

# 2G Success

Ewan Sutherland

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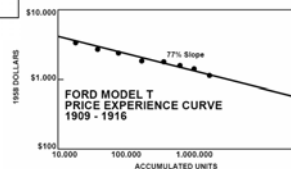
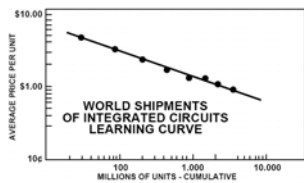
## Second generation

- Competition
- Declining costs of equipment and operations
- High churn rates
- Expensive customer acquisition
- Expensive Mobile Termination Rates (MTRs)
- Cross-subsidies for handsets
- International mobile roaming charges

## BCG Experience curve

- Boston Consulting Group "Law of experience"
- The unit cost of value added to a standard product declines by a constant percentage (typically between 20 and 30 percent) each time cumulative output doubles
- Savings are not automatic, but require:
  - management
  - additional investment

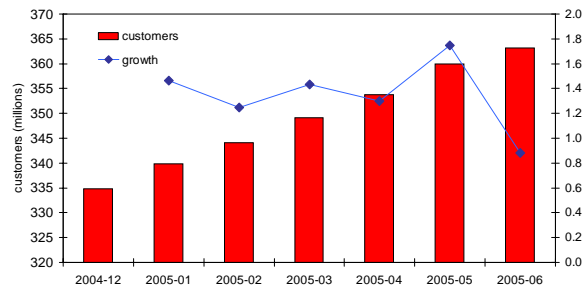
"The experience curve cost effects are an observable fact. They can be confirmed by observation. The principal problems encountered in application are those of defining cost elements and in defining the measuring unit of experience." Bruce Henderson, BCG

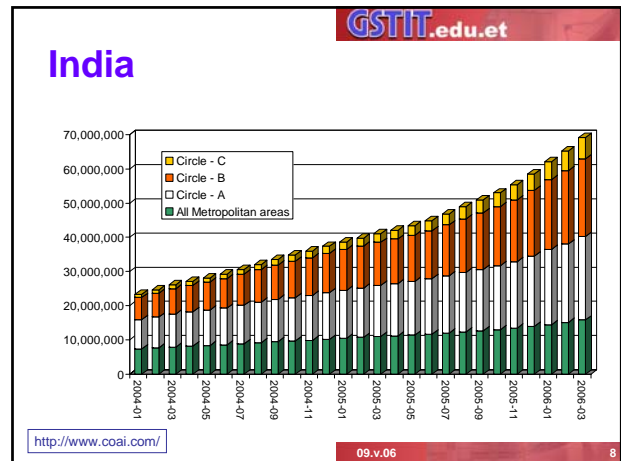
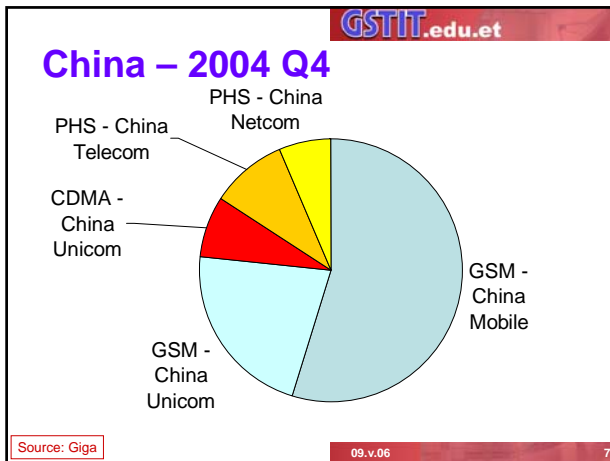


$$C_n = C_1 \times n^{-a}$$

C is the cost of unit of production  
n is the cumulative volume of production  
a is the elasticity of cost with regard to output

## China - mobile growth



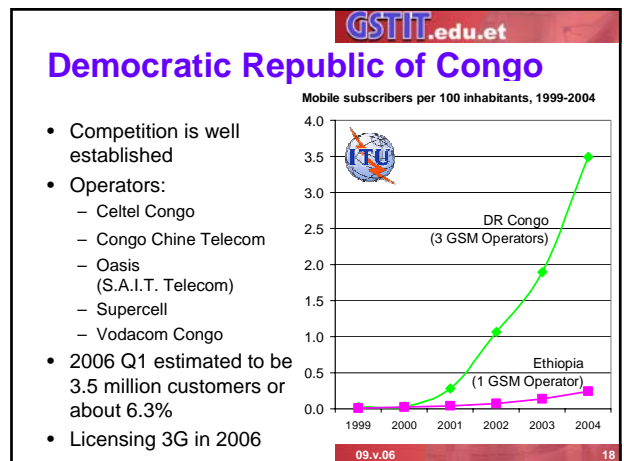
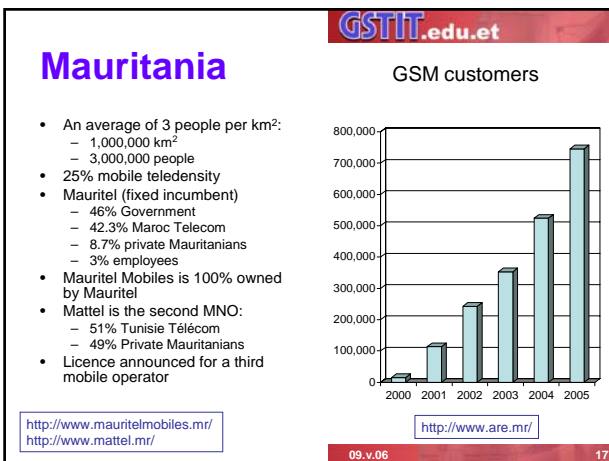
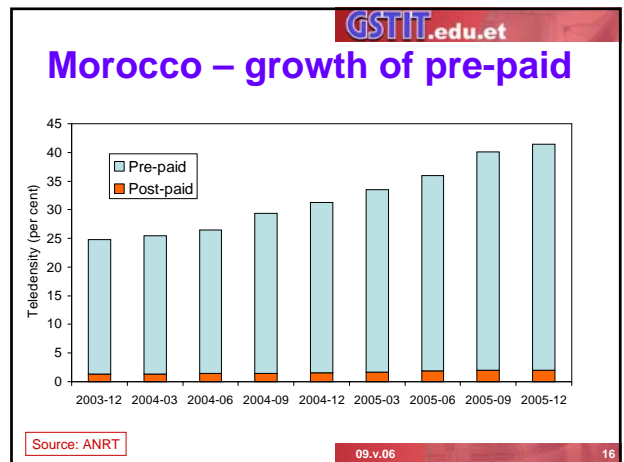
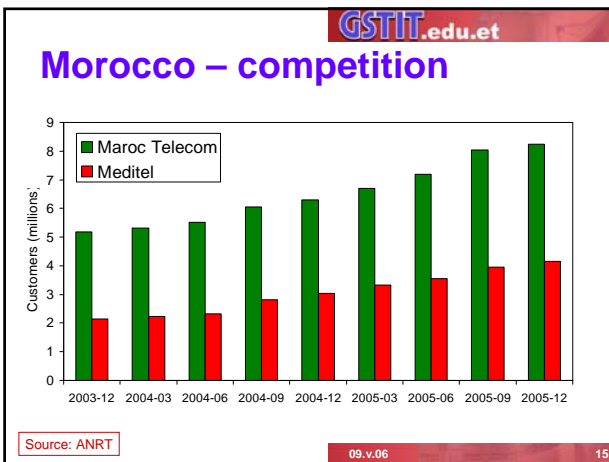
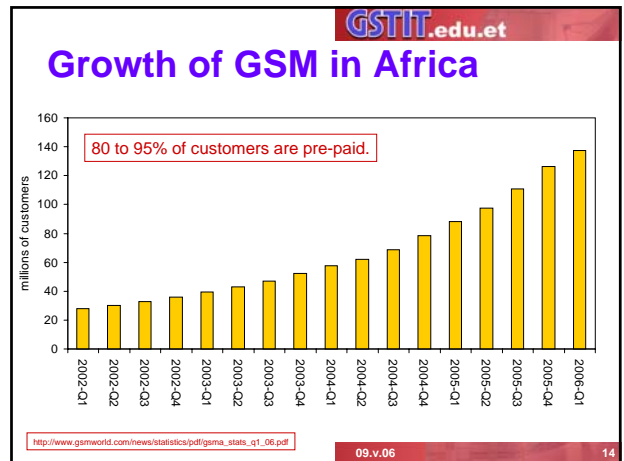
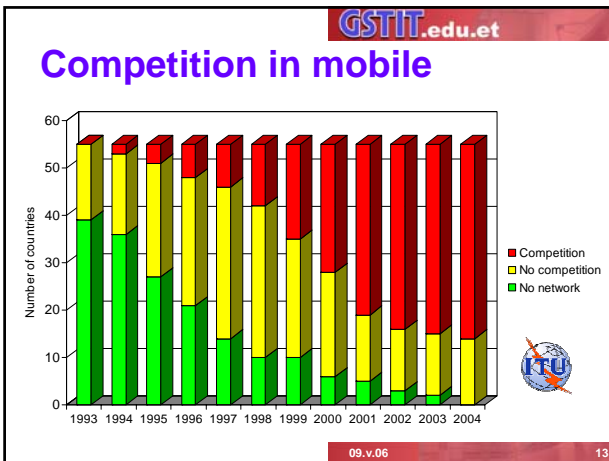


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- ## Africa
- Initial resistance to competition
  - Eventually, competition drove growth
  - Most countries have at least two operators
  - Little or no investment in the fixed network
  - GSM has grown to dominate markets
  - ARPU has declined as the customer base has widened
  - Highly profitable
  - Operators are looking for new revenues:
    - m-banking
    - m-commerce
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- ## GSM Association claims
- The operators make a “profound” economic contribution:
    - employment
    - increased business efficiency
    - tax revenues
    - GDP
  - Yet, there are many examples where regulation is not best practice:
    - a lack of appropriate sector legislation and clearly defined regime
    - a lack of clear regulatory policy in particular for licensing and long term allocation of spectrum
    - a lack of independent dispute resolution
    - regulators that are not independent from political intervention
    - a significant danger of “copying and pasting” policies from elsewhere, without appropriate “impact” assessments
- <http://www.gsmworld.com/>
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- ## GSMA (cont'd)
- Operators are exposed to “significant levels” of regulatory risk:
    - raising the cost of capital or return demanded by investors
    - leading to sub-optimal level investment
  - Best practice regulation could have increased
    - mobile investment to date by approximately 25%
    - equating to US\$ 4.6 billion
    - leading to an increase in mobile subscribers of:
      - up to 20% or
      - 17 million extra subscribers
  - Best-practice regulation, would reduce operators' capital costs leading to a lower Total Cost of Ownership (TCO) for consumers by around 10%
  - Given elasticity of demand, this would result in:
    - up to 8.25 million additional customers
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- ## User complaints
- High call charges, especially on pre-paid
  - High fixed-to-mobile rates
  - High rates for SMS
  - Lock-in through handset “subsidies”
  - Exorbitant international roaming charges
  - High prices for data services
  - Poor customer care
  - Lack of competition, leading to:
    - higher charges
    - price shadowing by operators
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## Vodafone Group plc

- April 2006 restructuring:
  - developed markets
  - emerging markets
  - new business and innovation
- Investments in Africa:
  - Vodafone Egypt (50.1%)
  - Kenya Safaricom (35%)
  - Vodacom (50%)

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## Vodacom

- Total customers:
- up 38.0% in one year to 15.5 million
  - South Africa up 32.0% to 12.8 M
  - DRC up 54.0% to 1.0 million
  - Tanzania up 75.6% to 1.2 million

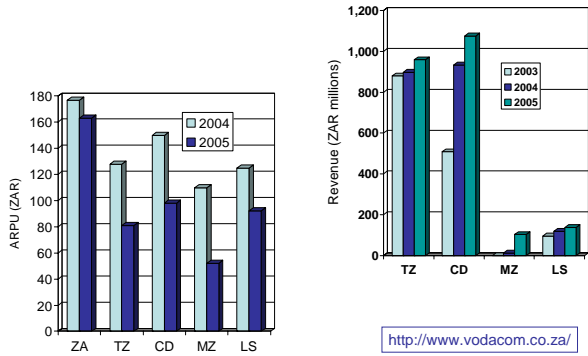


<http://www.vodacom.co.za/>

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## Vodacom



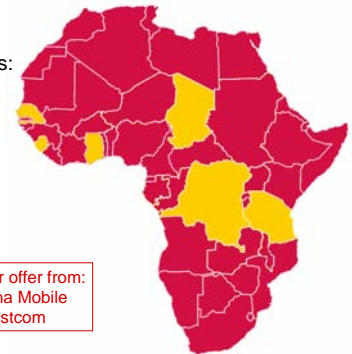
<http://www.vodacom.co.za/>

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## Millicom

- African countries plus:
- Mauritius
- El Salvador
- Guatemala
- Honduras
- Bolivia
- Paraguay
- Pakistan
- Sri Lanka
- Cambodia
- Laos



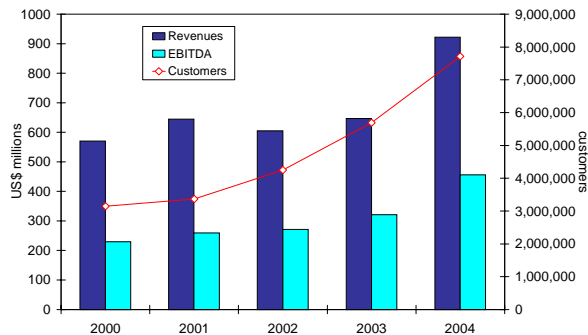
Under offer from:  
 • China Mobile  
 • Investcom

<http://www.millicom.com/>

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## Millicom

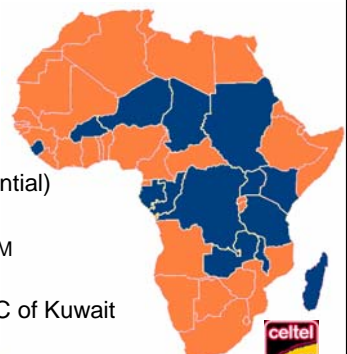


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## CelTel

- 14 countries
- 8.5 M users
- 270 M citizens (lots of growth potential)
- 2003
  - Turnover US\$ 446 M
  - EBITDA US\$ 151M
- Now owned by MTC of Kuwait



<http://www.celtel.com/>




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## Econet wireless

- "To provide international standard telecommunication services to all the peoples of the world, beginning in Africa"
- Also in New Zealand
- 5 million customers
- Carrier services business based in the UK

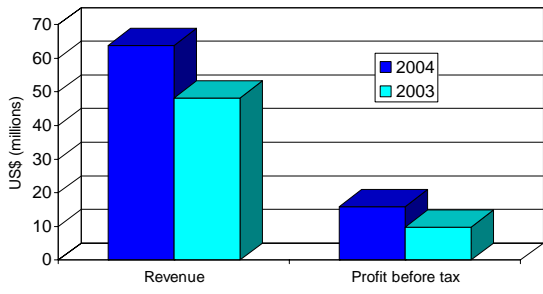


<http://www.econetwireless.com/>

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## Econet - financials




Category	2003 (US\$ millions)	2004 (US\$ millions)
Revenue	~50	~65
Profit before tax	~12	~18

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## Orascom Group

- Several businesses of which one is telecommunications
- Also in Pakistan and Bangladesh
- Purchased Wind (GSM and 3G) in Italy in 2005



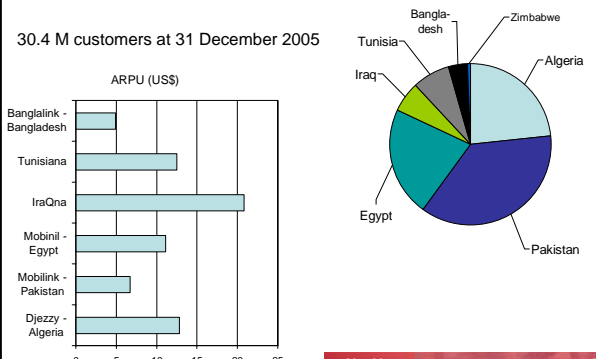
<http://www.otelecom.com/>

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## Orascom Telecom

30.4 M customers at 31 December 2005




Country/Region	ARPU (US\$)
Banglalink - Bangladesh	~5
Tunisia	~10
IraqNa	~20
Mobilil - Egypt	~10
Mobilink - Pakistan	~5
Djezzy - Algeria	~10

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## MTN Group

- South Africa  
8 million customers
  - 4,500 cell sites covering:
    - 19,200 km of road
    - 900,000 km<sup>2</sup> of land
    - 96% of the population
- Nigeria  
4.4 million subscribers
  - 1 600 cell sites covering ~ 58% of the population
  - 6,400 km of transmission infrastructure
- other markets:  
1.9 million customers



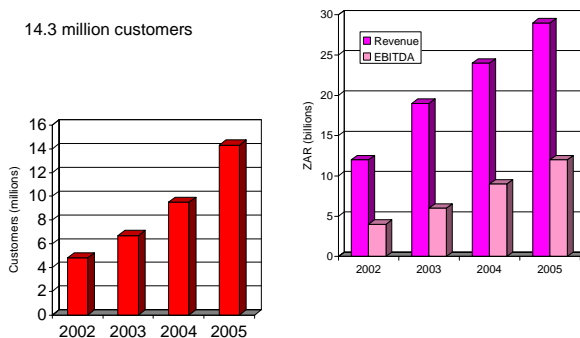
<http://www.mtn.co.za/>

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## MTN Group results

14.3 million customers



Year	Customers (millions)	Revenue (billions ZAR)	EBITDA (billions ZAR)
2002	~5	~12	~4
2003	~7	~19	~6
2004	~9	~24	~9
2005	14.3	~29	~12

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## Investcom – Areeba brand

- Led by former prime minister of Lebanon
- Operating in:
  - Africa
  - Syria
  - Yemen
  - Cyprus
- Recent licences in:
  - Afghanistan
  - Guinea

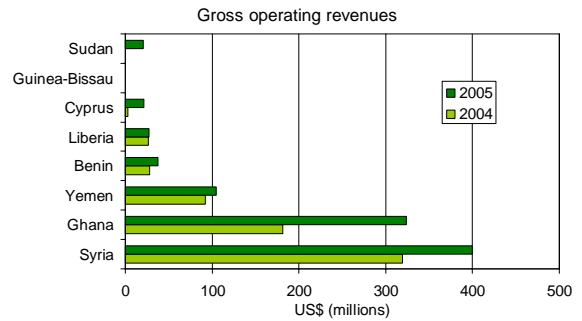


<http://www.investcomholding.com/>

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## Investcom



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## Conclusions

- Enormous growth in 2G in Africa:
  - past
  - future
- Highly profitable
- Private investment with no need for government money
- Declining ARPU as more but poorer customers are added
- Operators are in multiple countries to:
  - achieve economies of scale
  - spread risks
  - accelerate growth
  - learn faster about customer needs
- Operators are almost exclusively African and Arab

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