

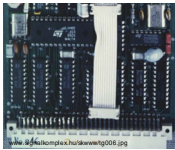


# ICT Policies and Strategies





Development and Implementation



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# Introduction

This session provides the basic lay out of the policy scene as a basis for the days to come:

- Definitions
- Steps in policy formulation and implementation
- Role of stakeholders
- Measuring progress
- Resource mobilisation

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# Definitions

**Policy** = short to the point document that provides the governments' mission and vision in a particular area. *(long term)*.

**Strategy** (Master plan, Action plan) = the translation of the policy into a framework of related programmes. *(medium term)*.

**Programme** = a set of projects that together cover one particular area or key objective. *(medium term)*.

**Project** = a time bound set of activities that lead to the establishment of a particular goal. *(short term)*.

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# What is ICT?

## Information Communication Technology

- A tool.
- Includes 'old' and 'new' technologies.
- Rapidly changing and converging.
- Technology of the "young".
- Affects all sectors and layers in society.
- Globaliser.


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# What makes ICT policy different?

- Lifecycle of a new technology shorter than the life cycle of an ICT policy.
  - ▶ Policy = technology neutral
- ICT is a tool.
  - ▶ Policy objectives = non- ICT
- ICT is cross cutting.
  - ▶ Policy integrates all sectors
- ICT is participatory.
  - ▶ Policy developed in participatory way.

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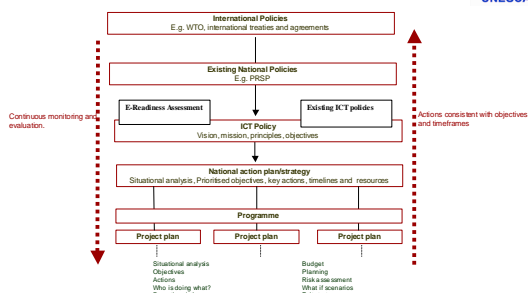


# Role of Government

- Regulator
  - ICT Law
  - Telecoms Law
  - E-Commerce Law
  - Media Law
- Enabler
  - National policies and strategies
- User
  - Procurement activities
  - Reaping the benefits

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## The Policy Process



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## E-Readiness Assessments



- **What ?** The measurement of how ready a country is to achieve the objectives it has laid out in its ICT policy.
- **Why ?** To gain insight into the country's strengths, weaknesses, opportunities and threats. To establish the starting point for future measurement of progress.
- **How ?** Many different methods. Choose method that will best produce the information you need. Choose method compatible with international methods

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## E-Readiness Assessments: Steps



- Define "E-Readiness" for your country.
  - Choose a benchmark country.
- Select E-Readiness model:
  - That provides insights needed.
  - That is compatible with international indicators.
  - That can be used in the Vietnamese setting.
- Apply the model
  - Use external researchers if in-country expertise not available
    - Advantage: Neutral outlook
    - Disadvantage: May not understand the local setting fully. Expensive
- Use the outcomes for policy, programme and project development or adjustment.
- Use the outcomes to further develop progress indicators.

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## Readiness for the Networked World



- An E-readiness assessment guide developed by Centre for International Development (Harvard University).
- Based on the principle that a networked world 1) creates opportunities, 2) eliminates barriers and 3) promotes efficiency.
- Identifies four stages of readiness with the fourth stage being most advanced.
- Note: E-Readiness needs internal or external benchmarking.
- Note: E-Readiness is only a snapshot of today.

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## Readiness for the Networked World

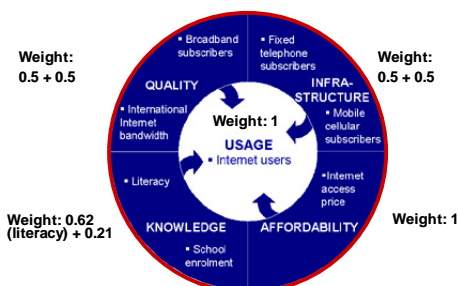


Uses five categories:

- **Network Access:**
  - Availability, Cost and Quality of ICT networks, equipment and services.
- **Networked Learning**
  - Integration of ICT in general and professional education.
- **Networked Society**
  - The ability of individuals to access and use ICT
- **Networked Economy**
  - The usage of ICT as a communication tool by businesses and government.
- **Networked Policy**
  - Facilitation of policies.

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## DAI Index



Source: www.itu.org

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## DAI Index for Selected Countries



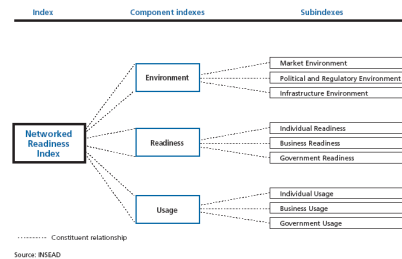
Country	Infrastructure	Affordability	Knowledge	Quality	Usage	DAI
Azerbaijan	0.15	0	0.88	0.12	0.04	<b>0.24</b>
Bangladesh	0.01	0.33	0.45	0.12	0	<b>0.18</b>
Bhutan	0.02	0	0.42	0.21	0.02	<b>0.13</b>
China	0.22	0.87	0.79	0.24	0.05	<b>0.43</b>
India	0.04	0.78	0.57	0.18	0.02	<b>0.32</b>
Kazakhstan	0.14	0.73	0.92	0.22	0.02	<b>0.41</b>
Malaysia	0.35	0.97	0.83	0.31	0.38	<b>0.57</b>
Nepal	0.01	0.3	0.5	0.14	0	<b>0.19</b>
Philippines	0.13	0.80	0.90	0.26	0.05	<b>0.43</b>
Sri Lanka	0.06	0.79	0.82	0.22	0.01	<b>0.38</b>
Thailand	0.22	0.96	0.88	0.27	0.09	<b>0.48</b>
Viet Nam	0.05	0.45	0.83	0.19	0.02	<b>0.31</b>

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## Networked Readiness Index



Figure 1. The Networked Readiness Index Framework



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## Networked Readiness Index for Selected Countries



Country	Networked Readiness Index Rankings		Environment Component Index		Readiness Component Index		Usage Component Index	
	Score	NRI Rank	Score	Rank	Score	Rank	Score	Rank
Azerbaijan	-	-	-	-	-	-	-	-
Bangladesh	2.57	<b>93</b>	2.57	89	3.00	95	2.14	92
Bhutan	-	-	-	-	-	-	-	-
China	3.38	<b>51</b>	3.03	63	4.14	54	2.97	43
India	3.54	<b>45</b>	3.45	44	4.23	50	2.94	44
Kazakhstan	-	-	-	-	-	-	-	-
Malaysia	4.9	<b>26</b>	3.95	26	4.86	29	-	-
Nepal	-	-	-	-	-	-	-	-
Philippines	3.10	<b>69</b>	2.67	82	3.84	72	2.80	50
Sri Lanka	3.15	<b>66</b>	2.99	66	3.98	64	2.49	71
Thailand	3.72	<b>38</b>	3.57	41	4.59	37	3.00	40
Viet Nam	3.13	<b>68</b>	2.80	74	3.93	67	2.67	58

Total participating countries: 102

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## SWOT



### Strengths

What do we do better than our neighbours?  
What do we have that others do not have?  
What are our comparative advantages?

### Weaknesses

What do we do worse than our neighbours?  
What do we not have that others do have?  
What are our comparative disadvantages?

What national and international trends may be beneficial to us?

What national and international trends may be harmful to us?

### Opportunities

### Threats

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## ICT enabling strengths



- Economy focus**
- Infrastructure
  - Affordable access
  - High literacy rates
  - English
  - High quality technical and managerial education
  - Pro active (ICT) private sector
  - Government enabling with transparent, facilitating and fair policies.
  - Stable political, social and economic environment
  - Well developed R&D and innovation (patents).
  - Ample financial resources
  - Low labour costs

- Society focus**
- Infrastructure
  - Affordable and easy access
  - Awareness
  - Strong support from local communities (champions!)
  - Local content and applications
  - Political, social and economic stability
  - Purchasing Power
  - Government facilitating and incorporating society information needs.

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## ICT inhibiting weaknesses



- Economy focus**
- Lack of broadband access
  - Access costs high
  - Lack of market
  - Lack of business skill and experience
  - Political, social and/or economic environment unstable.
  - Government regulating rather than facilitating
  - Lack of access to investment capital
  - Low overall, managerial and technically specific education levels
  - High labour costs

- Society focus**
- Lack of government priority and support
  - Poor infrastructure
  - Lack of Awareness
  - Lack of local support
  - Political, social and/or economic instability
  - Lack of local content and applications
  - Lack of local purchasing power.

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## Trends in ICT and Policy Implications



### Trend

- Increase in affordable broadband.
- Convergence of DTV and ICT.
- Mobile / Wireless – convergence of ICT and telecoms.
- Traditional media (TV, radio, paper) continue to be strong.

### Policy Implications

- Policies should encourage broadband application and liberalise broadband market.
- Wireless infrastructure offers access opportunities for remote areas.
- New infrastructure and implications should anticipate convergence of technologies.
- Policies should include traditional media.
- Traditional media can play an important role in awareness raising campaigns.

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## Trends in ICT



### Trends

- Level of Internet usage depends on access, age, education, gender, and income (e-Living project Europe). Typical early adopters are male, single, educated and young. Women, the elderly, families and groups with little education lag behind.
- Increased overall reliance on new technologies and applications.

### Policy Implications

- Start ICT penetration in education and young generation 'hang-outs'. The young are the ICT generation of tomorrow.
- Special access and awareness programmes for women, families, the elderly and low income groups.
- Local content and applications should specifically focus on the groups that lag behind.

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## Trends in ICT



### Trends

- Demand for data security increases.
- Increase in use of Free and Open Software as a platform.
- Non ICT Companies integrate systems further and further; focus on E-Commerce.
- Reduction in demand and costs for ICT staff.
- ICT and media industry maturing; inclination to cost-reduction and economies of scale.

### Policy Implications

- Regulatory framework and enforcement on data security, IPRs, cyber-crime crucial.
- Policies should encourage interoperability of systems.
- Anti-monopolist policies.
- Government protection of incubators and SMEs (within framework of international agreements) against early take-overs.

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## Trends in ICT



### Trends

- Increased English language capacity.
- Reduction in demand and costs for IT staff.
- ICT and media industry maturing; inclination to cost-reduction and economies of scale rather than innovation and incubation.
- ICT Industry: shift from product orientation to service orientation

### Policy Implications

- Advantage of low cost labour should be exploited in-country (outsourcing industry).
- Encourage large (foreign) firms to make use of local low costs facilities.

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## Trends in ICT



### Trends

- Upcoming new technologies gain ground: convergence ICT and bio-technology, nano technology, artificial intelligence.
- On-going 'technologisation' of society will change traditional social and institutional structures.

### Policy Implications

- Innovation and high level technical education important to keep up with developments.
- Enable government and others to keep up to date through research facility.
- Encourage participation in international research initiatives.
- Government answer to changing society: developing new social and institutional structures to match a changing world.
- Lifelong learning needs to be facilitated.

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## Definitions



**Policy** = short to the point document that provides the governments' mission and vision in a particular area. (*long term*).

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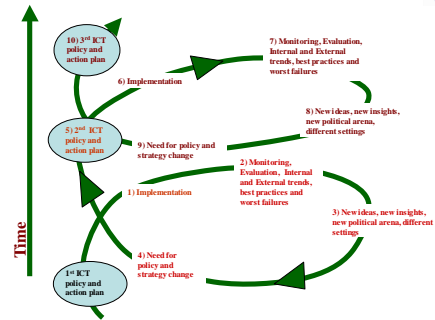
## What are good policies?



- Cover and integrate all aspects of ICT.
- Have the support of all stakeholders.
- Provide a clear mission, vision, guiding principles and overall objectives.
- Are in line with national and international agreements and policies.
- Forward looking and daring
- Yet realistic
- Are cross cutting in nature
- Are technology neutral.
- Prioritise objectives to facilitate implementation.
- Focus on NEED.

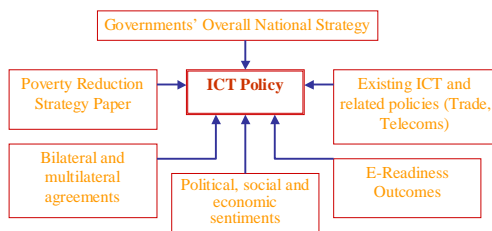
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## Policy evolution



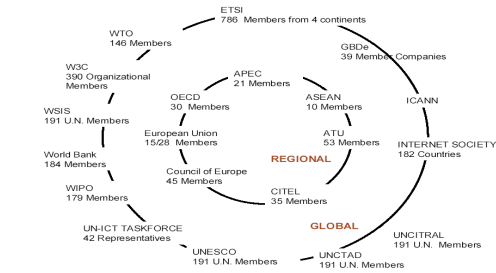
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## National Impact on ICT policy



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## International impact on ICT Policy



Source: Guide to International ICT Policy Making, Markle foundation, 2005. Available from <http://www.unicttaskforce.org/pdf/documents.pdf?id=1312>

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## UNCITRAL



### Underlying Principles:

- **Equivalence.** Paper documents and their electronic counterparts have the same legal value.
- **Autonomy of contracts.** Whether in paper form or in electronic form, the substantive content of the contract remains the same.
- **Voluntary use of electronic communication.**
- **The requirements for a contract to be valid and enforceable remain the same.**
- **Application to form rather than substance.** In other words, the law regulates the contractual framework, form but not the content of the contract.
- **Consumer protection laws should take precedence over the provisions of the UNCITRAL Model Law.**

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## WIPO - IPRs



"**Intellectual property** refers to creations of the mind: inventions, literary and artistic works, and symbols, names, images, and designs used in commerce.

Intellectual property is divided into two categories: **Industrial property**, which includes inventions (patents), trademarks, industrial designs, and geographic indications of source; and **Copyright**, which includes literary and artistic works such as novels, poems and plays, films, musical works, artistic works such as drawings, paintings, photographs and sculptures, and architectural designs. Rights related to copyright include those of performing artists in their performances, producers of phonograms in their recordings, and those of broadcasters in their radio and television programs."

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## WTO - TRIPS



Agreement on Trade Related Aspects of Intellectual Property Rights:

- Emphasizes the ownership of intellectual property.
- Regulates globally copyrights, trademarks, industrial design, patents.

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## ICANN- DNS



- DNS = Domain Name System. (dot...)
- ICANN = The Internet Corporation for Assigned Names and Numbers.
  - Allocates domain names.
  - TLDs = Top Level Domains
    - Generic: .com, .org, .net
    - Country code: .vn, .th, .nl
- Uses “Registrars” – local ISPs.
  - Pay to ICANN for services

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## ICANN- Trade mark conflict



- Domain names can conflict with trademarks:
  - What to do with someone registering:
    - [www.cocacola.com](http://www.cocacola.com)?
- ICANNs response:
  - Minimum quality requirements for registration
  - Respect of IPRs.
  - Uniform Domain Name Dispute Resolution Policy (UDNDRP)

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## Roles of national stakeholders

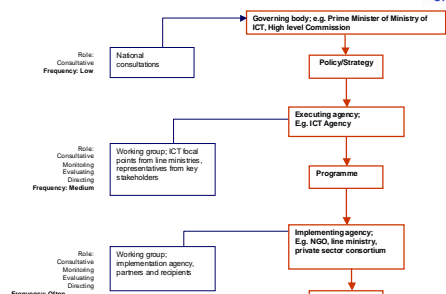


Private Sector	–	ICT and non ICT sectors
The Public	–	Citizens (women, the young, vulnerable groups), NGOs
The Government	–	Government and government affiliated agencies (incl. educational institutions, research centres)
Financing Institutions-		Banks, donors, partners

- Dominance of a particular stakeholder group will influence policy focus!
- Different stakeholders – different approach

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## Consultation process: a Model



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## Methods of consultation



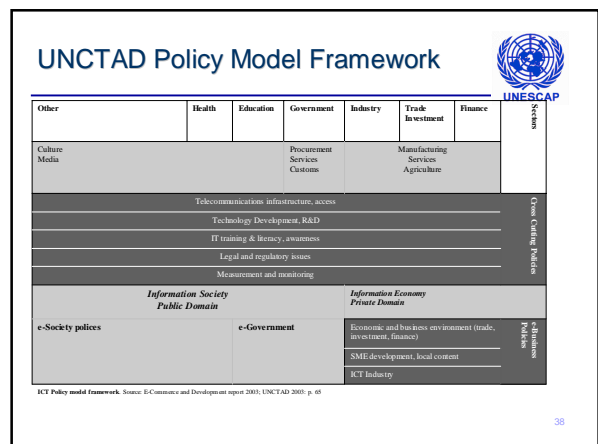
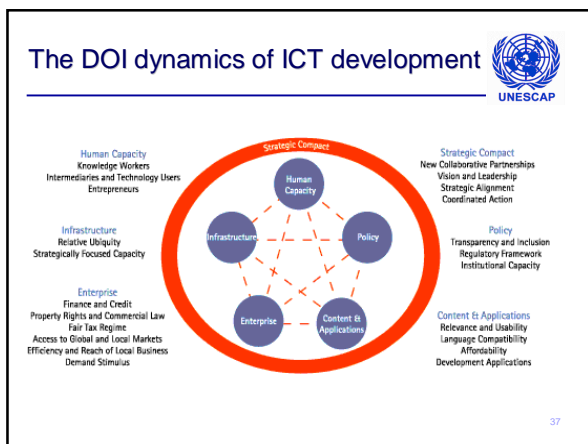
### Physical

- Consultative meetings
- Focus groups
- Interviews
- Questionnaires
- Competitions

### Virtual

- On-line discussion platform
- On-line voting
- On-line discussion group

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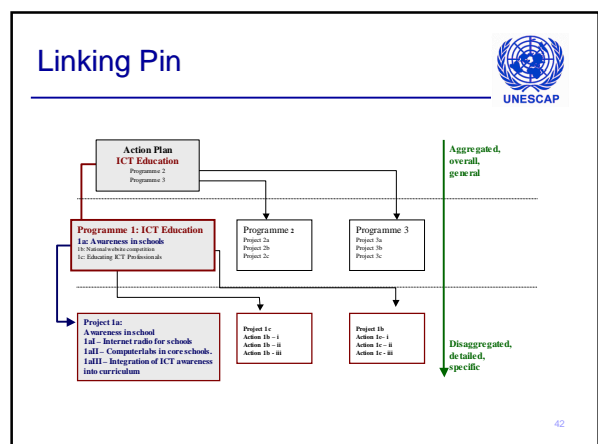
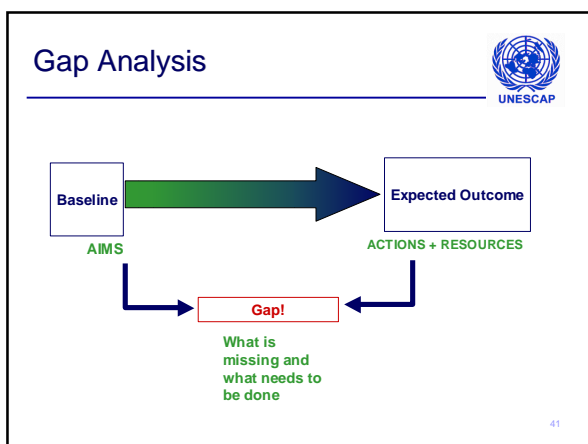


However:

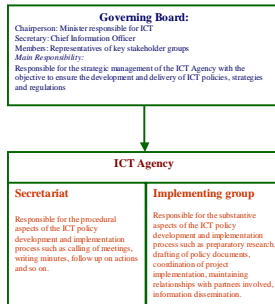
A policy will never be perfect...  
.....therefore at some point one has to "get on with it".....

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- ## From Policy to Strategy
- Group policy objectives thematically.
  - Prioritise thematic groups.
  - Prioritise objectives in each group.
  - Per group define expected outcomes (results) = *programmes*.
  - Gap-analysis: identify key actions = *projects*.
  - Per group identify key resources
  - Per group identify implementing agency, key partners and stakeholders.
  - Allocate a timeframe for each group.
- 40



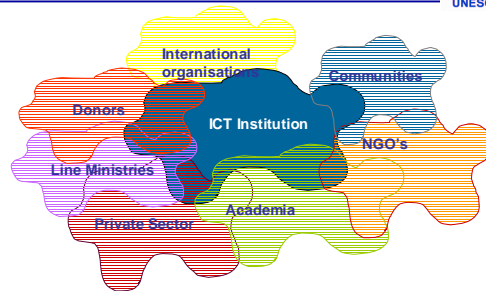
## ICT Agency: Organisation structure



Source: World bank

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## ICT Agency: Networking Agency



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## TOR for an ICT Agency



- ✦ Has a clear mandate.
- ✦ Has adequate resources.
- ✦ Has strong leadership.
- ✦ Has decision taking power.
- ✦ Has a neutral position.
- ✦ Has the capacity to build and maintain partnerships.
- ✦ Has a balance between technically and managerially trained staff.
- ✦ Is transparent, flexible and agile.
- ✦ Is pro-active.
- ✦ Is small.

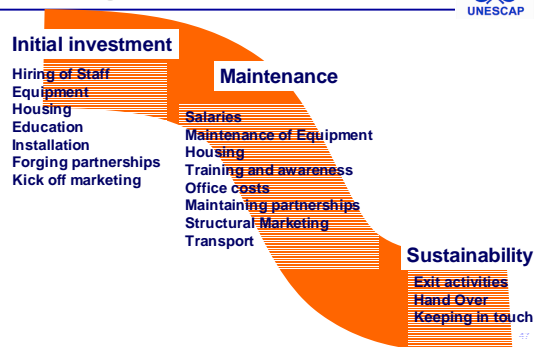
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## Resource mobilisation



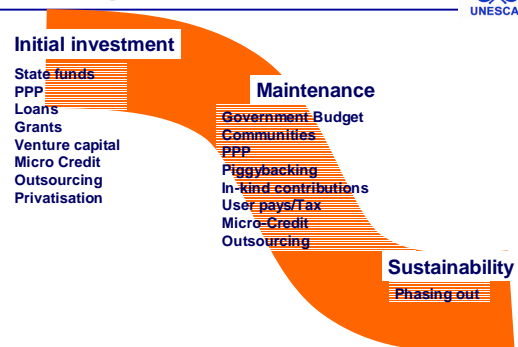
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## Seeking Resources



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## Seeking Resources



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## Considerations

Develop a resource mobilisation strategy:

1. What types of investment are needed and when?
2. What are the cost involved?
  - On a one-off basis
  - On a regular basis
3. What costs can be recovered?
4. Balance costs and quality criteria.
5. Take into account inflation and price increases.

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## Considerations

Develop a resource mobilisation strategy:

- What resources must be mobilised externally?
- Which sources are available?
- What are the characteristics of these sources?
- Match sources with needs.
- How do can we best tap into these resources?

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## Outsourcing as a financing option

1. Determine:
  - What needs to be done in-house?
    - Government priorities
    - International agreements
    - Security and legal issues
  - What can be outsourced?
2. What outsource modality works best?
  - Least subsidy?
  - BOOT schemes?
  - Contracting?
3. What is the best financing modality?
  - Available finance and other resources in-house?
  - Piggybacking possible?
  - External resources accessible?
  - Risk assessment.

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## Public Private Partnership

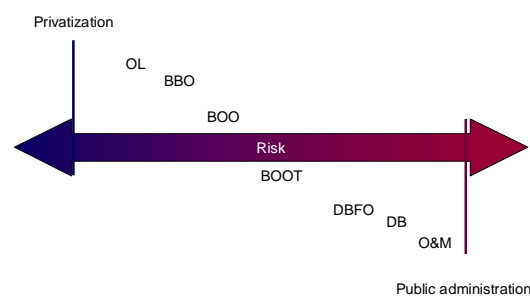
### Definition:

**A cooperative venture between the public and private sectors, built on the expertise of each partner, that best meets clearly defined public needs through the appropriate allocation of resources, risks and rewards.**

(The Canadian Council for Public-Private Partnerships)

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## Public Private Partnership



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## Types of PPP



- **Design-Build (DB)**: The private sector designs and builds infrastructure to meet public sector performance specifications, often for a fixed price, so the risk of cost overruns is transferred to the private sector.
- **Operation & Maintenance Contract (O&M)**: A private operator, under contract, operates a publicly owned asset for a specified term. Ownership of the asset remains with the public entity.
- **Design-Build-Finance-Operate (DBFO)**: The private sector designs, finances and constructs a new facility under a long-term lease, and operates the facility during the term of the lease. The private partner transfers the new facility to the public sector at the end of the lease term.
- **Build-Own-Operate**: The private sector finances, builds, owns and operates a facility or service in perpetuity. The public constraints are stated in the original agreement through on-going regulatory authority.
- **Build Own Operate Transfer (BOOT)**: A private entity receives a franchise to finance, design, build and operate a facility (and to charge user fees) for a specified period, after which ownership is transferred back to the public sector.
- **Build-Buy Operate (BBO)**: Transfer of a public asset to a private or quasi-public entity usually under contract that the assets are to be upgraded and operated for a specified period of time. Public control is exercised through the contract at the time of transfer.
- **Operation Licence (OL)**: A private operator receives a license or rights to operate a public service, usually for a specified term.
- **Finance Only (FO)**: A private entity, usually a financial services company, funds a project directly or uses various mechanisms such as a long term lease or bond issue.

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## Establishing partnerships



- A real need
- Understanding
- Mutual trust
- Visible benefits
- Clear incentives

Awareness

Participation

Implementation

Ownership

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## Public Private Partnerships



- **Know and understand your partner.**
  - Recognize the strengths and the weaknesses of the partnership.
- **Build synergies and trust.**
- **Maintain open communication.**
  - Give complete and timely communication.
  - Seek to solve problems together.
- **Emphasize and strengthen the partnership through formal written agreements.**
- **Honour these agreements.**
- **Share risks and rewards.**

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## Risk assessment



- A good risk assessment saves resources.
- Include ratings from global companies such as S&P
- Risk assessment and management during the Feasibility and Analysis phase of project development.
- Example methods:
  - Simple Factor Rating
  - Design-Reality Gap Assessment Techniques

<http://www.e-devexchange.org/GovtRiskAssess.htm>

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## OECD Risk Ratings of Selected Countries



Country	Country risk classification	Country	Country risk classification
Azerbaijan	6	Maldives	5
Bangladesh	6	Mongolia	7
China	2	Myanmar (Burma)	7
Chinese Taipei	1	Nepal	7
Hong Kong	2	Pakistan	7
India	3	Philippines	5
Indonesia	6	Solomon Islands	7
Kazakhstan	5	Sri Lanka	5
Kyrgyz Republic	7	Thailand	3
Laos	7	Uzbekistan	7
Malaysia	2	Vietnam	5

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## Monitoring and Evaluation: ICT Indicators (OECD list)



- **Resources for the Information Society**
  - Investment in ICT equipment and software
  - Consumption of ICT goods and services
  - ICT patents
  - Occupations and skills in the information society
- **The ICT sector**
  - ICT producing sectors
  - Size and growth of the sector
  - Contribution of the sector to employment growth
  - R&D in selected ICT industries
  - Contribution of ICT sector to international trade
  - ICT sector exports: share in total exports and composition
  - ICT trade specification and comparative advantage
  - Foreign affiliates in the ICT sector

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## Monitoring and Evaluation: ICT Indicators (OECD list)



- Access to and use of information technologies
  - Telecommunication networks
  - Internet infrastructure
  - Internet subscribers
  - ICT access by households
  - Internet access by households
  - Use of the Internet by individuals
  - Internet access and use by businesses
  - Internet access and use by enterprise size and industry
  - Perceived barriers to Internet access and use in the business sector
  - The price of Internet access and use

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## Monitoring and Evaluation: ICT Indicators (OECD list)



- Electronic Commerce
  - Infrastructure for Internet commerce
  - Measuring electronic commerce transactions
  - Internet and electronic commerce transactions
  - Internet and electronic commerce transactions by consumers
  - Internet transactions by product and cross-border
  - Drivers and inhibitors of Internet commerce
  - Barriers to Internet commerce
- ICT in education and government
  - ICT in education
    - Computer access
    - Computer use at different education levels
  - ICT in government
    - Internet and e-mail access of civil servants

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## ICT Indicators



- ICT indicators should be:
  - Developed in close liaison with NSO's.
  - Provide the information needed.
  - As tangible as possible.
  - Match as much as possible international statistical standards.
  - Make as much as possible use of indicators already in use.

Working group on ICT Statistics (UN-OECD) is developing questionnaire.

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## Interoperability framework



"A set of standards and guidelines which describe the way in which organisations have agreed, or should agree, to interact with each other. An interoperability framework is, therefore, not a static document and may have to be adapted over time as technologies, standards and administrative requirements change."

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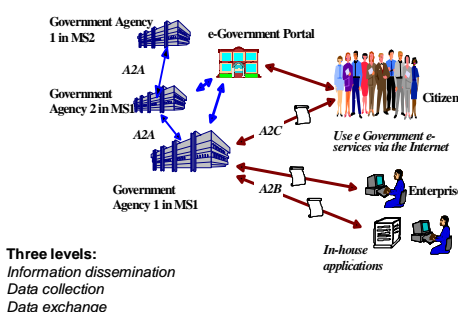
## Interoperability in practice



1. Organisational Interoperability
  - Business models and processes.
  - Organisation structures
  - Information needs
2. Semantic Interoperability
  - Readability of exchanged data across different systems and applications. Harmonisation of platforms and applications.
3. Technical Interoperability
  - Compatibility of network architecture and hardware.

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## EU Interaction types



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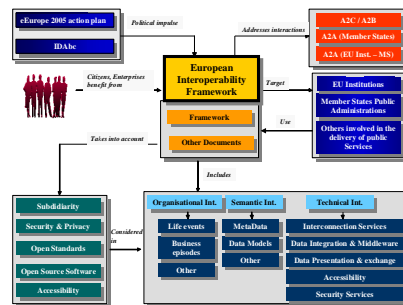
## Interoperability considerations



1. Accessibility
2. Multilingualism
3. Security
  - Different security levels for each interaction type.
4. Privacy
  - Different privacy levels for different data type.
5. Subsidiarity
6. Use of Open Standards versus Proprietary software.

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## EU Interoperability framework



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Thank you



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