

Regulatory and Policy Challenges in Telecommunications Development

Opportunities due to Technical
Innovations and New Trends

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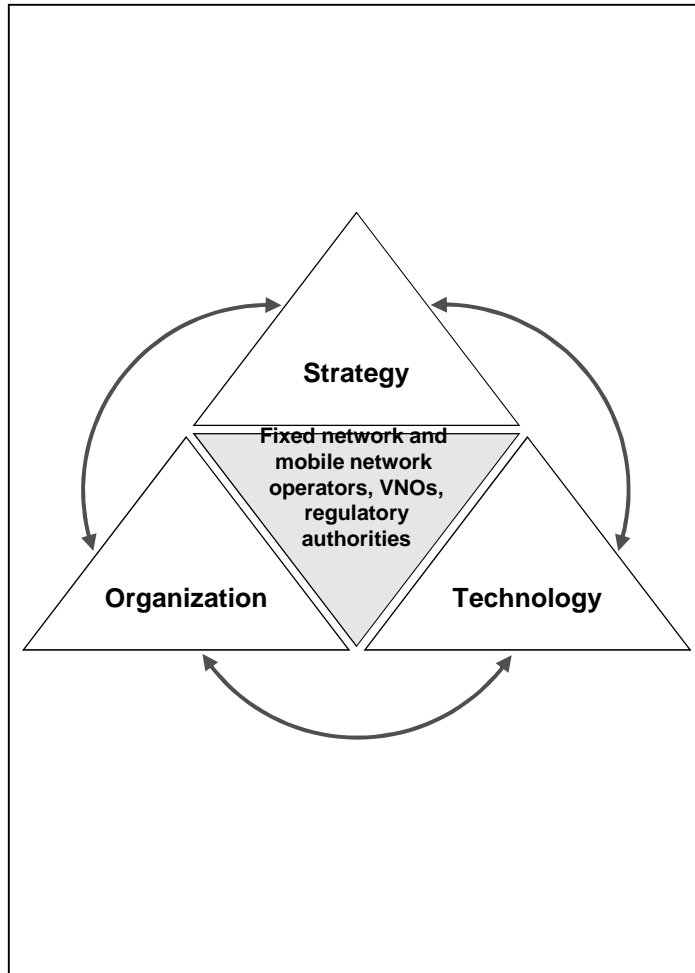
Presented at BMZ/GTZ conference „ICT
for Rural Economic Development

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Our Consulting Approach

We provide the management of ICT companies with advice on the issues of strategy, organization, and technology design.



The Detecon Branch Offices



Established:

1954 Diebold
1977 DETECON
2002 Detecon International GmbH

Shareholder:

T-Systems International GmbH

Setting the Regulatory Scene

Socio Economic Macro Framework

The macro framework sets the room for manoeuvre. Policy and regulation have to reflect the countries starting point and capabilities.

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The PEST Framework

Capabilities

- Political
- Economic
- Social
- Technological

Gaps
Commitments
Policy Coherence
Rights & Obligations

The Index Analysis

Index	Rank	Trend from previous year
World Bank Doing Business 2010	Rank 143 of 181	↘
Human Development Index	Rank 109 of 177	↔
ITU ICT opportunity index	Rank 112 of 183	↔
Transparency International Corruption Index	Rank 126 of 180	↘
Freedom House Index	.Not Free' within 'free'/'partly free'/'not free'	↔
WEF Competitiveness Index	Rank 94 of 134	↘
Bertelsmann Transformation Index	Rank 113 of 125	↘

Benchmarks

- For business
- For development
- For ICT
- For corruption
- For competition
- [...]

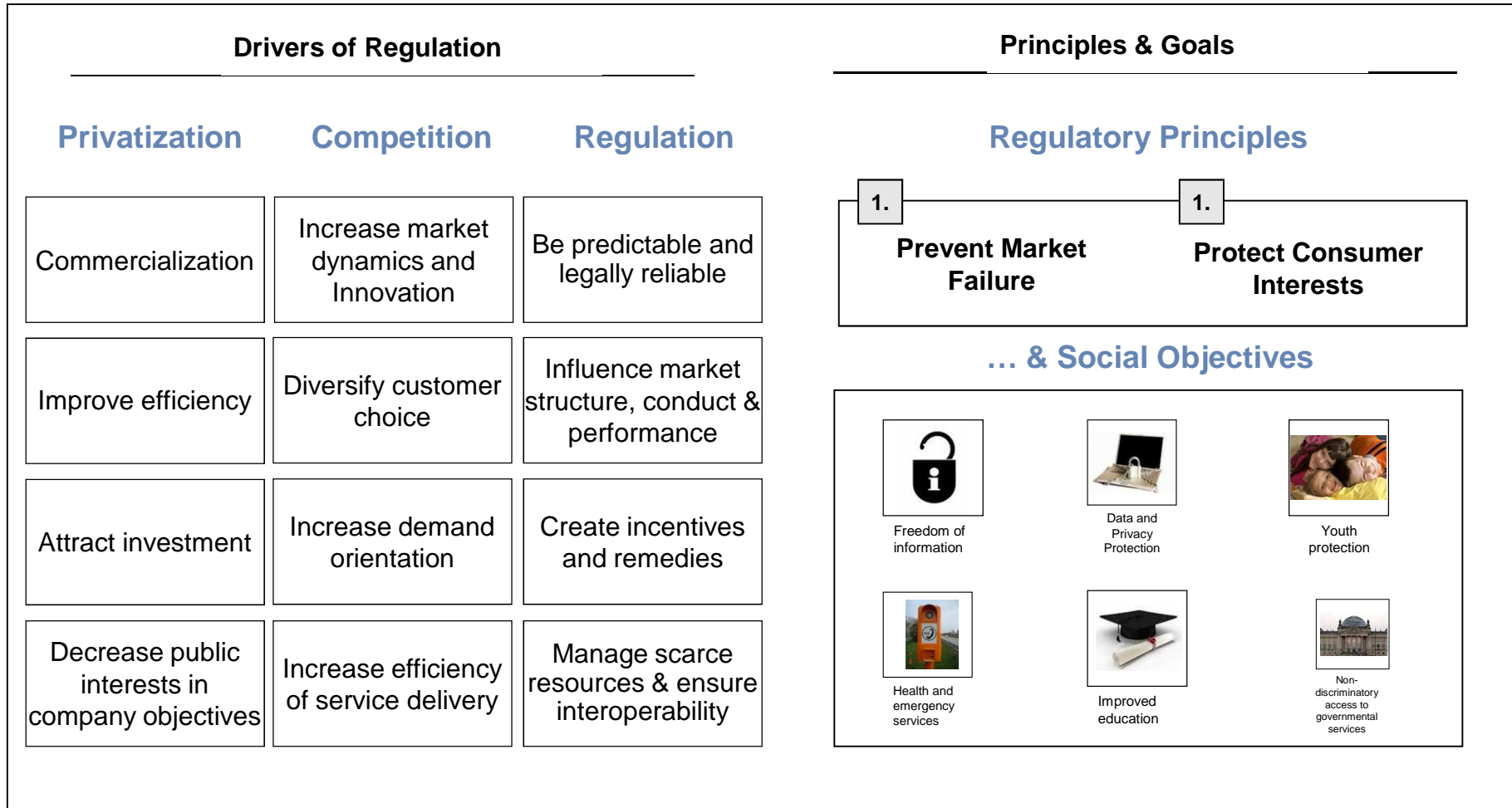
Things to look at:

- Policy Goals
- Policy Coherence
- Economic Performance & Strength
- Policy Actors & Market Players
- Demographics & Geography
- International Commitments
- Good Governance
- Institutional / Implementation Capabilities
- [...]
- For project definitions: What is in-scope, what is out-of-scope?

Setting the Regulatory Scene

Regulatory Drivers & Principles

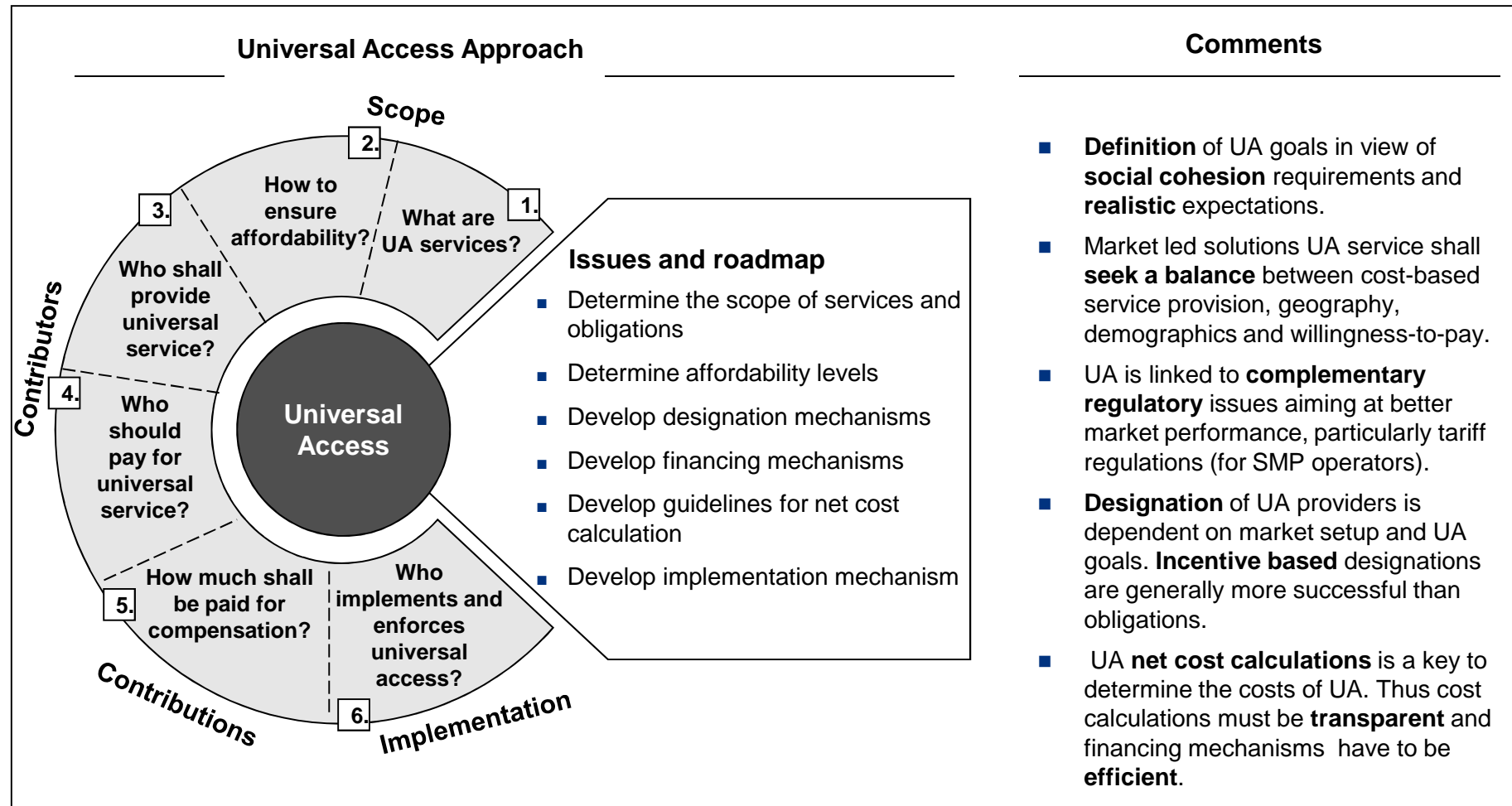
Privatization, competition and regulatory reform are a global trend. Main drivers are convergence between IT, telecommunications, media markets and technologies.



Promoting Universal Access

The classic tool: Universal Access Regulation

There are 6 basic steps to define a universal service policy. The challenge is to make the social concept compatible with an unbiased competition policy.



Promoting Universal Access

Established Instruments

There are numerous regulatory instruments to promote rural telecommunications. All have their lessons learned.



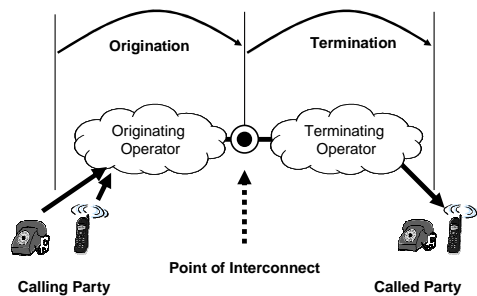
Licensing

Straight and Easy

Rollout & coverage obligations – often underestimated **operator speed**

Balance of **rights** and **obligations** – feasible investment circles
Taking into account **new trends** in licensing, particularly **convergence**

Regional licensing approaches – often **failed** due **limited scalability**



Interconnection

Always contested

Interconnection is **key** for new **market entrants** – usually
Interconnection is main **revenue** and **cost driver**

Interconnection rates set **margins** for **retail pricing**

Asymmetric interconnection (for limited time period) in line with **best practice**



Infrastructure Sharing

Consensus required

In mobile telephony: helping fast market entry for new operator, e.g. **tower sharing**, **national roaming** – usually **limited** for market entry phase


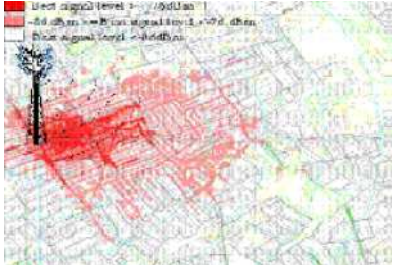
In fixed telephony: facilitating **service-based** competition (Wholesale Access);

Sharing trends in investment intensive infrastructure rollouts

Hot Topics

Frequencies

The value of spectrum is high. Not all frequencies are suitable for rural coverage. Blocking of most suited frequencies is an additional bottleneck.

Frequency Coverage		Implication for Frequency Management
BTS Coverage 450 MHz	BTS Coverage 3.5 GHz	<ul style="list-style-type: none"> Frequencies are scarce – the value is high Efficient spectrum utilization often not supported by current spectrum plan – re-farming necessary <ul style="list-style-type: none"> Encourage rural telecommunications Promote efficient and environment-friendly solutions New approaches to spectrum pricing necessary – flexible and scalable model – with easily tunable parameters to reflect changing spectrum value Be consistent with future spectrum management models e.g. spectrum trading
		
<ul style="list-style-type: none"> Frequencies above 3 GHz require 5 – 10 times more base stations compared to 450 MHz Profitability in rural areas is only achievable by using frequencies < 1 GHz Wireless broadband access requires a high share of Inhouse Coverage 		<div style="display: flex; justify-content: space-around;"> <div data-bbox="1243 1082 1590 1385"> <p>KPI Evaluation GPRS</p> </div> <div data-bbox="1630 1082 1977 1385"> <p>KPI Evaluation LTE</p> </div> </div>

Hot Topics

Broadband Future

Implementing broadband becomes a global trend. The overall challenge is to boost ICT growth as a driver for national development.

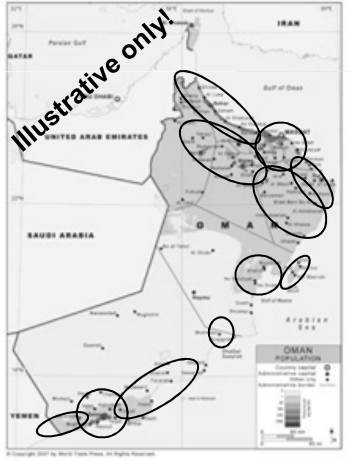
Scope	Market Requirements				Goals															
<ul style="list-style-type: none"> The fiber game has been opened – there is a global trend to broadband rollout Disconnect between goals and investment requirements Extremely difficult business model due to long pay back periods Governments and operators seeking balanced solutions regarding risks and benefits 	<p>Required Market Share for viable business</p> <table border="1"> <caption>Required Market Share for viable business</caption> <thead> <tr> <th>Region</th> <th>1st Mover [%]</th> <th>2nd Mover [%]</th> </tr> </thead> <tbody> <tr> <td>Dense Urban</td> <td>35%</td> <td>35%</td> </tr> <tr> <td>Urban</td> <td>49%</td> <td>46%</td> </tr> <tr> <td>Semi Urban</td> <td>115%</td> <td>-</td> </tr> <tr> <td>Rural</td> <td>165%</td> <td>-</td> </tr> </tbody> </table>				Region	1st Mover [%]	2nd Mover [%]	Dense Urban	35%	35%	Urban	49%	46%	Semi Urban	115%	-	Rural	165%	-	<ul style="list-style-type: none"> Broadband Internet Access for "All" Build viable business models Be technology-neutral Promote competition where possible Ensure high service quality levels
Region	1st Mover [%]	2nd Mover [%]																		
Dense Urban	35%	35%																		
Urban	49%	46%																		
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Key Challenges																				
	Dense Urban	Urban	Semi Urban	Rural																
Questions to be answered	Bandwidth, quality, prices	Bandwidth, quality, prices	Bandwidth, quality, prices	Bandwidth, quality, prices																
Issues to be addressed	Competition (Infrastructure-based)	Access (Service-based competition)	Access in rollout region / Universal service in uncovered regions	Dealing with white spots (Universal Service)																

Hot Topics

Broadband Future

An effective broadband strategy will require a sustainable institutional structure linked to the appropriate technology and rollout plan.

Regional Sub Markets



Broadband Delivery Efficiency

Delivery models / Market structure	Efficiency			
	Dense urban	Urban	Semi urban	Rural
Open market	+	+	-	--
Functional Separation NetCo/ServCo	+	+	+	+
Complementary rollout regions per operator	+	+	+	-
Investment cooperation	+	+	+	-
Wholesale Access	+	+	-	-
PPP	--	--	+	+
Universal Service regime	--	--	+	+

Combinations possible

++ efficient -- less efficient

To be served profitably

- Infrastructure based competition (operator mix / technology mix)
- Service based competition – wholesale access & complementary technologies (e.g. 3G)
- One operator service delivery only

Not to be served profitably

- Identification and quantification of access gaps
- Definition of provider designation mechanism and provider designation – including voluntary partnerships
- Definition and design of compensation (mechanism)

Your Contact



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