THE MALAYSIAN PUBLIC SECTOR
ICT STRATEGIC PLAN

POWERING PUBLIC SECTOR DIGITAL TRANSFORMATION

2011-2015

"People First, Performance Now"

7 July 2011

THE MALAYSIAN
PUBLIC SECTOR ICT STRATEGIC PLAN

Powering Public Sector Digital Transformation

This document describes the strategic intent and direction of ICT in the Public Sector toward enabling pervasive use of ICT for citizen centric and whole of government service delivery.
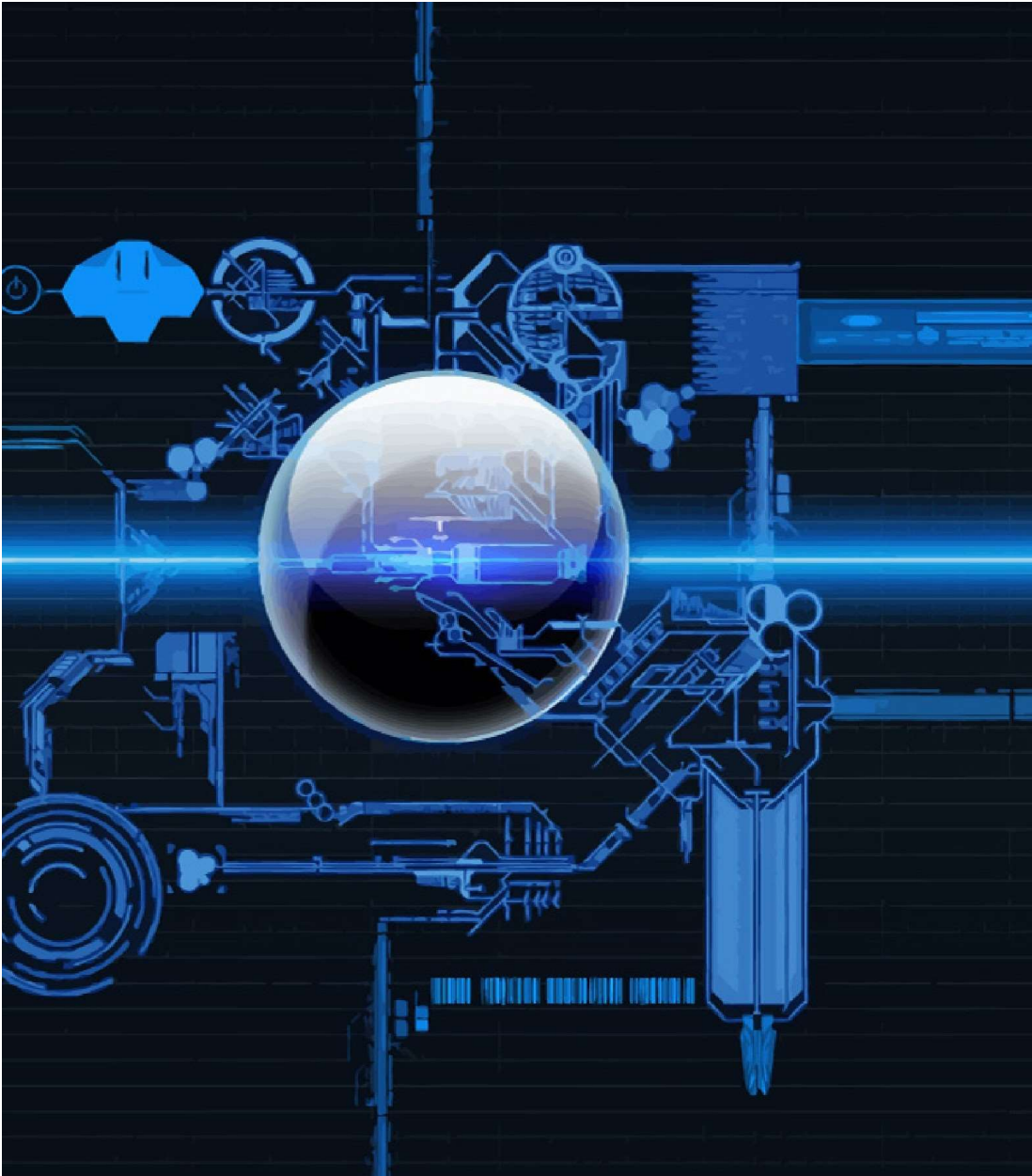
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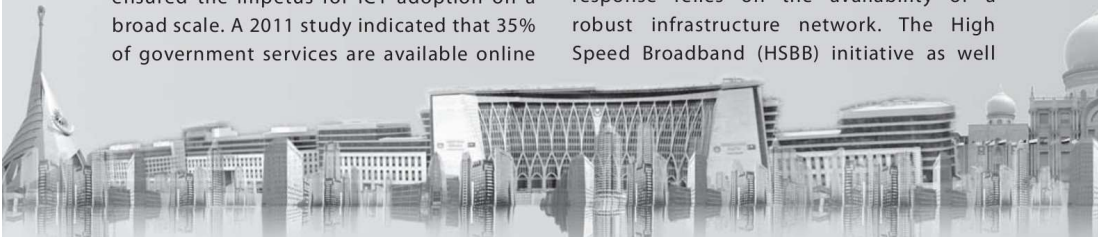THE MALAYSIAN PUBLIC SECTOR ICT STRATEGIC PLAN

Foreword

The revamp of prevailing administrative practices and management systems underlines the transformation challenge facing governments worldwide. Malaysia's national transformation agenda envisions an innovative citizen-centric model of public service delivery in accordance with the principles of 1Malaysia, People First, Performance Now. This is undertaken in tandem with a bold economic transformation approach to propel Malaysia into a high income economy by 2020.

The effective utilisation and application of information and communications technology (ICT) across multi-faceted service delivery and internal government operations holds the key to the achievement of these national aspirations. E-Government applications under the Multimedia Super Corridor (MSC) initiative and subsequent programmes such as the eKL project to deliver integrated Government services within the Klang Valley have provided the appropriate platform for wide ICT implementation across the government. The introduction of citizen-centred projects such as myServices, myForms, myNews, MyBayar and MySMS has ensured the impetus for ICT adoption on a broad scale. A 2011 study indicated that 35% of government services are available online while about 43% of services with government agencies are transacted online. At the same time, the use of social media tools has paved the way for innovative engagement between the government and its clients.

In keeping with the 'whole-of-government' concept outlined in the 10th Malaysia Plan, public sector agencies have begun to work across portfolio boundaries towards shared goals and integrated solutions in meeting the needs of citizens and businesses. The effectiveness of this one-government response relies on the availability of a robust infrastructure network. The High Speed Broadband (HSBB) initiative as well

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as outreach projects such as Pusat Internet Desa and the Kampung WiFi are critical in accelerating broadband take-up to benefit the economy and the lives of all Malaysians.
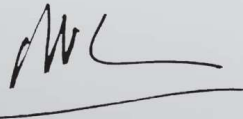
These developments augur well for the future where the next wave of ICT implementation comprise a suite of service offerings and infrastructure development that support a fundamental shift towards a collaborative and co-operative arrangement of open consultation, open data, shared knowledge and expertise, consolidation of shared services and enhanced horizontal application. The new government ICT landscape will not only be citizen-driven and employee-centric but will have a dynamic and transformational dimension that calls for a better blend of planning and management.

The Malaysian Public Sector ICT Strategic Plan (2011-2015) provides the blueprint to accelerate the innovative utilisation and development of ICT in readiness for the ever changing service landscape facing the public sector. The Plan describes the strategic intent and direction to allow for the pervasive use of ICT for citizen-centric and 'whole of government' delivery. It aims to achieve this by unlocking the full potential of ICT with a focus on innovation, value for money and optimisation of resources.

I congratulate MAMPU in spearheading the development of this plan and also thank members of the Government IT and Internet Committee (GITIC), the CIO Council, various Government agencies and the ICT Industry for their invaluable ideas and inputs. Given the dynamic environment in which we operate, the plan must be reviewed periodically to ensure it remains relevant and progressive over the next five years. Key performance indicators (KPIs) and targets have been set for the plan's deliverables. Consequently all ministries and departments are accountable for their contribution towards the achievement of these KPIs and targets.

Let us work together to power the public sector digital transformation agenda!

TAN SRI MOHD SIDEK HASSAN
Chief Secretary to the Government, Malaysia
July 2011

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Foreword

I am pleased to present the Malaysian Public Sector ICT Strategic Plan (2011-2015) that charts the strategic direction for the implementation of information and communications technology (ICT) in the Malaysian public sector for the next five years. The formulation of strategies in the plan is based on the assessment and analysis of findings of several studies conducted to ensure alignment with national aspirations, stakeholder requirements and global best practices.

The Public Sector Business Environment study assessed requirements in relation to Vision 2020 and the four pillars of national transformation namely 1Malaysia: People First, Performance Now, Government Transformation Programme (GTP), Economic Transformation Programme (ETP) under the New Economic Model and the 10th Malaysia Plan. An ICT Benchmark ranking analysis was conducted to assess best practices in 12 countries to determine and understand current public sector challenges and opportunities. A Gap Analysis that mapped the current ICT scenario against key focus areas was also undertaken to identify challenges and ICT development opportunities for the public sector in Malaysia.

The Public Sector ICT strategic direction is designed to meet seven strategic objectives in line with the national transformation agenda. The objectives are to streamline ICT architecture; consolidate ICT operations; intensify inter-agency collaboration; rationalise ICT governance structure; attract, develop and retain top talent in the Public Service; strengthen performance culture; and foster a knowledge-based environment. Specific strategies have been identified to deliver on these objectives whereby pervasive ICT utilisation will help optimise internal operations and management in ensuring that citizens and businesses are able to obtain services of the highest quality from government agencies. Five programmes encompassing a total of 22 initiatives were identified to support the strategies to achieve the public sector ICT strategic objectives.

Ultimately the plan aims to ensure the adoption of a citizen-centric and 'whole-

of-government' approach whereby the combination of people, process and technology is leveraged optimally to support policy formulation, programme development and the delivery of outcomes. The public sector must not only provide essential services that meet the needs of its clientele but offer products and services that exceed expectations of citizens and the business community. This demands that ICT implementation and development in the public sector is guided by the principles of speed, access, cost, value-addition, transparency, productivity and innovation.

I thank all heads of departments and agencies at the federal, state and local government levels, members of the Strategic Plan Project Steering Committee, members of the Strategic Plan Project Committee and all those who gave invaluable inputs and contributed to the final outcome of the plan. I look forward to the same level of commitment from all public sector agencies as we move from planning to implementation.

Onward with the public sector digital transformation agenda!

DATO' MOHAMAD ZABIDI ZAINAL
Director-General of MAMPU
July 2011
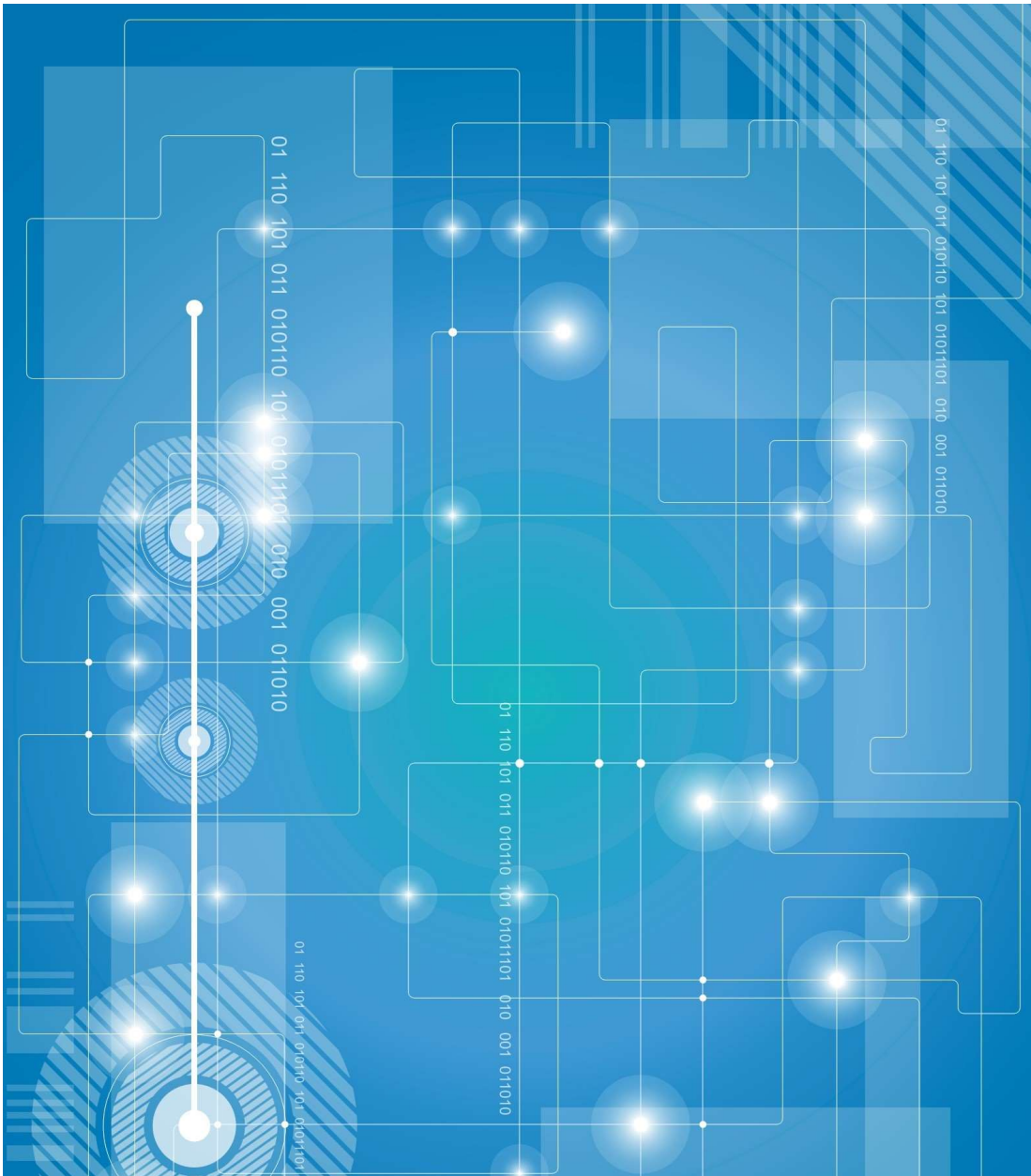
1. CHANGING LANDSCAPE

IN THE MALAYSIAN PUBLIC SECTOR

The four (4) pillars of National Transformation, namely 1Malaysia, People First, Performance Now; Government Transformation Programme (GTP), Economic Transformation Program (ETP) and the 10th Malaysia Plan set new heights of expectation on the Malaysian Public Sector. The transformation agenda as depicted in Exhibit 1 will catapult Malaysia towards a high income nation that is both inclusive and sustainable by 2020.

Four Pillars of Transformation

The GTP states that an innovative citizen centric model for public delivery should be in place by the year 2020. This means that the Public Sector must be geared towards delivering quality public services according to the needs of its citizens and businesses. Another pillar of transformation namely the ETP identified National Key Economic Areas (NKEA), which is the culmination of a substantial body of work to transform Malaysia into a high-income economy by 2020.

Exhibit 1: *The Four Strategic Thrusts towards Vision 2020*

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The "Whole-of-Government" concept which was introduced in the 10th Malaysia Plan has urged the Public Sector agencies to work together to address the economic, social and environmental challenges of globalisation. The concept requires public services agencies to work across portfolio boundaries towards achieving a shared goal and an integrated government response to particular issues. It also promotes the concept of "single purpos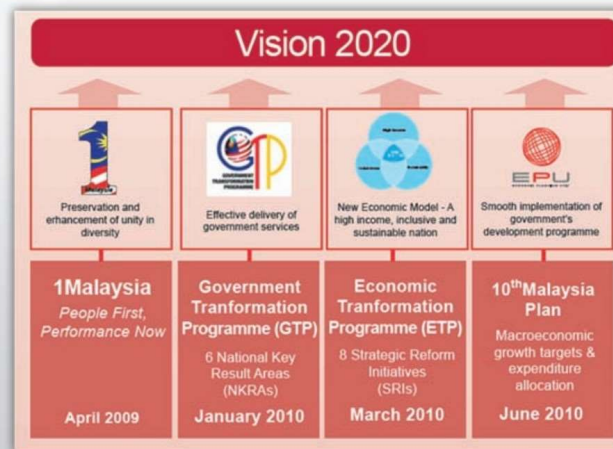e organisations" that aims to provide best-in-class public services to the citizens. The quantum leap in the plan will see the ICT sector expand from being a vertical sector to include the horizontal as well, as it cuts across all spheres of the economy and the lives of all Malaysians.

*"The New Economic Model together with continuous improvements in the communications and ICT infrastructure seeks to transform the Malaysian economy into one with high income and quality growth over the next decade with knowledge and innovation as our key elements."–**YAB DATO' SRI MOHD NAJIB BIN TUN HAJI ABDUL RAZAK** at the 10TH ASEAN Telecommunications and Information Technology Ministers Meeting (TELMIN-10), January 13 2011*

The 10th Malaysia Plan targets to achieve an average of 6% annual real Gross Domestic Product (GDP) growth through year 2015; driven primarily by the services sector where growth is expected to average 7.2%. This plan clearly articulates the central role of ICT as the bedrock to surge the nation forward to a high-income economy.

No Wrong Door Policy

One Service, One Delivery reflects the Government's aspiration to present the "One Government, Many Agencies" identity to enable citizens easy access to public services. The No Wrong Door Policy's main objective is to institutionalise quality services in the Malaysian Public Sector towards one service, one delivery. The One Service, One Delivery, No Wrong Door Policy aims to ensure:

Government agencies are viewed as an integrated entity, well-coordinated, well informed and customer-friendly.

Customer can deal with Government agencies in a fast, simple and transparent manner using various service channels.

Customer satisfaction through speedy action by Government personnel and agencies.
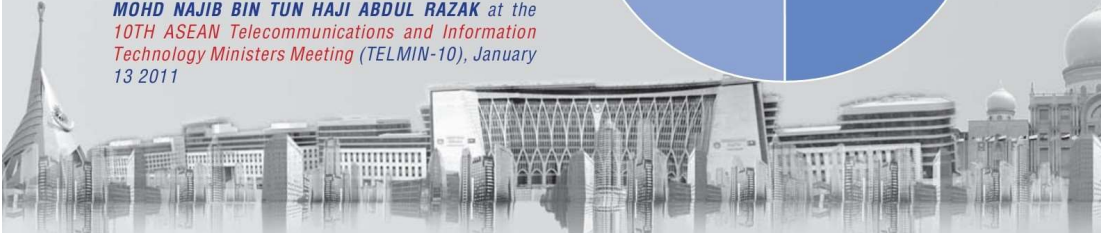
Drivers for Change

The growing application of ICT in delivering services has deeply influenced government choices for ICT investment and the impact of the said investments towards delivering services that are efficient and add value to the citizens. Therefore the drivers that drive the need for change include:

- ### *Government 2.0 : New Generation*

New behaviour of Government 2.0 represents a fundamental shift in the implementation of government towards an open, collaborative, cooperative arrangement where there is (wherever possible) open consultation, open data, shared knowledge, mutual acknowledgment of expertise, mutual respect for shared values and an understanding of how to agree to disagree.

Technology and social tools are an important part of this change. Social networks are becoming more ubiquitous and relevant everyday. These tools allow members to share content and interact through blogging and chats. These virtual communities overlap several of the different orientations of new media communities.

The current scenario sees the rise of Government 2.0 whether streamlining government service delivery or resolving complex issues, governments are either actively seeking or can no longer resist broader participation from citizens and a diverse array of other stakeholders.

Personalisation, semantic web, convergence of business application and social media platforms open the door to Government 3.0.

Among the critical success factors towards achieving new behaviour of Government 2.0 is a combination of the availability of suitable infrastructure and the national character of citizens demanding more of their individual rights from their respective governments.

There can be no service without communication and there can be no delivery without empathy. We must demonstrate that our approach both in its values and its strategies is founded and anchored on empowering people so they can shape the services they deliver and receive.- **Y.Bhg Tan Sri Mohd Sidek Hassan**, *Chief Secretary to the Government in At Your Service. (2010)*

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- *Increasing need to do more with less*

  With the recent economic downturn in 2008, the mantra Do More With Less has become the reality in delivering services to citizen with rising expectation. Therefore the importance of ICT to reach out and connect to the citizens and businesses seamlessly 24 hours a day, 7 days a week and 365 days a year as well as the potential for costs savings for the government are further strenghtened.

  The government shared-services are aimed at increasing efficiencies and cost-effectiveness of government systems and enable customer-centric support deliveries. Shared-services provide public service organizations with the opportunity to reduce waste and inefficiency by re-using assets and sharing investments with others.Implementation of the government shared-services will mean loosening of control without losing control which must be understood by the stakeholders and owners.

- *Pervasiveness of technology: Ubiquitous Access*

  High Speed Broadband (HSBB) is a flagship project of the National Broadband Initiative which will boost the country's competitiveness and enable citizens and businesses to tap into the opportunities in the social and economic spheres. From the economic perspective, HSBB is expected to have a high multiplier effect for businesses, allowing for easier and more efficient collaboration that will drive productivity levels higher and enhance revenue generation.

  Local and foreign companies here will have access to new applications and be able to reach more markets, which in turn will boost the potential for Foreign Direct Investment from multinational players seeking to use Malaysia as a regional hub.
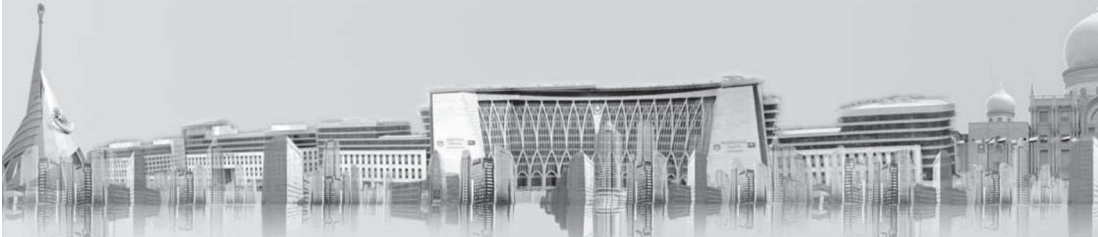
The government has set a target of broadband penetration rate of 75 per cent for households in the country by 2015. The penetration rate last year was 55 per cent, which exceeded the 50 per cent target set. In efforts to accelerate broadband take-up and offer its benefits to the people whilst bridging the digital divide between rural and urban communities, the Kampung WiFi program was introduced in 2010. With the Kampung WiFi deployment, complete internet access as well as required infrastructure and the relevant application will be offered to the community. Besides the Kampung WiFi facilities, 1Malaysia netbooks will be distributed to eligible students and citizens.

Nevertheless a study done by Peter Evans indicated that as of early 2010, more than 106% of Malaysian's 29 million populations have a mobile telephone services. It means that a push for mobile applications will reach out and connect to more citizens or businesses given the higher mobile penetration rate comparative to the broadband penetration rate.

*Web 2.0 solutions empower individuals to utilize the Internet for global collaboration, innovation and information sharing. Not only has it empowered and changed the lives of individuals, the Web 2.0 world has spawned new business models and altered the way goods are sold, content is provided, and value is created. – **YAB DATO' SRI MOHD NAJIB BIN TUN HAJI ABDUL RAZAK** at the 10TH ASEAN Telecommunications And Information Technology Ministers Meeting (TELMIN-10), January 13 2011*

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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. Since 2003 when the first Public Sector ICT Strategic Plan (ISP) was formulated, ICT Strategic Planning has improved tremendously with majority of agencies adopting the Public Sector ISP guideline that has incorporated among others, definition of users, usage of gateways, agency specific applications and enterprise-wide applications.

The findings from the perspective of ICT Supply include aspects of ICT Management, Organisation and Infrastructure such as:

Feedback management processes via ICT are utilised and managed as a daily practice;	Main reasons given for outsourcing are lack of in-house expertise and time saving;	Enterprise Architecture is still at its infancy among agencies;	Agency's disaster recovery plan is still at its early stages;	Levels of tools and automation in ICT infrastructure management vary amongst agencies.

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Further, the findings from the perspective of ICT Demand include:

More than half of the agencies supported the direction to establish a Consolidated Data Centre and Consolidated Disaster Recovery Centre;

Emphasis should be placed on skills and capacity building;

The appointment of agency's Chief Information Officer (CIO) and its governance structure has improved interaction processes within and between the agencies; and

Implementation of Knowledge Management initiatives in the agencies has instilled knowledge sharing culture, aid resource allocation based on knowledge portfolio and assist in decision making.

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Assessment of the Malaysian Public Sector ICT effectiveness according to the Compatibility Maturity Model shows that most agencies processes are at Level 3 which means that its management processes are defined, documented and communicated for the 12 related areas assessed. Nevertheless for Change Management processes, it is at Level 2 which means that there is a good level of awareness and efficient planning to implement but there are challenges in implementation. As for Knowledge Management (KM) processes, it is found to be low at Level 1 which indicates that processes are ad-hoc and there is a need for a plan which communicates the importance and benefits of KM implementation and acculturation. Exhibit 2 depicts the ICT Effectiveness findings in a nutshell.

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

Most processes of agencies are at the defined level (3rd phase of maturity) which indicates that most of these processes are well defined and documented according to standards and guidelines of MAMPU

Knowledge Management was found to score low in most agencies. This indicated that agencies need to communicate the importance and benefits of Knowledge Management whilst setting key definitions, guidelines and boundaries of Knowledge within the agency in order to raise awareness and get the buy-in of personnel.

For the Change Management process, findings shows that there was a good level of awareness and efficient planning among agencies. However, the results indicated that agencies were facing implementation challenges in terms of the policies, plans & procedures development and skill / expertise deployment.

Exhibit 2 : *ICT Effectiveness Study Findings*
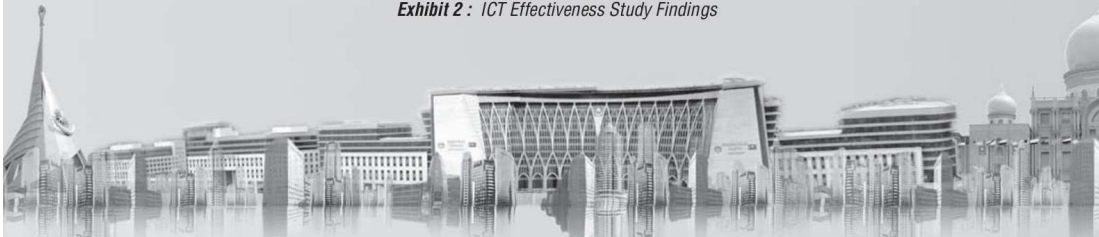
An ICT infrastructure that is optimised means cost of ICT can be controlled and reduced without compromising the efficiency of its operations. It will also be able to be agile in adapting the changing nature of the business. An Infrastructure Optimisation Study which categorised its findings to four (4) levels namely Basic, Standardised, Rationalised and Dynamic; indicated that overall the Government Infrastructure optimisation is at Basic Level with data protection and recovery at Standardized level.

These findings show that government agencies are aware of the importance of protecting data and its recovery processes and are taking appropriate measures to ensure data integrity and thus the image of the organisation. Exhibit 3 shows the Infrastructure Optimisation Study Findings for the specific elements of ICT infrastructure.

Exhibit 3 : *Infrastructure Optimisation Study Findings*

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In order to be and stay competitive in the global market, the Malaysian Public Sector needs to be aware and understand the initiatives and practices executed by its counter-parts. Exhibit 4 described the Global Best Practices by some its counter-parts.

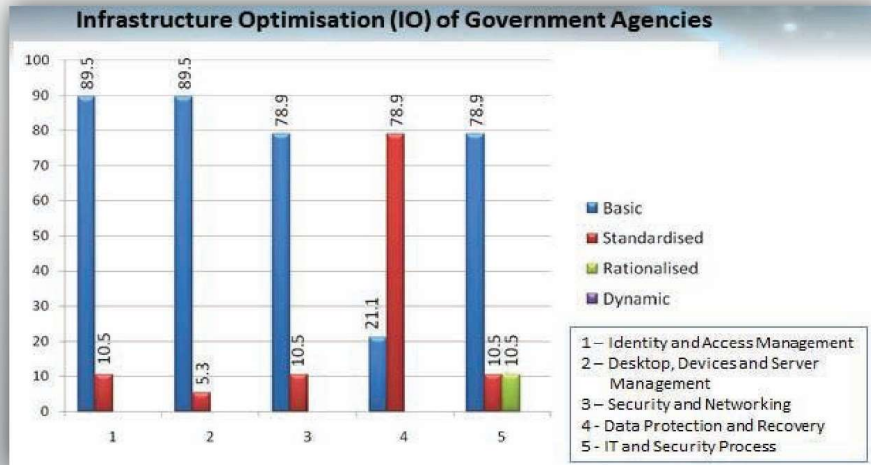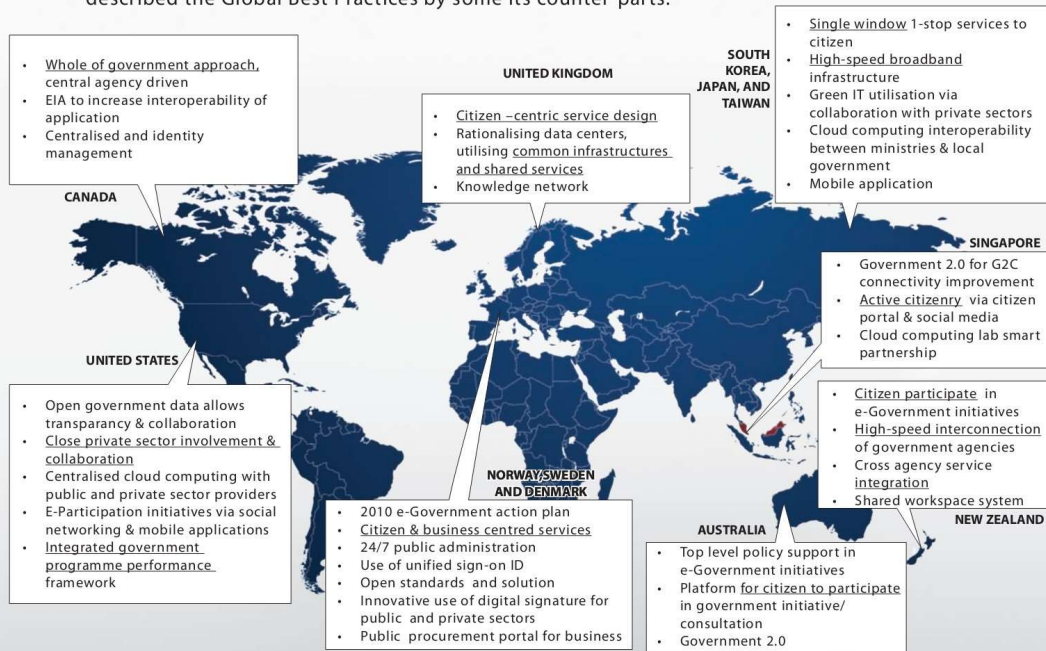**CANADA**
- Whole of government approach, central agency driven
- EIA to increase interoperability of application
- Centralised and identity management

UNITED KINGDOM
- Citizen –centric service design
- Rationalising data centers, utilising common infrastructures and shared services
- Knowledge network

SOUTH KOREA, JAPAN, AND TAIWAN
- Single window 1-stop services to citizen
- High-speed broadband infrastructure
- Green IT utilisation via collaboration with private sectors
- Cloud computing interoperability between ministries & local government
- Mobile application

SINGAPORE
- Government 2.0 for G2C connectivity improvement
- Active citizenry via citizen portal & social media
- Cloud computing lab smart partnership

UNITED STATES
- Open government data allows transparancy & collaboration
- Close private sector involvement & collaboration
- Centralised cloud computing with public and private sector providers
- E-Participation initiatives via social networking & mobile applications
- Integrated government programme performance framework

NORWAY,SWEDEN AND DENMARK
- 2010 e-Government action plan
- Citizen & business centred services
- 24/7 public administration
- Use of unified sign-on ID
- Open standards and solution
- Innovative use of digital signature for public and private sectors
- Public procurement portal for business

AUSTRALIA
- Top level policy support in e-Government initiatives
- Platform for citizen to participate in government initiative/ consultation
- Government 2.0

NEW ZEALAND
- Citizen participate in e-Government initiatives
- High-speed interconnection of government agencies
- Cross agency service integration
- Shared workspace system

Exhibit 4 : Global Best Practices Findings

Countries that are consistently ranked amongst the top 10 to top 20 in competitiveness are constantly innovating and improving their Public Sector ICT initiatives. Most of the countries being studied have placed an importance on their ICT infrastructure as well as Government 2.0 to emphasize on citizen needs and participation and almost half of the countries are currently embarking on the latest ICT Technology Trends such as Green IT and Cloud Computing.

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2. MALAYSIAN PUBLIC SECTOR

ICT STRATEGIC DIRECTION

The Public Sector ICT Strategic Vision provides the direction for Government use of ICT in the next five (5) years. The emphasis is on delivering innovative, efficient and quality citizen and business-centric services by leveraging on the pervasive use of ICT. The ultimate aim is to achieve a Citizen-Centric and `Whole of Government' Public Service, which means that the Public Sector must meet and exceed the expectations, preference and needs of Citizens and Businesses. The expectations demand that the government adopt the qualities of a Cost-Effective, Innovative, Transparent and Productive Government as the guiding principles.

The pervasive use of ICT would also optimise the operations and the management of the Government in providing the highest quality of service to the citizen. The Malaysian Public Sector ICT Strategic Direction finds consonance with the Government Transformation Agenda, has built-in flexibility and future thinking elements to accommodate advances in the use of ICT. This direction is one step forward in charting our paths towards a developed nation status by 2020.

The essence to any progress is meaningful delivery. The soul to any conversion and change is results. The panacea for cynicism and scepticism is promised results and delivery. Meaningful delivery comes when we each recognise the responsibilities bestowed on us.- **Y.Bhg Tan Sri Mohd Sidek Hassan**, *Chief Secretary to the Government in The Star: Untying the Gordian Knot (January 1, 2011)*

PUBLIC SECTOR ICT VISION

Pervasive Use of ICT towards A Citizen-Centric and `Whole Of Government' Public Service

Strategic Driver

The strategic driver for pervasive use of ICT in the Malaysian Public Sector addresses the needs and demands of the public that drives the way services are delivered by the public sector. The strategic thrust is to enhance service delivery focusing on the people and business's perception and increase satisfaction levels through accessibility, participation, inclusion and innovation.

Strategic Enabler

The strategic enabler will address the internal machinery and operational aspects of the public sector that strives to maintain a consistent service experience to the public. Trends in technology to facilitate operational efficiencies continue to emerge to become a strategic enabler in achieving the much desired aspirations. ICT as a transformation tool should be seen as another enabler that support Malaysian aspiration to become a high-income economy and an advanced nation by the year 2020.

The three (3) strategic enablers identified are as follows:

- Good Governance focusing on defining a governing structure and management processes that establish vision and mission, decision making structure as well as functional roles;

- Connected Government focusing on maximizing the adoption of second generation of e-Government approach to embrace collaborative models of service delivery; and

- Sustainable and resilient ICT focusing on sustainable IT which include cost optimization, energy saving, regulations, standards, compliance and organization's image and reputation.

2/25/2021

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Malaysian Public Sector ICT Framework

The ICT Strategic Vision towards a citizen-centric service and a `whole of government' public service by the pervasive use of ICT promotes accessibility and usage of government services when and where the citizens or businesses need it. This means an execution of the No Wrong Door Policy which will see the Public Sector as One Whole of Government.

The transformative role of ICT will continue, and accelerate over the next five years. The Malaysian Public Sector ICT Framework (Exhibit 5) will go beyond the traditional use of ICT. It identifies key components in an integrated innovation infrastructure and info structure which will support both the short and longer-term development and growth of the Public Sector ICT capability.

Information is power. Communication is influence. Information and communication, when targeted to the right audience, establishes a power to account, an authority to transparency and empowerment. – ***Y.Bhg Tan Sri Mohd Sidek Hassan****, Chief Secretary to the Government in At Your Service. (2010)*

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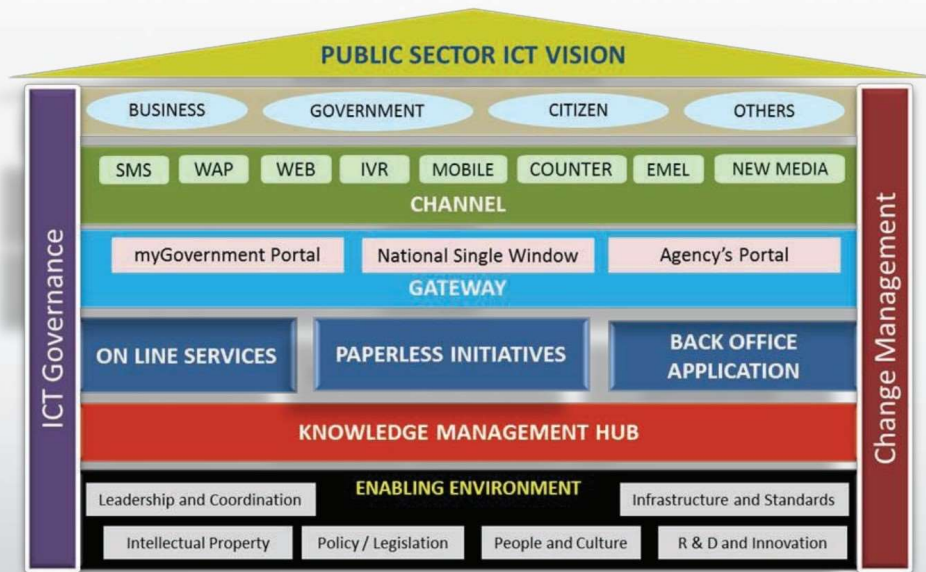
Exhibit 5: *Malaysian Public Sector ICT Framework*

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The components of the Public Sector ICT Framework are briefly explained as follows:

I. Stakeholders and recipients of service

| BUSINESS | GOVERNMENT | CITIZEN | OTHERS |

The Business sub component represents the business entity and community while the Government refers to Government Agencies such as Ministry, Department, State and Statutory Bodies. The Citizen sub components represents citizens of Malaysia inclusive of minority groups such as the disabled while Others ensure inclusivity for all such Non-Citizens, NGOs and International Bodies.

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II. Channel

SMS	WAP	WEB	IVR	MOBILE	COUNTER	EMEL	NEW MEDIA

CHANNEL

WEB

WAP

IVR

The different channels will ensure pervasive use of ICT in delivering the services such as the New Media. Nevertheless to ensure inclusiveness to all, the traditional channel is still relevant in reaching out to the rakyat such as the Counter.

SMS

MOBILE

NEW MEDIA

EMAIL

COUNTER

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III. Gateway

myGovernment Portal	National Single Window	Agency's Portal
GATEWAY		

Gateway through specific online presence will act as an intelligent access point to Public Sector Services that provides:

A means for users to request for or receive government services via multiple channels;	Common features such as authentication including security in a transaction;	Engine to avoid duplication of efforts and investments; and	A facility for users to register only once to interact with all related agencies that are involved in a particular transaction.
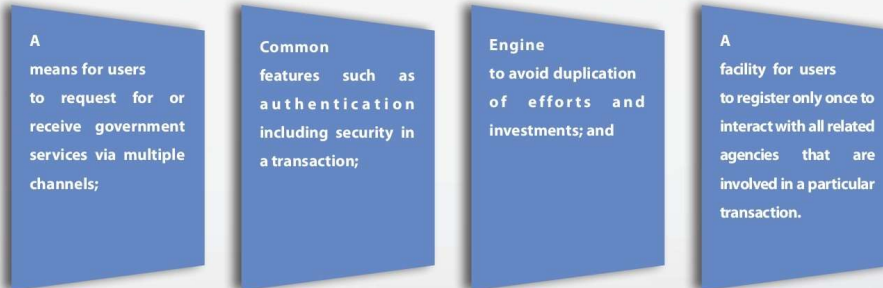
Currently citizens or businesses need to register in multiple accounts to access services from multiple agencies. Perception on government services could be further improved with the streamlining of the services to one single window through myGovernment portal. There is now an initiative to transform accessibility to information and services via a single window.

IV. Applications

ON LINE SERVICES   PAPERLESS INITIATIVES   BACK OFFICE APPLICATION

The delivery of services to the stakeholders and recipients are enabled through the development and implementation of ICT Applications. It could be a front end application that will deliver on-line services or applications which support the delivery of said services.

- **On Line Services**
  Improve service delivery through increased multi-channel public facing and cross-agency initiatives.

- **Paperless Initiatives**
  Creating end-to-end online processes such as applications of jobs and its processes gearing towards achieving a Paperless Government

- **Back-office application**
  Increase cohesiveness within the back-office functions through re-engineering and integration of internal processes

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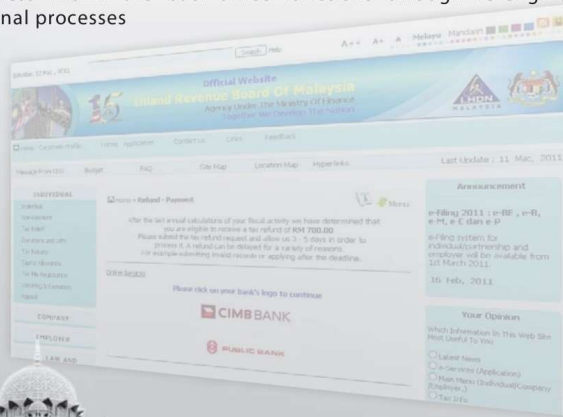
V. Knowledge Management Hub

KNOWLEDGE MANAGEMENT HUB

Knowledge and intellectual capital are intangible assets that can be used productively and effectively towards accelerating the progress in achieving Vision 2020. By virtue, knowledge capital is the only asset that can grow without limits; and new knowledge increases the efficient use of resources that are in finite supply (Léautier, 2005). Therefore one of the main component in this framework is the Knowledge Management Hub which could act as the catalyst that enhances Public Sector service delivery and decision making. The hub will create an informed knowledge environment which allows and encourages sharing of valuable information throughout the government hierarchy. The vision for the public sector knowledge management is **"Knowledge Excellence as Catalyst towards Effective Service Delivery"**. Two strategies have been identified i.e

Strategy 1 - Inculcate the Culture of Knowledge Management
Strategy 2 - Strengthen Knowledge Management Initiative in the Public Sector

By leveraging on the public sector's knowledge management strategy, it is foreseen that more intra government collaborations and work efficiency will increase due to putting the active learning environment in placed, thus creating a knowledge excellence within the public sector via a `whole of government' approach.

VI. Enabling Environment

	ENABLING ENVIRONMENT		
Leadership and Coordination			R & D and Innovation
Infrastructure and Standards	Policy / Legislation	People and Culture	Intellectual Property

An environment that enables successful implementation and deployment of ICT strategic initiatives does not comprises of only technology but must have the 'soft' aspects too. The enabling environment component takes into account the people, process and technology elements.

Strong leadership and coordination with policies or legislation for delivery of service by the pervasive use of ICT must be enabled in the environment to ensure success and sustainability. The Malaysia Public Sector has a strong start in this area where Government Chief Information Officer (GCIO) was appointed in 2008. As for the agencies, appointment of Chief Information Officer (CIO) is a mandatory based on Government Instruction.

Infrastructure and Standards are still key to enabling delivery of seamless services to the stakeholders. ICT shared-services present opportunities to reduce cost of operations but standards must be in place to ensure that loosening control will not result a loss of control.
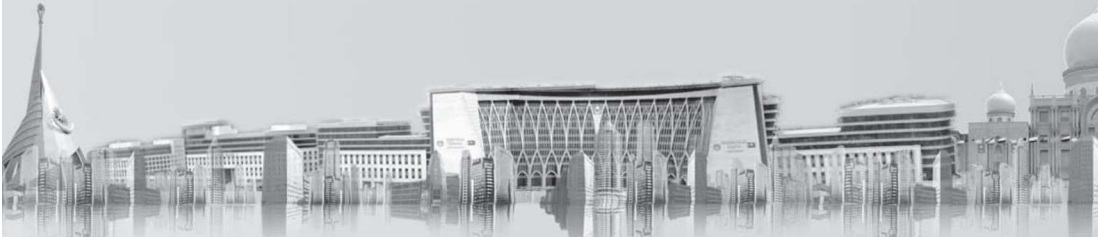
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Skilled and competent manpower together with ICT acculturation will further increase success potentials. The Malaysian Public Sector has embarked on an innovative initiative by the establishment of the Public Sector ICT Consultants Team. This group of people are creating value in specific areas of ICT implementation and with this innovative initiative; the Malaysian Public Sector is developing internal talent to ensure value delivery of ICT.

In ensuring sustainability, research and development of new innovative service delivery by the pervasive use of ICT must be a conscious effort. It must be a planned initiative with specific measurable targets so as to ensure it is not seen as wastage. R & D and Innovation will ensure competitiveness and relevancy of services delivered while intellectual property is important in fostering innovation.

On another note, under the National Key Economic Area (NKEA) Business Services in the ETP, the GCIO has been given mandate to lead and coordinate the Government Shared-Services and the mobilisation of ICT talent affected by the implementation of Government shared-services. The GCIO will also drive the e-Government Initiatives under the Content, Communication Infrastructure ETP.

ICT Governance

The two pillars in the Malaysian Public Sector ICT Framework represent the components that must be consciously incorporated at every stage of ICT implementation. One of the pillars is ICT Governance. According to IT Governance Institute (ITGI), ICT Governance consists of leadership and organisational structures and processes which ensure that the organisation's ICT sustains and extends the organisation's strategies and objectives. It further defines ICT Governance as the management process which ensures delivery of the expected benefits of ICT in a controlled way to enhance the long-term success of the organisation.

ICT Governance is not ICT Management. ICT Governance is about decision rights while ICT Management is about making and implementing the said ICT decisions (Cater-Steel, 2009).

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To ensure ICT delivers the expected benefits and outcomes, the following five (5) main focus areas in ICT Governance must be given emphasis:

**Strategic Alignment of Business and ICT**

There must an alignment between ICT investments made with the organisation's strategic intent and objectives. Undertaking collaborative and coherent business and ICT partnership will enable delivery of services that address the needs of the rakyat.

Value Delivery of ICT

The high investments made on ICT must be able to deliver value to the business. Only when this is translated and measured will ICT be seen as delivering value. Therefore usage of ICT resources must be optimised and focus on the business needs of the organisation.

Risk Management of ICT Systems

Managing risk of ICT systems is an element that must be given serious consideration given the dependency of business on ICT when delivering its services. Technology risk and information security issues form a prominent part of operational and systematic risk considerations. (ITGI, 2001)
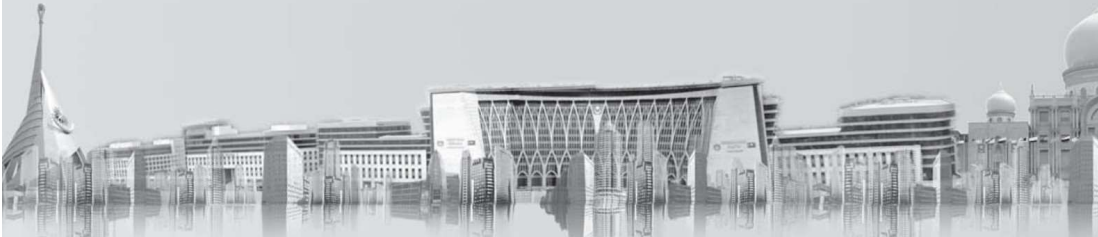
ICT Resource Management

ITGI defines management of ICT resources as the "the optimal investment, use and allocation of ICT resources (people, applications, technology, facilities, data) in servicing the needs of the enterprise" (ITGI, 2003). In the context of Malaysian Public Sector, this means having the right capability and talent providing sufficient and effective resources to execute the strategic plan. This capable human capital will enable efficient and effective management of ICT resources in the Public Sector.

Measuring Performance of ICT Systems

Central in measuring performance is to improve performance. Therefore to create assurance that ICT does deliver value to the business; its objectives, benefits and outcomes must be measured and evaluated. There are eight (8) reasons why measuring performance are vital (Behn, 2003).

- **To evaluate** actual performance versus what is expected or targeted;
- **To control** so as to ensure the right thing is done;
- **To budget** so as to ensure that it stays within budget;
- **To motivate** by giving significant goals to achieve;
- **To celebrate** accomplisments made;
- **To promote** success to the stakeholders and clients;
- **To learn** reasons behind a poor or good performance; and
- **To improve and innovate** service delivery based on performance measurements and feedbacks.

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VIII.   Change Management

Change Management

The other pillar in the Malaysian Public Sector ICT Framework is Change Management which means the method and approach addressing change in the business processes caused by pervasive use of ICT in delivering services. It means creating a plan, the design to manage change, implementing and measuring it to ensure sustainability. Ultimately it is to tranform the workforce, stakeholders and users to be acceptable, ready, and willing to support and participate in transformational projects that brings about change within the organisation.

The Change Management Model will assist agencies to minimise potential risk of failure. The model provide a framework of change management methodology into three (3) stages - Analysis, Engagement and Delivery. Communication is a core element in all change management activities.

*There is the fear of change and what might happen. There is the potential loss of power due to change. And if there are no guidelines as to what to do after the change, then there will be issues and problems – **Bennet P. Lientz and Kathryn P. Rea** in Breakthrough IT Change Management: How to Get Enduring Change Results*


Change Management Framework

Malaysian Public Sector ICT Strategies

There are seven (7) ICT strategies to drive pervasive use of ICT in delivering citizen centric services and crafting `whole of government' public service.

Enhance service delivery through the streamlining of ICT architecture	Efforts should be driven to simplify systems, remove duplication and leverage on technologies that enhance the Public Sector's delivery of services and relationships with the people and businesses;
Optimise and enhance ICT operations through ICT Infrastructure consolidation	Support consolidation of wide area networks, data and disaster recovery centres, as well as common applications;
Intensify inter-agency collaboration towards fostering whole of government public service	Positioning efforts towards working across federal, state, and local levels as an integrated government to ensure cross-cutting issues are addressed;
Strengthen ICT Governance to ensure value delivery	Rationalise ICT governance structure that dictates effective reporting structure as well as clear roles and responsibilities;
Accelerate ICT talent development and capacity building	Strive to develop talent, adoption of best-fit practices and continuous capacity building;
Cultivate performance culture to ensure accountability for outcomes and drive performance	Culture, mind-set and practices should be delivery-oriented to ensure accountability for outcomes and to drive improved performance; and
Alleviate knowledge culture to aid swift decision making based on fact	Improve culture, mind-sets and practices to fully utilise knowledge to aid speedy decision-making as well as sound judgment based on fact.

THE MALAYSIAN PUBLIC SECTOR ICT STRATEGIC PLAN **29**
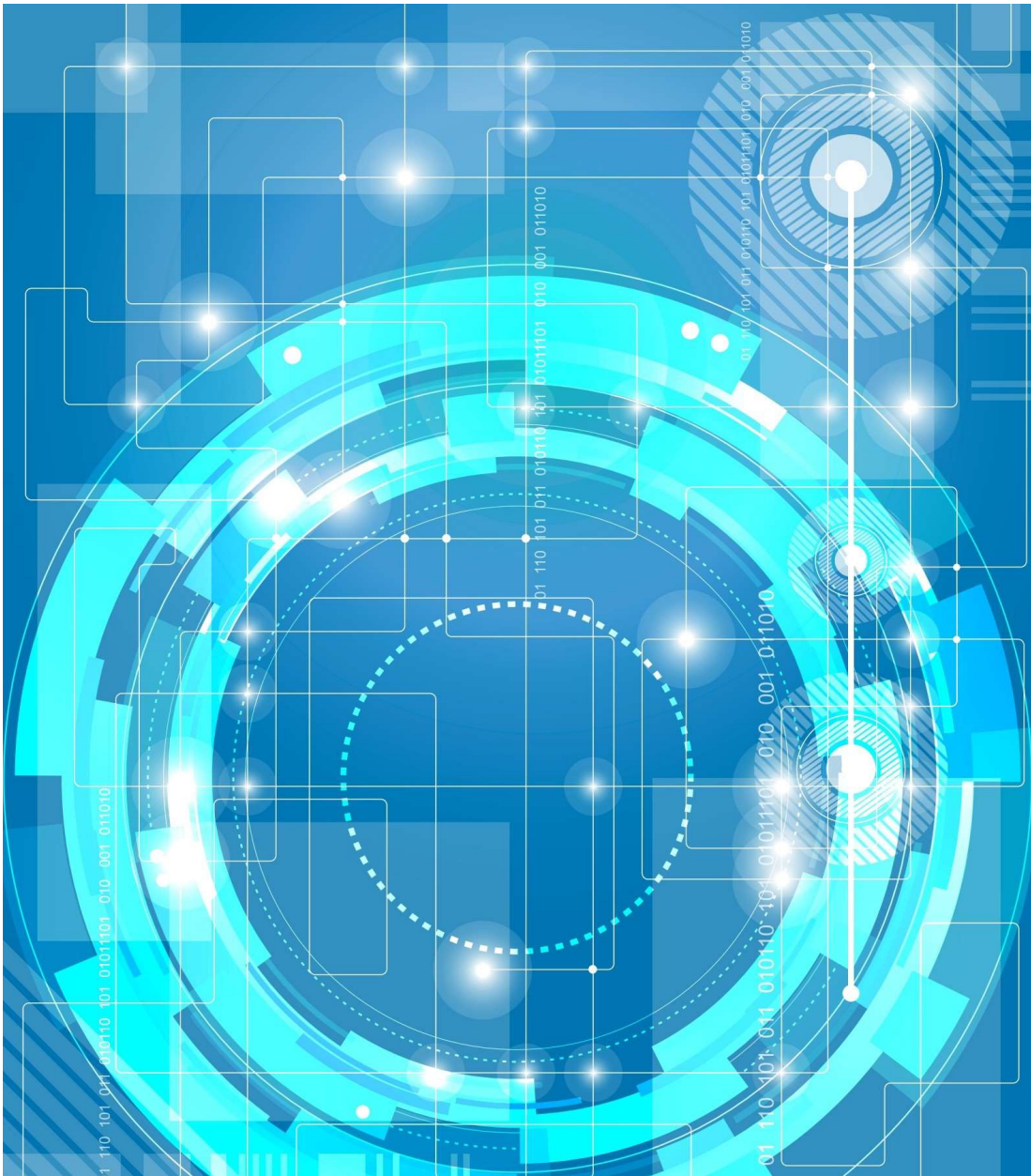
3. PUBLIC SECTOR

ICT PROGRAMS AND INITIATIVES

A set of prioritized ICT initiatives are identified based on the strategic intent and directions and presented in the following tables.

- **Program 1** - Enhance Service Delivery
- **Program 2** - Enhance Capacity and Capability
- **Program 3** - Enhance Performance Measurement Capability
- **Program 4** - Connected Government
- **Program 5** - Sustainable and Resilient ICT

PROGRAM 1: ENHANCE SERVICE DELIVERY	
Initiative 1.1	Develop and implement online services: myRakyat, myBusiness, myWorkforce and e-Payment
Initiative 1.2	Establish and deploy Public Sector Digital Document Management System
Initiative 1.3	Establish and deploy Transport Intelligence System
Initiative 1.4	No-to-crime: Repository of information on crime. Establish and deploy
Initiative 1.5	Deployment of Government Regional Electronic Advancement Transformation (GREAT) Program to 5 Economic Development Region

Exhibit 6: Program 1 - Enhance Service Delivery

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PROGRAM 2: ENHANCE CAPACITY AND CAPABILITY	
Initiative 2.1	Public Sector ICT Skills Framework: Establish ICT skills repository and deploy integrated ICT talent management system
Initiative 2.2	Information Security Management System (ISMS) ICT Compliance Audit Programme to critical agencies in the Public Sector
Initiative 2.3	• Enhance GCIO and CIO development programme • Public Sector ICT Specialist Programme: Professional certification scheme • Reskilling, Redeployment and Replacement (3R) Programme for ICT shared services

Exhibit 7: Program 2 - Enhance Capacity and Capability

PROGRAM 3: ENHANCE PERFORMANCE MEASUREMENT CAPABILITY	
Initiative 3.1	Public Sector Service Intelligence: Establish and deploy for real time intelligence capability
Initiative 3.2	Performance Measurement Tool to be deployed to agencies as a means for measurement and evaluation of services delivered
Initiative 3.3	Public Sector ICT Compliance Self Assessment Tool to be implemented in agencies as a means for self assessment on ICT compliance

*Exhibit 8: Program 3 - Enhance Performance Measurement Capability*

THE MALAYSIAN PUBLIC SECTOR ICT STRATEGIC PLAN **31**

PROGRAM 4: CONNECTED GOVERNMENT	
Initiative 4.1	Citizen Registry System (CRS): Roll out to other agencies
Initiative 4.2	Business Registry (myCoID): Roll out usage to other agencies
Initiative 4.3	Registries: Development of Vehicle, Student and Health Registry
Initiative 4.4	Public Sector Knowledgement Management Hub: Establish and deploy to pilot agencies

Exhibit 9: Program 4 – Connected Government

PROGRAM 5: SUSTAINABLE AND RESILIENT ICT	
Initiative 5.1	Establish Government Unified Communication
Initiative 5.2	1Gov*Net: Implementation of Government Integrated Telecommunication Network
Initiative 5.3	1Gov*DC: Establish Consolidated Government Data Centres 1Gov*DRC: Establish Consolidated Government Disaster Recovery Centres
Initiative 5.4	Deployment of Mobile Solutions and Applications
Initiative 5.5	Deployment of ICT Security Compliance Scorecard
Initiative 5.6	Develop and implement Business Continuity Plan for agencies
Initiative 5.7	Malaysian Public Sector Trustmark: Establish and deploy certification to agencies

Exhibit 10: Program 5 – Sustainable and Resilient ICT
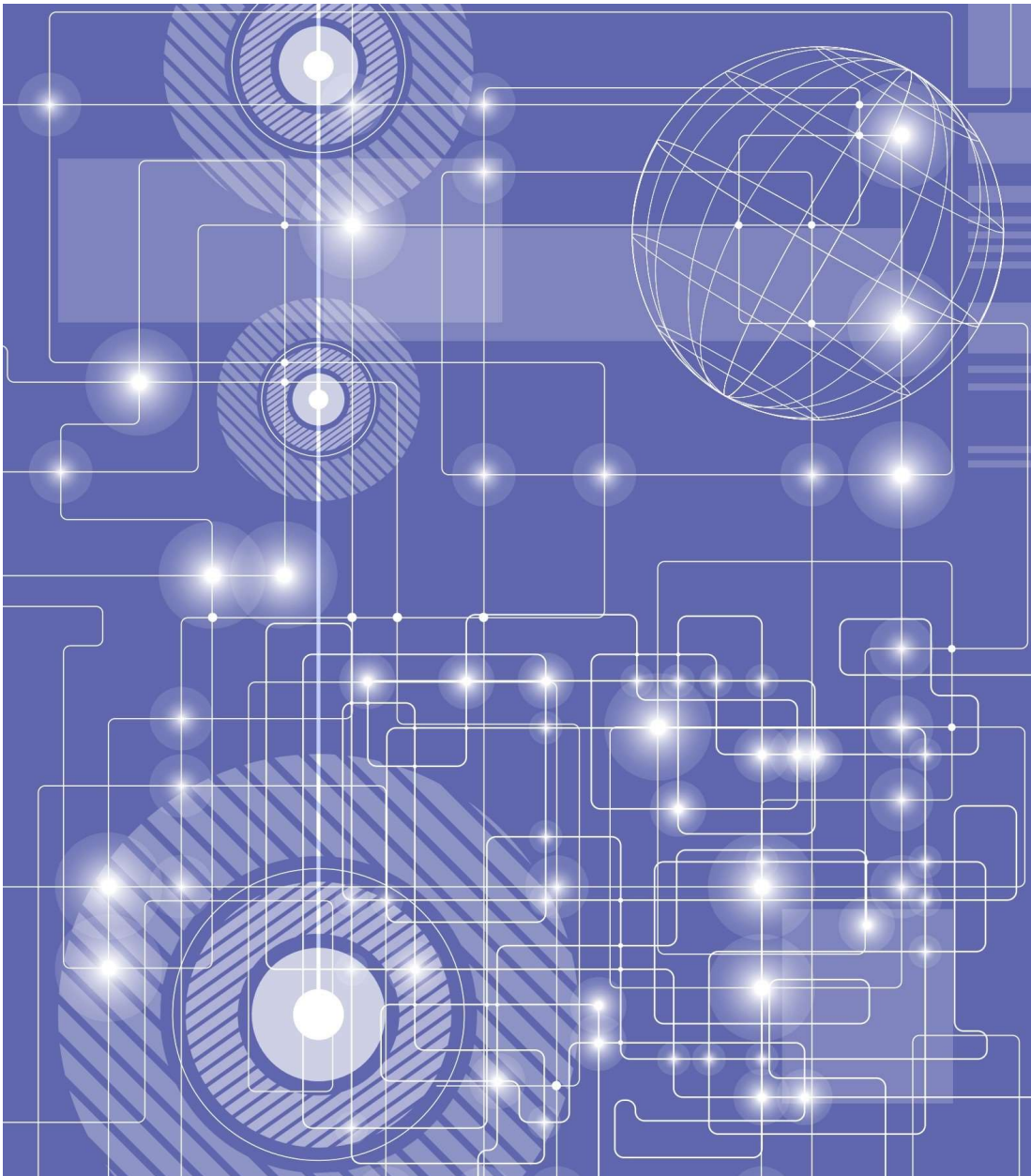
4. PUBLIC SECTOR

ICT POLICY TARGETS

Government ICT investments are targeted based on need and value. With GTP and ETP as the nation transformation agenda, the targets set are aligned with the direction and aspiration of the stakeholders. The six (6) Public Sector ICT policy targets are as depicted in the table below.

| POLICY TARGET (PT)	PERFORMANCE INDICATORS
PT 1: Towards zero face-to-face service delivery	• **2015:** 90% of all government services are available online • **2015:** 90% of total transactions for on-line services are made on-line
PT 2: Towards paperless government	• **2011:** Public Sector Digital Document System established • **2012:** 70% of intra-government letters, memos, invitations, circulars and meeting minutes online • **2012:** 90% of meeting invites online
PT 3: Inculcating Information Sharing and Interoperability	• **2012:** Development of an Information Architecture (IA) application for one (1) citizens' touch point services • **2013:** Deployment of said service and development of an additional one (1) IA application • **2015:** Establishment of four (4) IA applications

Exhibit 11: Public Sector ICT Policy Targets

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POLICY TARGET (PT)	PERFORMANCE INDICATORS
PT 4: Cross Agency Collaboration Towards Seamless Services	• **2012:** Service Intelligence System established • **2015:** Transport Intelligence System, Education Intelligence System and Health Intelligence System established
PT 5: Government Shared Services	• **2011:** Implementation of Government Integrated Telecommunication Network (1Gov*Net) • **2012:** 200,000 users have access to Government Unified Communication • **2012:** 20 agencies tenancy in Public Sector Consolidated Data Center (1Gov*DC)
PT 6: Skills and Expertise Internalisation of Public Sector ICT Personnel	• **2015:** At least 10% certified in the eight (8) ICT areas recognized by Public Service Department

Exhibit 11: Public Sector ICT Policy Targets (cont'd.)

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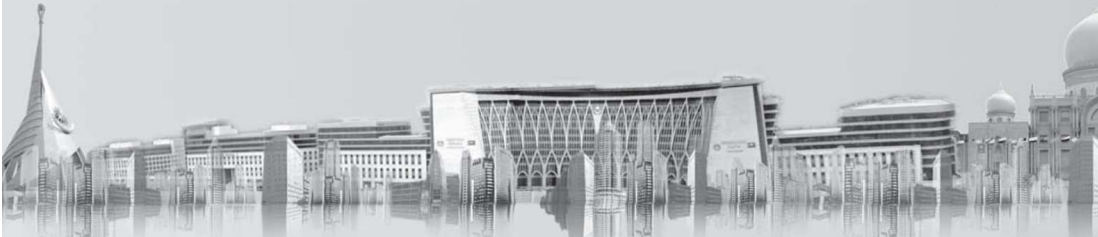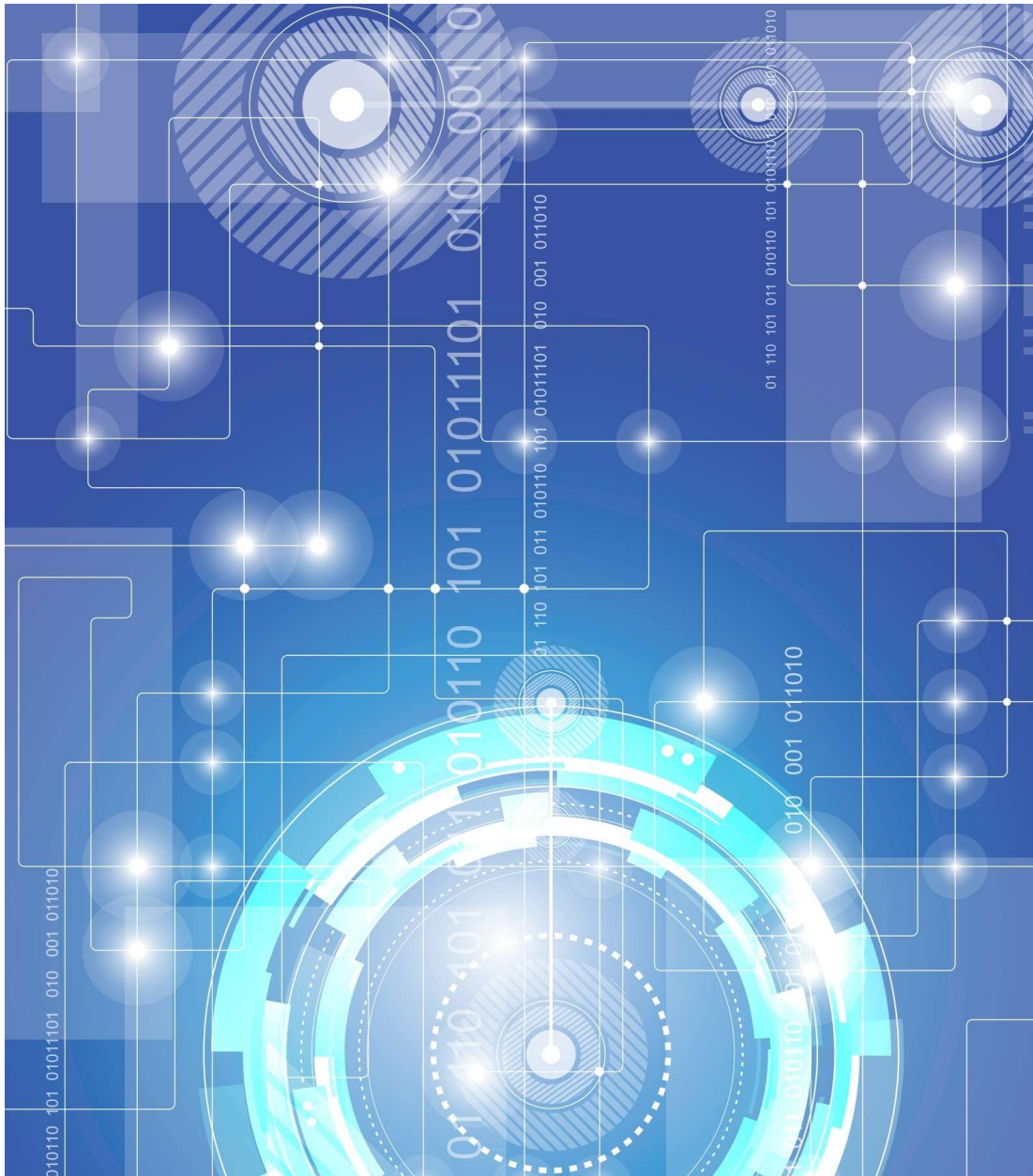
5. IMPLEMENTING

ICT STRATEGIC PLAN

The Malaysian Public Sector ICT Strategic Plan shares a pivotal role in realising the goals of the Transformation Programmes to steer Malaysia towards achieving vision 2010. Seven (7) ICT strategies and 22 initiatives identified and the strategic enablers achieving the Public Sector Digital Transformation.

Current business commands the optimization of ICT usage to support the national aspirations of becoming a high income developed country. Thus as an enabler, ICT in Public Sector must be addressed in a holistic manner comprising people, process and technology where the internal and external needs must be taken into account. This is to ensure a balanced, fast and successful implementation and to promote a wider coverage of ICT practice beyond borders and cultures. Exhibit 12 depicts strategies that could realise the successful implementation of ICT initiatives.

The `Whole-of-Government' approach requires agencies to work across portfolio boundaries and federal, state and local levels as an integrated government. As a guiding principle, Innovation, Productivity, Cost-effectiveness and Transparency serve as focal points to determine the strategic directions.
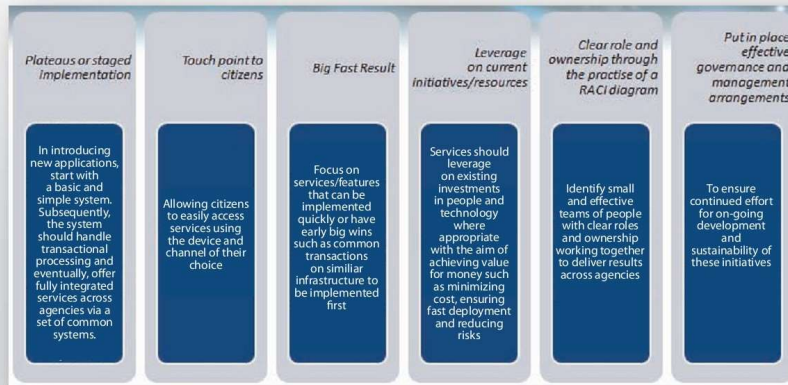
Plateaus or staged Implementation	Touch point to citizens	Big Fast Result	Leverage on current initiatives/resources	Clear role and ownership through the practise of a RACI diagram	Put in place effective governance and management arrangements
In introducing new applications, start with a basic and simple system. Subsequently, the system should handle transactional processing and eventually, offer fully integrated services across agencies via a set of common systems.	Allowing citizens to easily access services using the device and channel of their choice	Focus on services/features that can be implemented quickly or have early big wins such as common transactions on similiar infrastructure to be implemented first	Services should leverage on existing investments in people and technology where appropriate with the aim of achieving value for money such as minimizing cost, ensuring fast deployment and reducing risks	Identify small and effective teams of people with clear roles and ownership working together to deliver results across agencies	To ensure continued effort for on-going development and sustainability of these initiatives

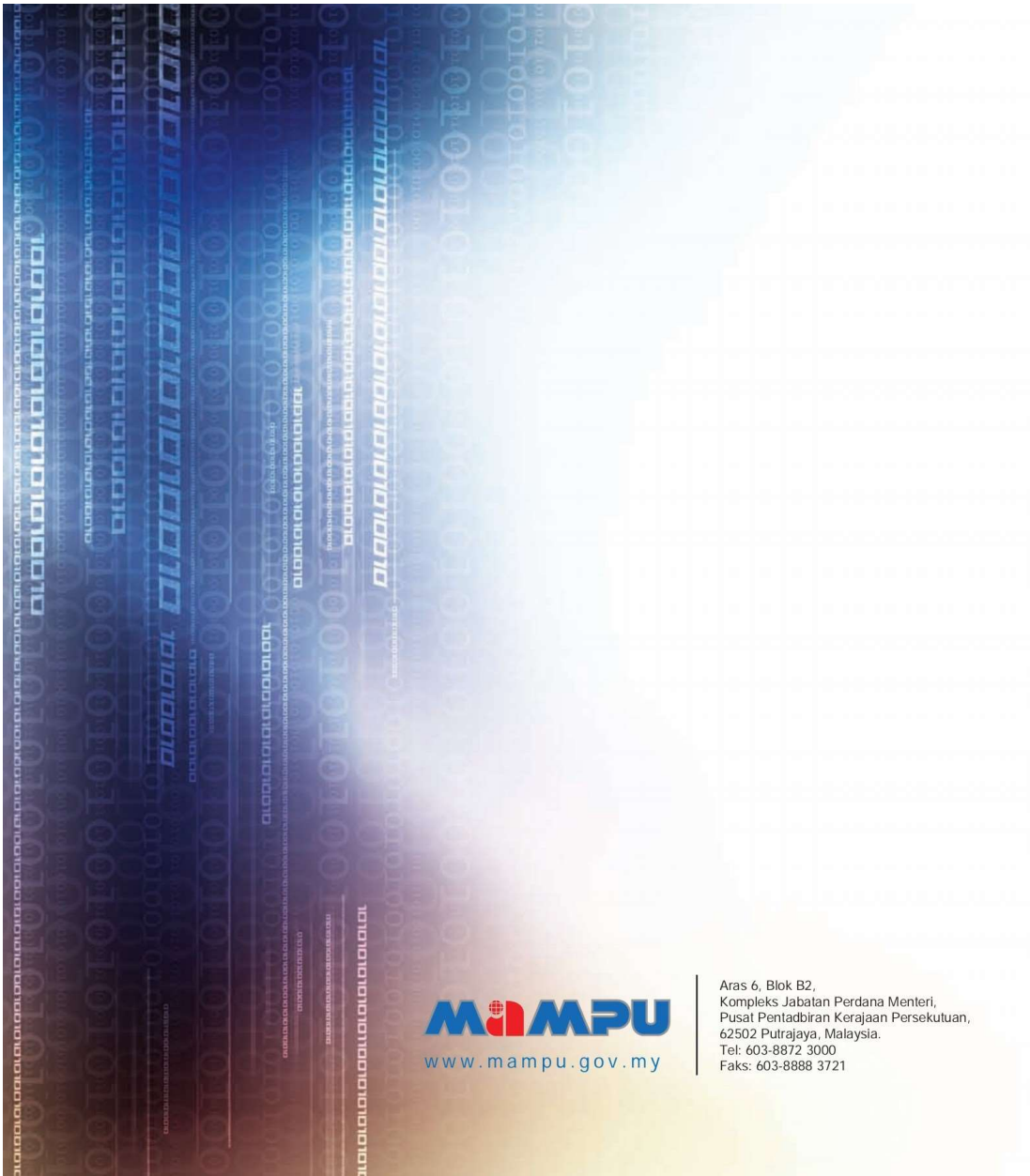**Exhibit 12:** *Implementation Strategy*

The delivery services need to be based on innovation and creativity stimulating the public sector to think out-of-the-box in fulfilling the stakeholders' needs. The demands for services by the people and businesses require Public Sector ICT to leverage on emerging technologies and trends. Technologies such as Web 2.0 and 3.0 applications that facilitate interactive information, interoperability, user-centred design and collaboration of the World Wide Web can be leveraged to deliver services innovatively. Channels such as social-networking sites, blogs and wikis are proven to deliver the content effectively to the intended recipients.

We often believe that our limitations are external when in fact the chains of our limitations are mostly and always inside us. When we break past these chains, the world is then your oyster. One of the biggest mistakes we can make in our journeys is to readily accept the known and resist the unknown. We should, in fact, challenge the known and embrace the unknown. In the unknowns may lie our own prosperity. - **Y.Bhg Tan Sri Mohd Sidek Hassan**, *Chief Secretary to the Government at 26th at the International Islamic University Malaysia Convocation, October 2, 2010*

Innovation is the key to allow the public service to respond to a dynamic global environment. Speedy and effective decision-making will enhance productivity. This requires streamlining traditional decision-making and finding innovative methods to respond quickly to rapidly changing public demands. ICT Governance should be intensified and reinforced especially in the areas of governance structure; management processes and compliance. At the same time, change management needs to be carried out throughout the whole process to ensure acculturation and usage.

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www.mampu.gov.my

Aras 6, Blok B2,
Kompleks Jabatan Perdana Menteri,
Pusat Pentadbiran Kerajaan Persekutuan,
62502 Putrajaya, Malaysia.
Tel: 603-8872 3000
Faks: 603-8888 3721