Investment Policy & Innovation in the UAE: The Case of the ICT Industry

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Agenda

1. ICT Background
2. ICT investment
3. Sector regulation
4. Innovation in the ICT sector
5. Closing remarks and discussion
ICT Background
What is ICT?

ITU ICT indicators 2010:
- Telecoms,
- Broadcasting
- Internet
- Computers

PwC
What is ICT?

Today’s reality: “Devices connected to the Internet via broadband networks”

Themes:
• Convergence
• Broadband access and backbone networks
• Cloud computing
• Verticals: Oil & gas, financial services, government, health,
Convergence

• Networks – convergence to universal IP networks
• Devices – convergence to multiple devices access contact over broadband networks
• Broadcasting and Telecoms – convergence of telecoms and broadcasting services
• Telecoms and IT – convergence of networks and computing
Broadband access and backbone networks

• Move from switched to IP Next Generation Networks

• Rollout of broadband fixed access networks using fibre optic cable

• Next generation broadband mobile networks – the emergence of LTE technology

• Investment driven by data traffic – particularly YouTube – question of who pays for this?

• Data centres and content delivery networks
Cloud computing

- Software as a service (SAAS)
- Platform as a service (PAAS)
- Infrastructure as a service (IAAS)
- Hype running ahead of reality
Distribution of ICT investment across the public and private sectors

- Telecoms operators (Etisalat and Du)
- Satellite operator: Yahsat – Satellite Y1A now successfully launched
- Media Companies (eg Abu Dhabi Media)
- Data centre operators (Injazat, eHosting Datafort etc)
- Government entities - all
- Other private sector and SOEs: Oil & Gas, financial services, manufacturing etc
Telecoms operators account for a major component of UAE ICT spend

- Yahsat has announced spending of US$1.4bn on two satellites

Source: Etisalat & Du investor presentations February and March 2011
Data on ICT spend are not widely available but it is clear that, for example, telecoms is a much larger sector of the economy than media.

Advertising vs Telecoms revenues in UAE

Source: PwC estimates based on public domain data
UAE ICT indicators

How many of the following devices do you have in your household?

- Mobile connections (independent lines/ SIMS): 1.92
- TVs: 1.21
- Personal laptops: 0.66
- Internet connections (dialup/ broadband): 0.65
- Radios (excluding mobile and MP players): 0.53
- Personal desktops: 0.48
- Fixed telephone lines: 0.47
- Games consoles: 0.3
- Faxes: 0.07
- Personal Digital Assistants (PDA): 0.05
- Handheld computers (palmtops): 0.03

Source: TRA ICT Household survey 2010
UAE ICT indicators

Which activities did you use the Internet for in the past 12 months?

- Not applicable: 2%
- Hosting information or instant messaging: 6%
- Purchasing or ordering goods or services: 6%
- Interacting with government agencies: 6%
- Getting information related to health or health services: 9%
- Getting information from government organizations: 11%
- Paying utility bills: 12%
- Playing or downloading video games or computer games: 14%
- Downloading software: 16%
- Education or learning activities: 17%
- Internet banking: 23%
- Getting information about goods or services: 26%
- Downloading movies, images, music, watching TV or videos, or listening to radio or music: 30%
- Reading or downloading online newspapers or magazines or electronic books: 34%
- Visiting social networking sites (such as Facebook or Twitter or MySpace): 45%
- Sending or receiving email: 81%

Source: TRA ICT Household survey 2010
Economic impact of ICT

• Direct and indirect impacts

• Enabler of wider economic activity

• **EU data:** “The ICT sector is directly responsible for 5% of European GDP, with a market value of €660 billion annually, but it contributes far more to overall productivity growth (20% directly from the ICT sector and 30% from ICT investments). This is because of the high levels of dynamism and innovation inherent in the sector, and the enabling role the sector plays in changing how other sectors do business.”

European Commission: A Digital Agenda for Europe 2010
**Indirect impacts**

- Multiplier effects
- Enabler for economic diversification
- Key role in target sectors: eg financial services, tourism
- Enabling process efficiency
Sector regulation
**Why regulate telecoms?**

- History of monopoly provision
- History of cross subsidies
- Cost structure: High proportion of fixed, sunk costs, shared and common costs
- Significant market power
- Scarce resources: Spectrum and numbering
- Sector specific economic (“ex ante”) regulation
Areas of regulatory focus

• Retail pricing: too high (abuse or market power) or too low (predatory pricing)

• Wholesale pricing: interconnect; margin squeeze

• Access to “bottleneck facilities”

• Implications of “next generation network” (NGN) investment

• Cost of capital

• Access to scarce resources: Spectrum allocation, number ranges, number portability

• Net neutrality: content providers v network operators
The policy and regulatory challenge

To reconcile the three potentially competing policy objectives:

i.  Ensuring competition at the retail level to drive service innovation and keep prices at levels consistent with achieving reasonable return on capital;

ii. Creating a stable policy and regulatory environment which supports the long term investment in new technologies required to support new services and provide the foundation for wider economic development; and

iii. Maximising (or at least protecting) the value of state-owned assets
**UAE TRA mission**

“To support and enable the ICT sector in the UAE by safeguarding competition,
providing fair access to the domestic infrastructure....
To enhance the quality of services offered;
to raise public awareness;
protect the consumer interests;
facilitate the growth of the e-commerce environment;
encourage investment, innovation, development and education......”
Innovation in the ICT sector
Sources of innovation

• Telecoms infrastructure technology—innovation increasingly dominated by a small number of network equipment vendors: Ericsson, Alcatel-Lucent, Cisco, NSN, Huawei, ZTE

• Smartphones: Apple, RIM & Android dominate; Nokia/Microsoft alliance

• Tablets: Currently the fastest moving area of development in consumer electronics—Apple, Android

• Smartphones and tablets have generated ecosystems of software application developers—much of the innovation is this level

• Cloud computing: Focus of attention on corporate IT
Innovation in the UAE

- As measured by patent filings, technology innovation in the UAE is still in an early stage of development:

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ICT innovation is playing a central role in the development of a number of sectors of the UAE economy

- Oil & gas
- Telecoms
- Government
- Transport
- Healthcare

I will focus on health care which is high on the Government’s policy agenda
ICT in healthcare

Objectives:

- To achieve better patient outcomes
- Empower the patients to play an active role in their own healthcare
- Make more efficient use of resources

Focus on two key areas:

- Electronic Medical Records
- Remote patient monitoring
Concepts

- **Telecare** - the continuous, automatic and remote monitoring of real-time emergencies and lifestyle changes over time in order to manage the risks associated with independent living. Typical devices include personal alarms, falls monitors, bed & chair sensors and movement detectors.

- **Telehealth** - the delivery of healthcare at a distance using electronic means of communication - usually from service user to clinician, e.g. a service user measuring their vital signs at home and this data being transmitted via a telehealth monitor to a clinician.

Source: UK Department of Health quoted in Tarassenko “mHealth: mobile technology for 21st century healthcare” (2010)
mHealth has great potential in the UAE

• mHealth: the delivery of healthcare at a distance enabled by a mobile phone (or similar device). If the mobile phone is used with a biometric collection device, then mHealth is a form of telehealth.

• With the ubiquity of the mobile phone in the UAE and the increasing take-up of smartphones, the biggest impact of mHealth is likely to be on non-acute, long-term conditions requiring regular management integrated into the individual’s life.

Source: UK Department of Health quoted in Tarassenko “mHealth: mobile technology for 21stcentury healthcare’ (2010)
Closing remarks and discussion
ICT plays a crucial role in the UAE economy

• Broadband infrastructure and services delivered over that infrastructure is central to ICT development and those services are crucial for wider economic development

• Policy makers and regulators need to balance the potentially competing objectives of competition (and hence low prices); investment and protecting the value of state-owned assets

• Interventionist government “ICT policies” tend not to be very effective in the face of very rapid developments in technology and services but they can play a useful role in some industry verticals – eg healthcare
Thank you...........

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