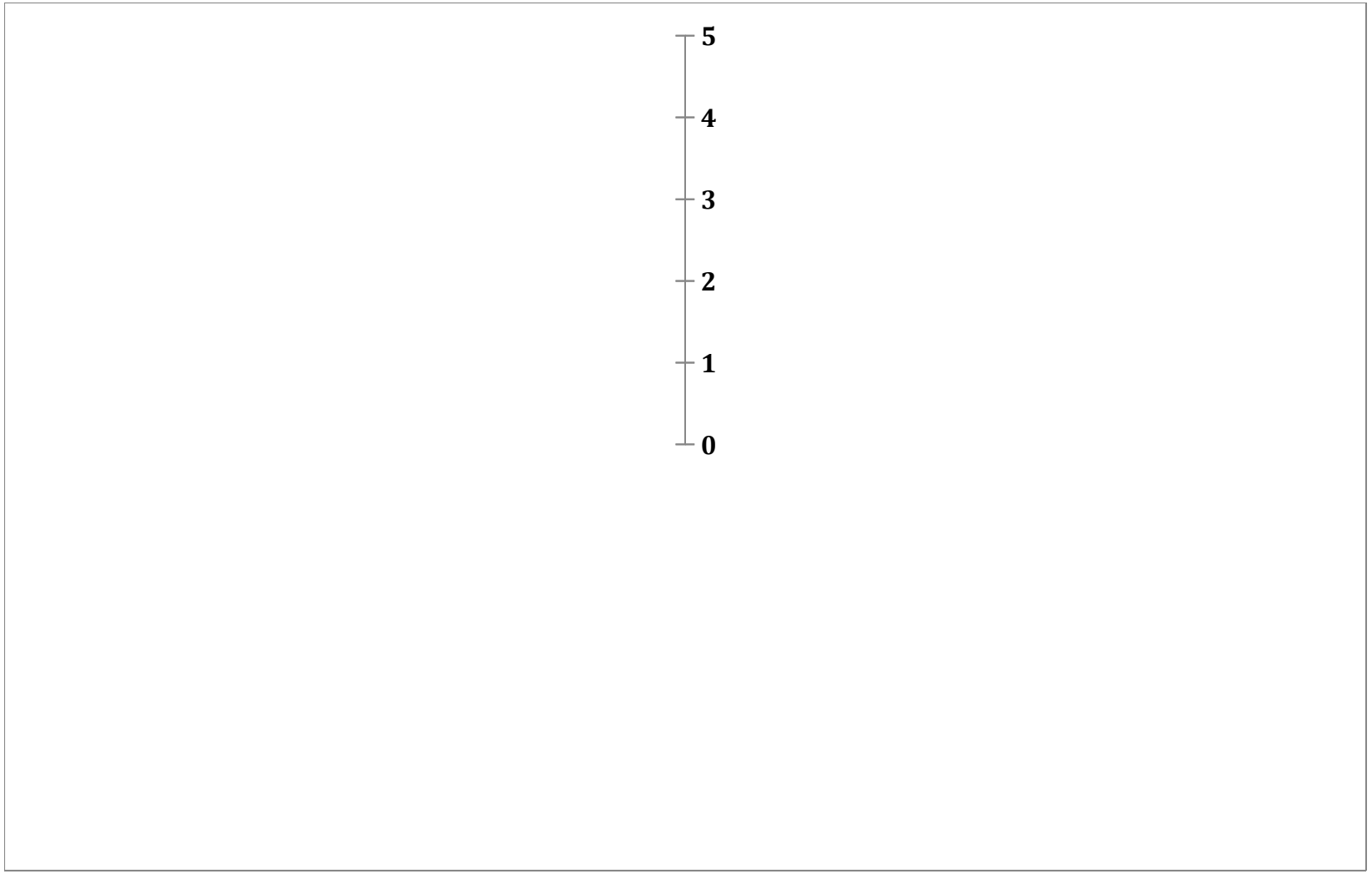
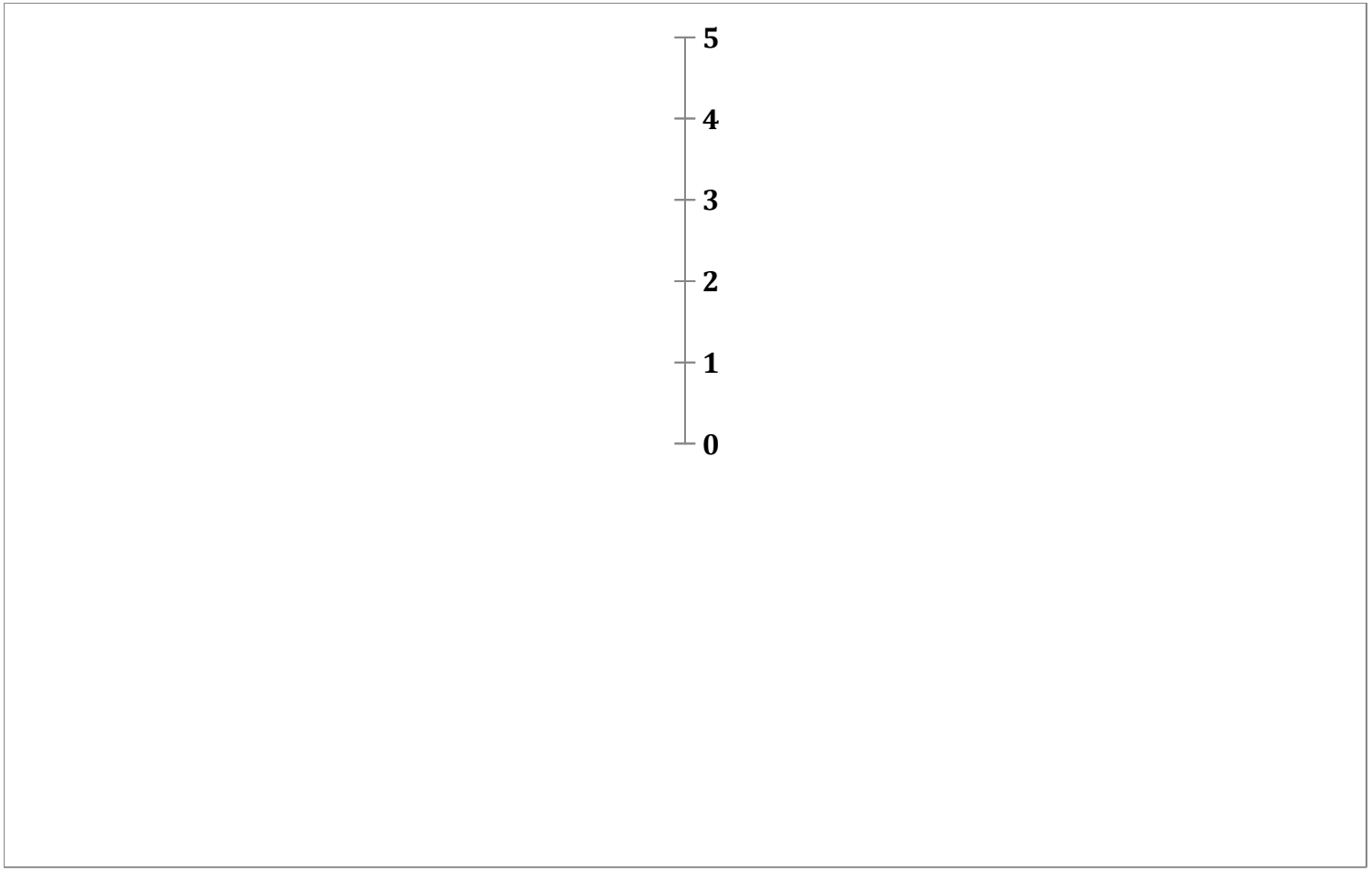
GEOSPATIAL RELATED AGENCIES : FEDERAL



GEOSPATIAL RELATED AGENCIES : STATE



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Implications of Toolkit for CIOs

CIOs need to consider evaluating ICT processes:

- **Assess ICT alignment to business**
- **Analyze gaps**
- **Recommendations for ICT process improvement**

Conclusion

- ICT is a tool that supports business performance.
- However, ICT processes also need to be measured to ensure optimum performance enhancement.
- Hence, toolkit represents an innovation in the self -assessment of ICT performance.

TERIMA KASIH

"TOGETHER WE TRANSFORM"

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