Measuring the Success of ASEAN Information & Communication Technology Masterplan 2015 Implementation

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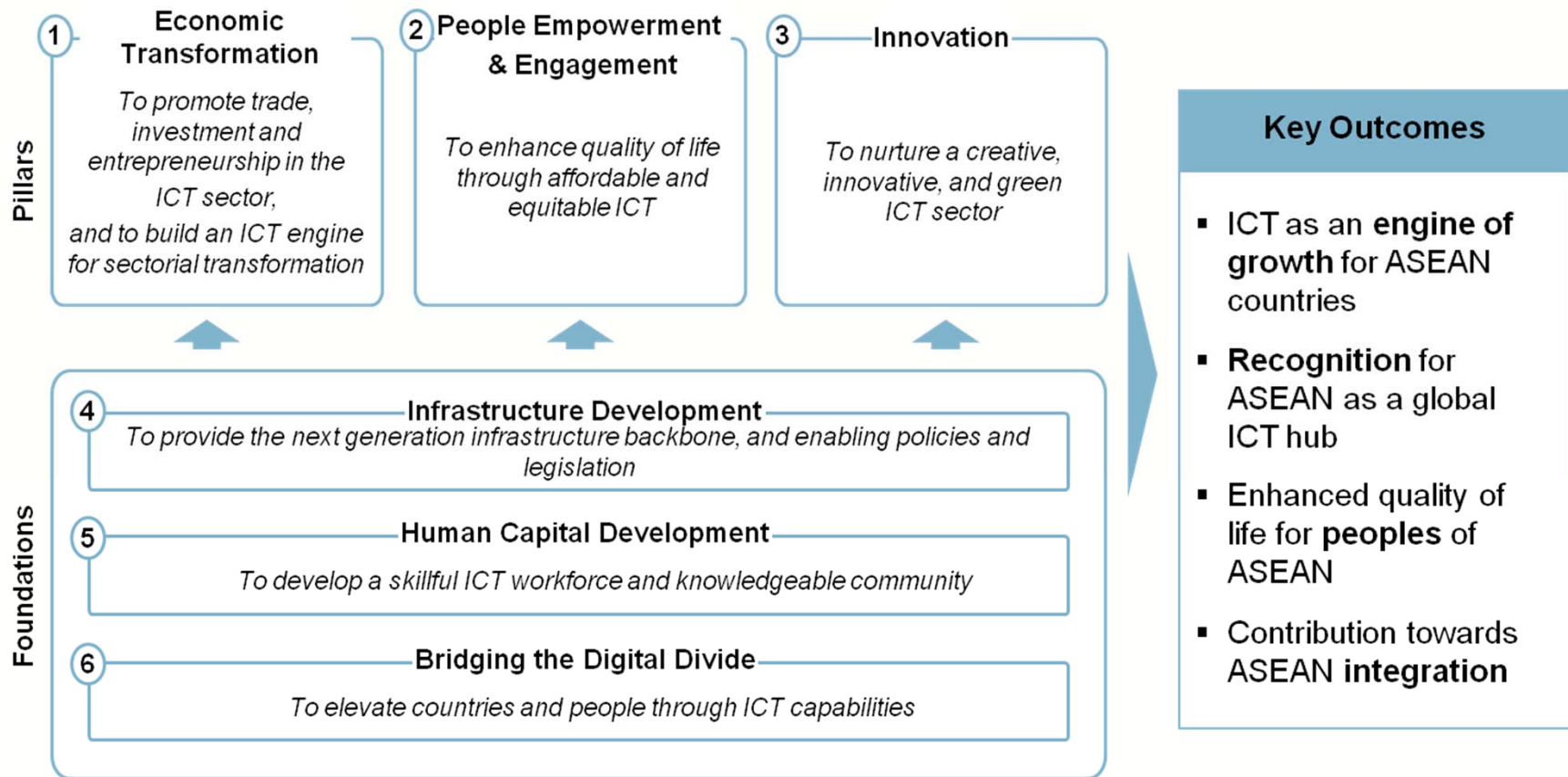
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- ASEAN ICT Masterplan 2015: Vision & Strategic Thrusts
- AIM2015 Initiatives
- Monitoring & Evaluating Implementation Projects
- Proposed KPIs of AIM2015 Implementation

"Towards an Empowering and Transformational ICT: Creating an Inclusive, Vibrant and Integrated ASEAN"

Pillars

1 Economic Transformation

To promote trade, investment and entrepreneurship in the ICT sector, and to build an ICT engine for sectorial transformation

2 People Empowerment & Engagement

To enhance quality of life through affordable and equitable ICT

3 Innovation

To nurture a creative, innovative, and green ICT sector

Foundations

4 Infrastructure Development

To provide the next generation infrastructure backbone, and enabling policies and legislation

5 Human Capital Development

To develop a skillful ICT workforce and knowledgeable community

6 Bridging the Digital Divide

To elevate countries and people through ICT capabilities

Key Outcomes

- ICT as an **engine of growth** for ASEAN countries
- **Recognition** for ASEAN as a global ICT hub
- Enhanced quality of life for **peoples** of ASEAN
- Contribution towards ASEAN **integration**

Strategic Thrust 1: Economic Transformation

Initiative 1.1: Create a conducive environment where businesses can grow leveraging ICT

	Action	Description
1.1.1	Facilitate sharing and exchanging of business information amongst ASEAN countries	• Engage the business community to identify their ICT needs and requirements • Leverage existing initiatives and nurture the development of content and applications to facilitate information exchange and accessibility to data • Develop a conducive ICT environment for businesses
1.1.2	Develop a framework to facilitate transparent and harmonised ICT regulations	• Harmonise regulatory practices and ICT standards

Initiative 1.2: Develop Public-Private Partnership (PPP) initiatives for the ICT industry

	Action	Description
1.2.1	Share various PPP models and practices amongst ASEAN countries to formulate PPP models for the implementation of ICT projects	Determine best practice models most suitable for ICT partnerships between the government and the private sector across ASEAN Adopt best practice PPP models for ICT projects to promote clarity and transparency between governments and the private sector in ASEAN

Initiative 2.1: Ensure affordable broadband access to every community

Action	Description
2.1.1 Study to lower intra-ASEAN roaming charges	• Analyse how intra-ASEAN roaming charges are derived and can be made cheaper to promote the use of mobile broadband across the region

Initiative 2.2: Ensure affordable ICT products

Action	Description
2.2.1 Enhance implementation of mutual recognition arrangements (MRAs)	• Ensure that all technical standards are in the ASEAN working language (English) • Adopt common standards to reduce time-to-market for ICT products

Strategic Thrust 2: People Engagement and Empowerment

Initiative 2.3: Ensure affordable and seamless e-services, content and applications

	Action	Description
2.3.1	Survey and study to identify gaps and determine e-services to be developed	• Identify relevant e-services to be developed, considering in particular the cost of such e-services and location of content • Nurture an environment to facilitate the development of affordable e-services • Promote e-services that can be adapted for local usage
2.3.2	Provide incentives or grants to promote e-services and content development	• Develop criteria to provide incentives to develop ASEAN-wide e-services and content • Provide incentives to individuals and businesses to engage in e-services and content development

Initiative 2.4: Build trust

	Action	Description
2.4.1	Promote secure transactions within ASEAN	• Develop mutual recognition arrangements for cross-certification of digital certificates within ASEAN • Promote the use of two-factor authentication
2.4.2	Outreach campaign to promote awareness of cyber-security	• Create public awareness through education about online security • Forge joint collaboration with industry and other stakeholders • Ensure personal data protection

Strategic Thrust 3: Innovation

Initiative 3.1: Create Innovation Centres of Excellence (COE) for Research and Development (R&D) of ICT services

	Action	Description
3.1.1	Establish networks of COEs	• Establish COEs across ASEAN to promote R&D, innovation and transfer of technology • Connect COEs to facilitate the exchange of ideas and promote greater collaboration amongst ASEAN ICT experts
3.1.2	Develop ASEAN digital content exchange	• Develop platform to facilitate and promote the exchange of content
3.1.3	Promote Intellectual Property Rights (IPR) at ASEAN level to safeguard innovation	• Promote IPR enforcement through sharing of best practices, guidelines and frameworks across ASEAN to safeguard innovation • Provide incentives for R&D efforts as well as to acknowledge, recognise and reward ICT experts

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Initiative 3.2: Promote innovation and collaboration amongst government, businesses, citizens and other institutions

	Action	Description
3.2.1	Recognize and reward ICT innovators	• Develop ASEAN ICT awards to promote creativity and encourage innovation • Provide incentives for R&D efforts to acknowledge, recognise and reward ICT innovators
3.2.2	Launch the ASEAN CIO forum	• Develop platform to promote sharing of best practices and collaboration amongst CIOs

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Initiative 3.3: Nurture innovation and creativity at schools

	Action	Description
3.3.1	Ensure every child has access to broadband internet	• Promote access to broadband internet so that every child can remain engaged, connected and informed

Strategic Thrust 4: Infrastructure Development

Initiative 4.1: Improve broadband Connectivity

	Action	Description
4.1.1	Establish an ASEAN Broadband Corridor	• Identify and develop locations in each ASEAN Member State which offer quality broadband connectivity • Enable seamless usage of broadband services and applications across ASEAN to further connect and enhance the development of ICT and other sectors • Promote the diversity of international connectivity among ASEAN Member States
4.1.2	Establish an ASEAN Internet Exchange Network	• Establish a regulator-operator forum to develop a platform to facilitate intra-ASEAN internet traffic • Facilitate peering amongst ASEAN internet access providers to improve latency and speeds as well as lower costs

Initiative 4.2: Promote network integrity and information security, data protection and CERT cooperation

	Action	Description
4.2.1	Develop common framework for network security	• Establish common minimum standards for network security to ensure a level of preparedness and integrity of networks across ASEAN • Develop a network security "health screening" programme for ASEAN to be implemented at regular intervals • Develop best practice models for business continuity and disaster recovery for all sectors • Establish the ASEAN Network Security Action Council (multi-stakeholder) to promote CERT cooperation and sharing of expertise, amongst others
4.2.2	Develop common framework for information security	• Share best practices on the protection of data and information infrastructure across ASEAN

Strategic Thrust 5: Human Capital Development

Initiative 5.1: Build Capacity

	Action	Description
5.1.1	Develop a registry of experts and innovators	• Establish database of ICT experts and innovators within ASEAN • Forecast ICT manpower demand
5.1.2	Create ASEAN ICT Scholarship Programme	• Develop scholarship criteria and identify funding sources • Encourage and attract ASEAN talents to make ICT their career of choice • Support individuals with strong aptitude for ICT

Initiative 5.2: Develop skills upgrading and certification

	Action	Description
5.2.1	Establish MRA for skills certification	• Develop ICT skill standards for ASEAN to ensure quality of ICT talents • Promote movement of ICT human capital within ASEAN
5.2.2	Develop ICT certification and skills upgrading programme	• Adopt certification of ICT skill sets (e.g. certification of cyber-security experts and trainers) • Promote marketability of certified ICT experts • Develop a competitive ICT workforce through skills upgrading to meet the demand for ICT resources

Initiative 6.1: Review of Universal Service Obligation (USO) or similar policies

	Action	Description
6.1.1	Review of USO or similar policies	• Review USO or similar policies with a view to include IT components and training as part of USO funding • Ensure that infrastructure covered under USO or similar programmes should be broadband internet capable

Initiative 6.2: Connect schools and advocate early ICT education

	Action	Description
6.2.1	Prioritise roll-out to schools	• Establish collaboration between ICT and education sectors to provide broadband internet access to schools within ASEAN • Include ICT as part of ASEAN school curricula to promote early ICT education
6.2.2	Collaborate between ICT and education sectors within ASEAN	• Provide comprehensive ICT training to teachers to encourage the use of ICT in education • Establish ICT exchange programmes for teachers and students • Promote joint collaboration activities to raise awareness of ICT
6.2.3	Promote ASEAN integration through exposure to different cultures within ASEAN at an early age	• Replicate the ASEAN Cyberkids Camp across ASEAN • Educate children to use ICT creatively and effectively beyond the school environment in an interactive manner • Encourage the positive use of internet • Create similar camps for teachers

Initiative 6.3: Improve access and relevance of information

	Action	Description
6.3.1	Collaborate with relevant ministries	• Develop platform within the ASEAN institutional framework to identify relevant content for different communities and sectors within ASEAN • Facilitate access and relevance of information to promote ICT adoption • Promote public education on ICT for community development

Initiative 6.4: Bridge the digital divide within ASEAN

	Action	Description
6.4.1	Bridge the digital divide within ASEAN	• Integrate and review current efforts to promote ICT access and adoption to bridge the digital divide • Leverage on USO or similar policies • Facilitate access to ICT devices such as laptops, smart phones and computers • Provide sustainable measures (e.g. training) where appropriate • Harness and maximise resources to leverage on best practice models to promote ICT adoption

- A set of KPIs of AIM2015's implementation projects was presented at the Special Meeting of TELSOM in Singapore (26-29 July 2010), based on the outcome of the discussion at a TELSOM Working Group meeting.

- However, there was no consensus on the adoption of the KPIs.

- KPIs were deemed needed to:
  - Inspire ASEAN stakeholders
  - Gauge ASEAN's success in developing ICT
  - Evaluate the effectiveness of ASEAN's ICT projects
  - Determine if future projects should be executed differently

AIM2015's Key Outcomes

- ## ICT as an engine of growth for ASEAN countries
  - ICT will be one of the key economic sectors in ASEAN as well as an enabler to increase competitiveness for other industry sectors.

- ## Recognition for ASEAN as a global ICT hub
  - ASEAN will distinguish itself as a region of high quality ICT infrastructure, skilled manpower and technological innovation.

- ## Enhanced quality of life for peoples of ASEAN
  - The pervasive adoption of ICT will provide the peoples of ASEAN the means to be engaged, relevant and informed. This will have a profound impact on the way people live, work and play.

- ## Contribution towards ASEAN integration
  - ICT will foster greater collaboration amongst ASEAN businesses and citizens, leading to integration of ASEAN.

ASEAN Strategic Goals to Align with

ASEAN Economic Community

Strategic Schedule of the AEC Blueprint (2008-2015)

AEC Pillar 1	AEC Pillar 2	AEC Pillar 3	AEC Pillar 4
Single Market & Production Base	**Competitive Economic Region**	**Equitable Economic Development**	**Integration into the Global Economy**
• Free flow of goods • Free flow of services • Free flow of investment • Freer flow of capital • Free flow of skilled labor • Priority Integration Sectors • Food, agriculture and forestry	• Competition policy • Consumer protection • Intellectual property rights • Infrastructure development • Taxation • E-Commerce	• SME development • Initiative for ASEAN Integration	• Coherent approach towards external economic relations • Enhanced participation in global supply networks

Proposed M&E Methodology

Determine the Baseline

- Gather each ASEAN country's most recent performance on each indicator

- Find the weighted average of ASEAN on each KPI
    or
- Sum the performance of all the ASEAN countries

Calculate the Compound Annual Growth Rate (CAGR)

- Find each ASEAN country's performance on each indicator from five years ago

- Calculate the CAGR by comparing its most recent performance with that from five years ago

Find the 2015 Target

- Multiply each country's baseline performance by its CAGR to determine its performance on each indicator in 2015

- Find the weighted average of ASEAN on each KPI in 2015
    or
- Sum the 2015 targets for all the ASEAN countries

Proposed KPIs (by Accenture)

Strategic Thrust	Key Performance Indicator	Baseline (2009)	2015 Target
Economic Transformation	• Percentage of the economic value contributed by transport, storage and communications (based on 1990 prices)	• 9%	• 10%
People Engagement and Empowerment	• Percentage of the population that are mobile cellular subscribers	• 67%	• 109%
	• Percentage of the population that are broadband subscribers	• 1%	• 38%
Innovation	• Number of patent applications in ASEAN per year	• 49,612 patents	• 91,494 patents
Infrastructure Development	• Average advertised internet speeds available in each country	• 6 ASEAN countries above 2Mbps	• 10 ASEAN countries above 2Mbps
Human Capital Development	• Percentage of workforce employed in transport, storage and communications	• 5%	• 6%
Bridging the Digital Divide	• Percentage of households with computers	• 13%	• 107%

Proposed KPIs (by TELSOM WG)

Strategic Thrust	Key Performance Indicator	Baseline	Target
Economic Transformation	• Percentage of GDP contributed by ICT (i.e. Telecom Services, Hardware, Software, Content Development and IT services)		
People Engagement and Empowerment	• Mobile cellular subscriptions per 100 inhabitant		
	• Broadband subscriptions per 100 inhabitant		
Infrastructure Development	• International internet bandwidth per internet user (bit/s)		
Human Capital Development	• Percentage increase of ICT graduates per year at university level (bachelor's degree)		
Bridging the Digital Divide	• Percentage of public schools with computer lab connected to broadband (512 kbps) – rural vs. urban		
	• Percentage of villages connected to broadband (512 kbps)		

STRATEGIC THRUST	ASEAN INITIATIVE	INDICATOR
2. People Engagement and Empowerment	*Ensure affordable broadband access to every community*	Percentage of population using the Internet
	Ensure affordable ICT products	Percentage of households with computers
	Ensure affordable and seamless e-services, content and applications	Percentage of population using e-government
		Percentage of population using e-government and returning forms
	Build trust	Percentage of SMEs selling online
		Percentage of population buying online
6. Bridging the Digital Divide	*Review of Universal Service Obligation (USO) or similar policies*	Percentage of households with Internet access
		Broadband coverage

I. Economic Transformation	II. People Engagement and Empowerment	III. Innovation
1. ICT goods exports (percentage of total goods exports) 2. ICT service exports (percentage of service exports, BoP) 3. Nominal GDP with ICT contribution (by percentage)	1. Cost per megabyte of download as percentage of GDP per capita 2. Cost per 10-second mobile tariff as percentage of GDP per capita 3. Percentage of firms with an online presence 4. Number of e-Government services available 5. Percentage of business registrations and filings conducted online 6. Number of cyber intrusions (network attacks) per month 7. Number of online monetary transactions per month, and percentage of total transactions (by volume and value)	1. No. of patent applications by residents

IV. Infrastructure Development	V. Human Capital Development	VI. Bridging the Digital Divide
1. Broadband subscriptions per 100 population 2. Wireless broadband subscriptions per 100 population 3. Mobile (subscriptions) per 100 population 4. Percentage of individuals using the Internet / Internet penetration (Internet users per 100 people) 5. Secure Internet servers (per 1 million people) 6. International connectivity (international broadband per economy) 7. Average access speed 8. Data centre efficiency level (average power usage effectiveness or PUE)	1. ICT manpower (in absolute numbers) with tertiary education and above, and percentage growth year-on-year 2. Number of employed ICT professionals and percentage growth year-on-year	1. Percentage of public schools with broadband access 2. Percentage of population (15 years+) with financial access (bank or other registered financial account)

THANK YOU

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