



Vertically Integrated vs. Horizontal Business Models in the Telecommunications and Media Industries

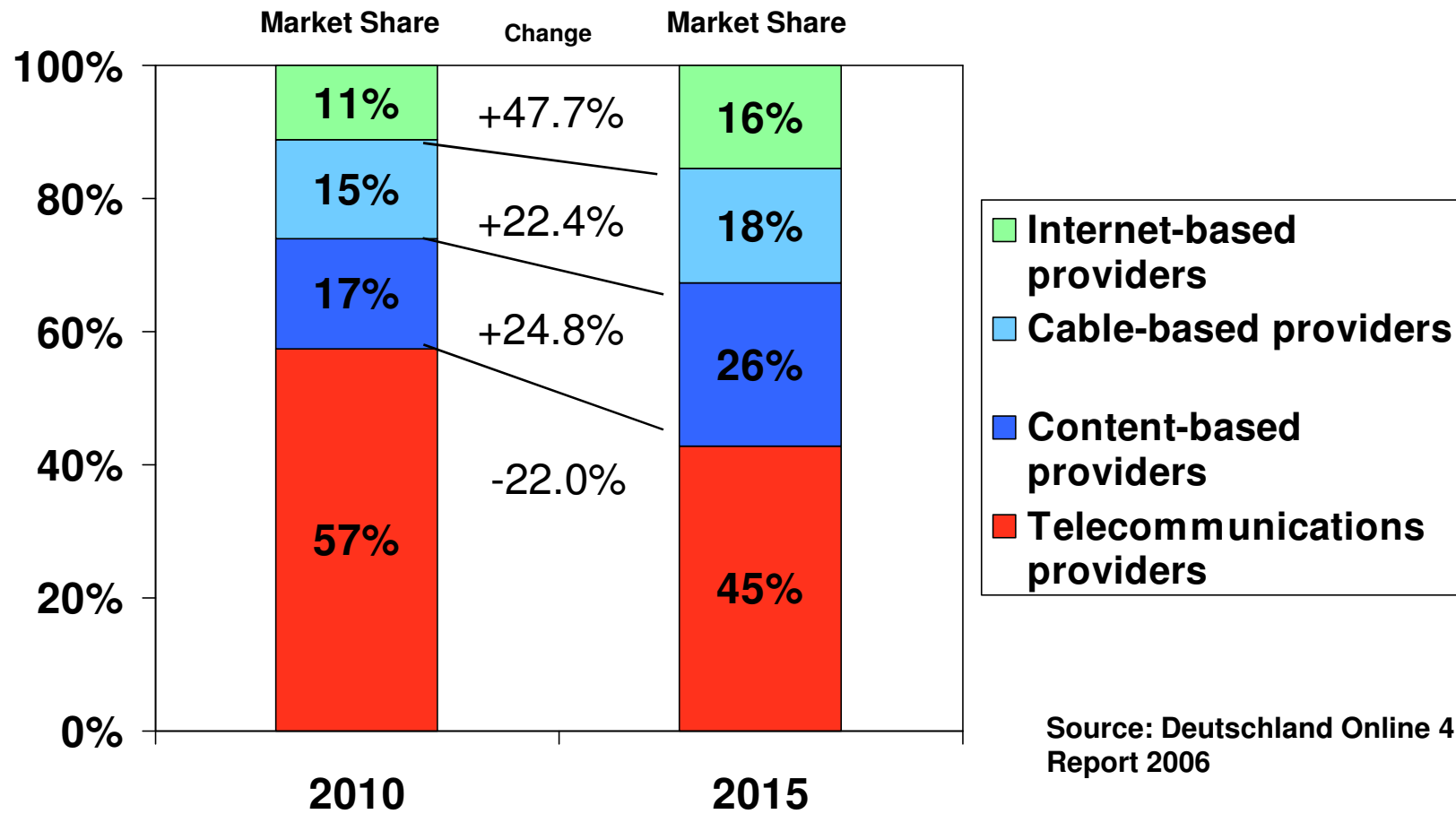
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Are the vertically integrated telcos dying?

- Over 100 years ago, the automotive industry was vertically integrated. Today the value creation of companies like VW, Toyota, and GM is less than 20% within the auto firms.
- In Finland customers receive two electricity bills, often from different providers: one for access and one for usage.
- Utilities do not charge for value creation - net neutrality.
- In a digital world, customers want freedom of choice and not the freedom of the what incumbents think they need.
- Vertical integration does not promote investment in new fibre access infrastructure and hinders competition
- A “dumb” utility business is still attractive and that is what incumbents are best at.
- But incumbent telcos are wasting money on media businesses where they have no competences.

Market Share Prognosis in the Convergent Broadband Market



Value Chain within Broadband Delivery

Service Layer (ServCo.):

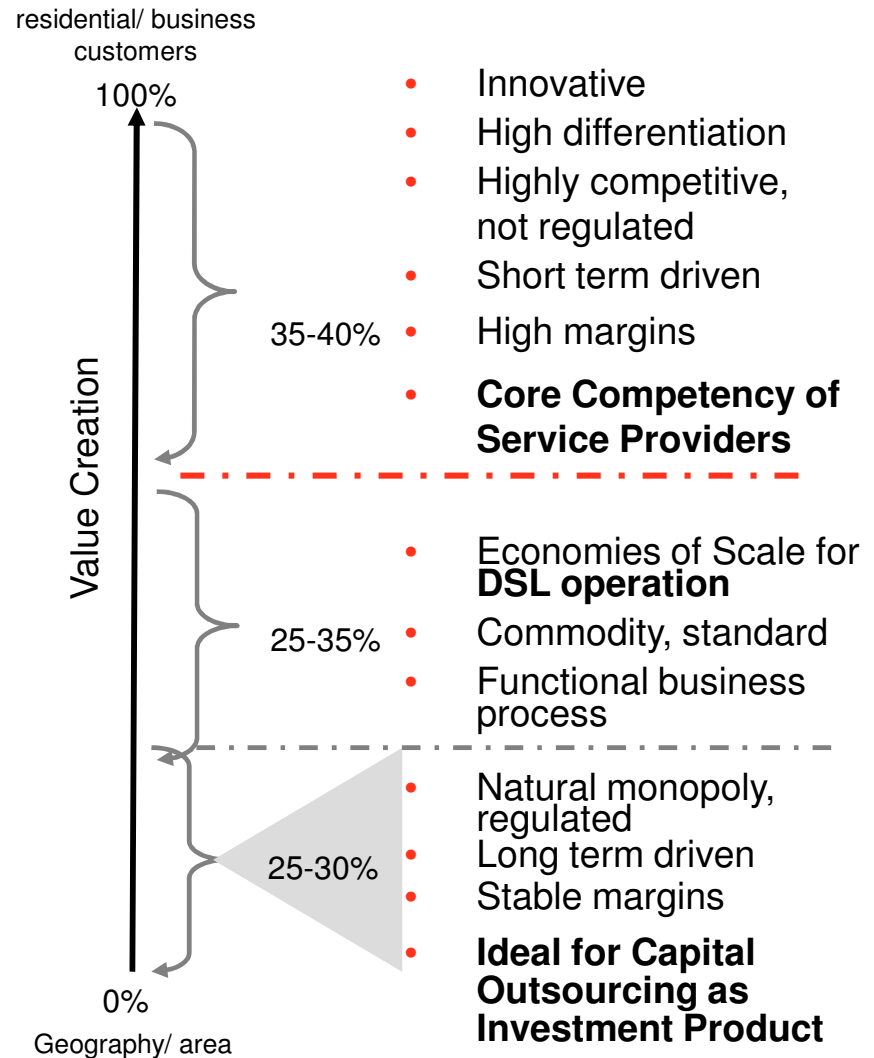
- Brand building (or leverage existing brands)
- Sales & Marketing
- Product innovation & management
- IT delivery, billing and accounting

Network Layer (NetCo.):

- Broadband provisioning based on mobile radio, copper, fibre, WBA
- Back-bone transport and distribution
- Active components (open access platform)

Asset Layer (Asset.Co.):

- Maintenance and operations
- Passive physical infrastructure



Horizontal Businesses



- Stokab
(Sweden)

- GasLine
(Germany)

- New Radio Towers
(Germany)

- Metroweb
(Italy)

- Vanco
(UK)

- BBNED
(NL)

- QSC Plusnet
(Germany)

- 1&1
(United Internet)
(Germany)

- Virgin Mobile
(UK)

- Tchibo
(Germany)

- O2 DSL
(Germany)

- Google
(USA)

- Yahoo
(USA)

- News Corp
(USA)

- Disney
(USA)

Infrastructure/Asset Layer

Stokab (*Sweden*)

- Stockholm and Mälardalen region
- Provides an infrastructure for service providers and telcos that is open to all on equal terms
- Shift from a construction and installation culture towards ensuring that the network is used efficiently

GasLINE (*Germany*)

- Offers service for fibre-optic cable projects, ranging from project planning and installation to the provision of a dark fibre capacity ready for operation
- Established by 15 gas transmission and regional distribution companies with Germany-wide coverage
- Does not operate as a carrier on the telecommunications market

Metroweb (*Italy*)

- Provides dark fibre optics to third parties in the Milan metropolitan area and other parts of the Lombard Region and Northern Italy
- Set up by AEM SpA Milano and the e.Biscom Group in 1999, and 100% owned by AEM since June 2003
- Focuses on telecommunications operators that need fibre optics connections to provide their own services to end users

Network Layer

Vanco (UK)

- Focuses on the design, implementation, and management of Wide Area Networks
- Pioneered the VON model to provide competitive solutions by delivering services without owning any fibre and copper transmission circuits

BBNed (NL)

- Largest provider for DSL services in the Netherlands
- Offers a complete service portfolio to ISPs, application service providers and telecom corporations
- Focus entirely on broadband services in the Netherlands as one key success factor

QSC Plusnet (Germany)

- Offers a full service portfolio of broadband communications to businesses and premium-demanding private customers
- Provides VPNs, voice- and data services and dedicated lines to businesses
- Serves private customers with high quality DSL-connections and VoIP solutions

Service Layer

United Internet (Germany)

- A leading international ISP with over 6.1 million customer contracts
- Focusing on products (value-added internet services), outsourcing and online marketing

Virgin Mobile (UK)

- Mobile phone service provider operating in the UK, Australia, Canada, South Africa, the US and France
- Launched 1999 as the world's first Mobile Virtual Network Operator, using existing networks of other providers instead of maintaining its own network
- Acquired by NTL on 4 July 2006

O2 DSL (Germany)

- Broadband solution to serve customers with a complete communication package (DSL-telephony, Internet via DSL and mobile communication)
- Uses network of Telefonica Germany

Content

Google (USA)

- Improves the way people connect with information
- Information is free to all users
- Revenue is generated by delivering online advertisement

News Corp (USA)

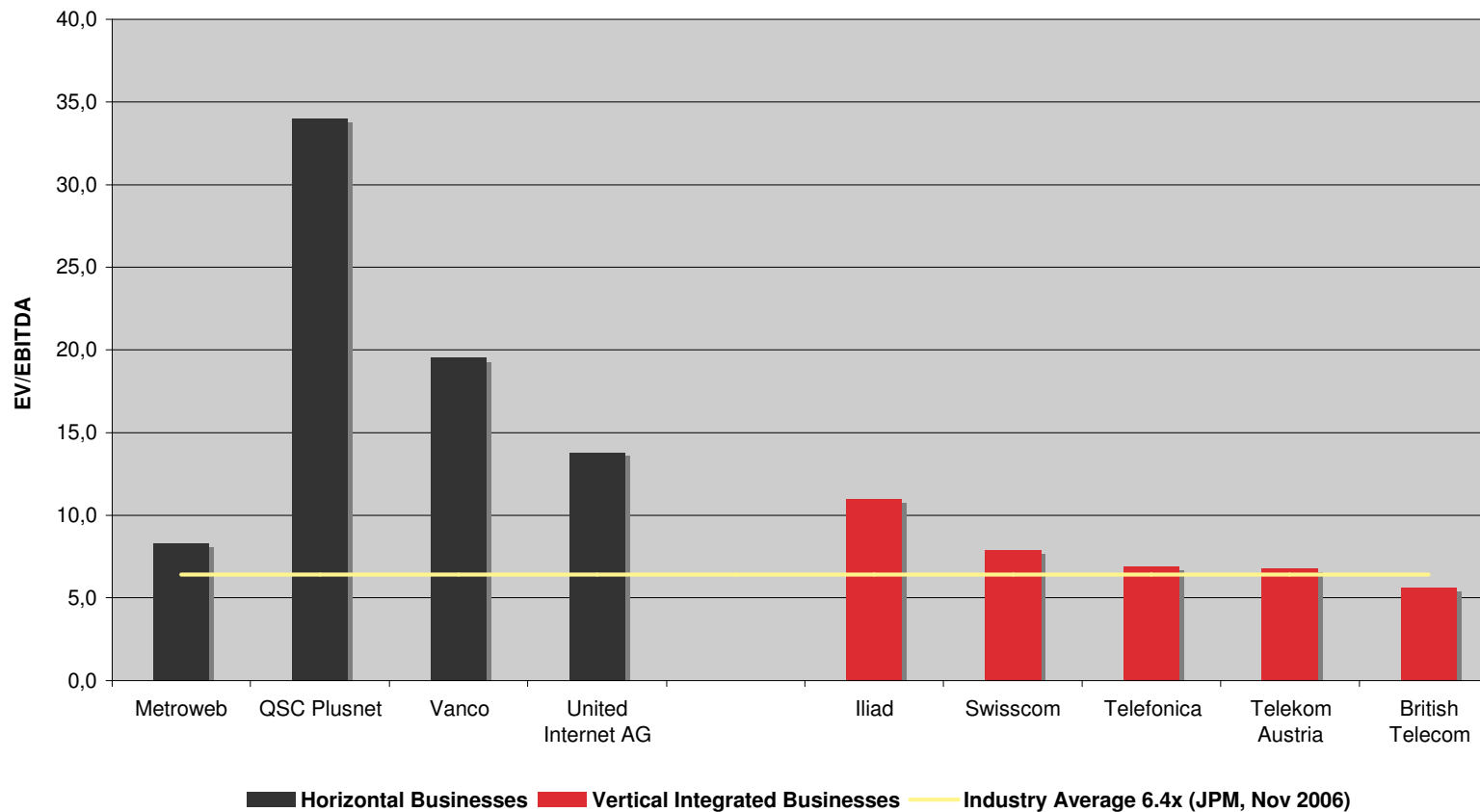
- One of the world's largest media conglomerates
- Diversified corporation with operations in eight industry segments: filmed entertainment, television, cable network programming, direct broadcast satellite television, magazines/inserts, newspapers, book and publishing

Disney (USA)

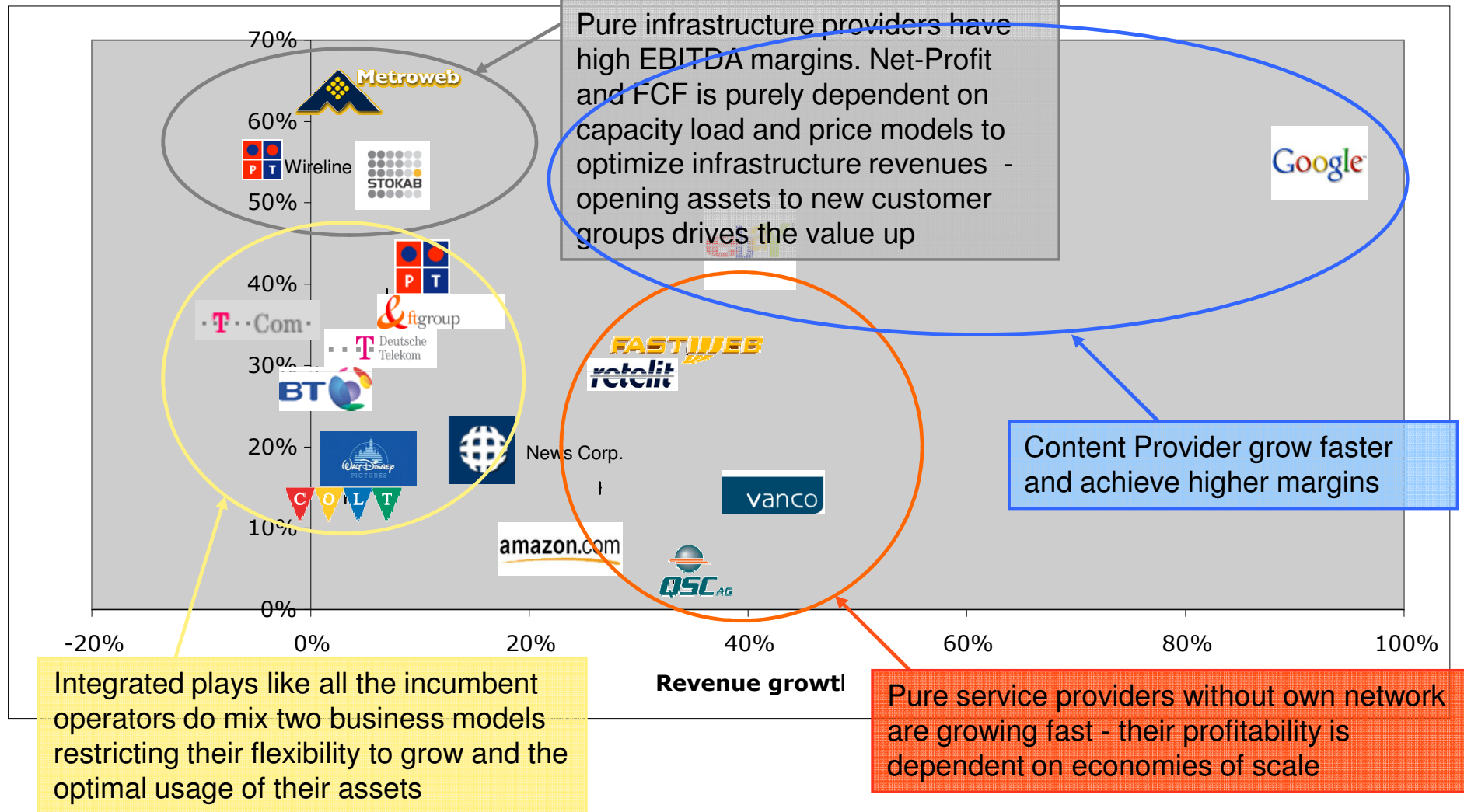
- One the largest media and entertainment corporations in the world
- Original business is production of motion pictures
- Started to extend its business in 1955 and is now one of the largest Hollywood studios, owns eleven theme parks, two water parks and several television networks, including the American Broadcasting Company (ABC)

Comparison with Vertical Integrated Players

EV/EBITDA



Carriers – Benchmarking Revenue CAGR and EBITDA Margin



What has fundamentally changed in the last decade? Digitalization of the Value Chain !

- Telecommunications is moving into IP
- Media is moving into the web and in direct contact with the customer
 - The old media model was based on scarce distribution - to attract a big share of the audience with expensively produced content.
 - The new media model cuts cost to the bone, spreads distribution across as many sites and online services as possible, and pushes content out far beyond the original publisher's domain.
 - High capacity and affordable broadband access enables new applications and user involvement.
- These trends lead to:
 - Users becoming part of the supply chain by producing or changing content.
 - Intelligence is moving from networks to servers, terminals, and portal applications.
 - Operator centric networks are moving into user centric services.
 - Competition is increasing which causes cost pressure on all parts of the value chain.
 - Economies of scale are king.

Open access Networks are Key for a Customer Orientation

- Open access means symmetric broadband access infrastructure to anybody under transparent conditions
- Each user can up and download in the same way
- The infrastructure will be marketed to any service provider as well as to any user (shared infrastructure)

These trends lead to:

- User produced content
- Peer-to-peer production/supply chain
- User created service portfolios (freedom of choice)
- Efficiency in usage of the access infrastructure
- Lower cost infrastructure per user

Market opportunity for independent open access DSL operator (NetCo)

- More and different broadband service packages of a variety of providers will be offered in the market.
- In the case of multiple service providers, only a wholesale carrier business model generates economies of scale to provide efficient DSL.
- Market studies have shown that more than 50% of TV content will move into IPTV in the next 5-8 years.
- Access to Triple Play platforms and backbones at competitive prices are the key to commercially viable content delivery. Resale models without volume independent of telco infrastructure access will not work for big broadband products as this example shows:

Content	Business Model for Infrastructure Use			
	Cost for Media Comp.	Transit	IP Stream	LLU
MP3, 50min album	in GBP	0.01	0.14	0.01
2 hour HD film	in GBP	1.03	21.13	1.07

Transit = between data centres

IP Stream = volume driven charge for end-user

LLU = Local Loop Unbundling = Own Management of local loop

* Figures based on study from The IP development Network - HD-TV over IP

Challenges of Media Distribution and Current Value Chain Players

- After broadcasting and pre-paid card selling - how do firms find direct customer access?
- Supply chain of studio production and news agencies - delivering content via telcos' networks
- Adoption of Google's business model to a national telco operator
- DRM yes or no - which business model fits?
- Setting up its own network operation and customer care and billing
- Buying a telco?
- Independent wholesale network operations could fill the gap
- Open access broadband infrastructure will deliver a base for independent wholesale operators

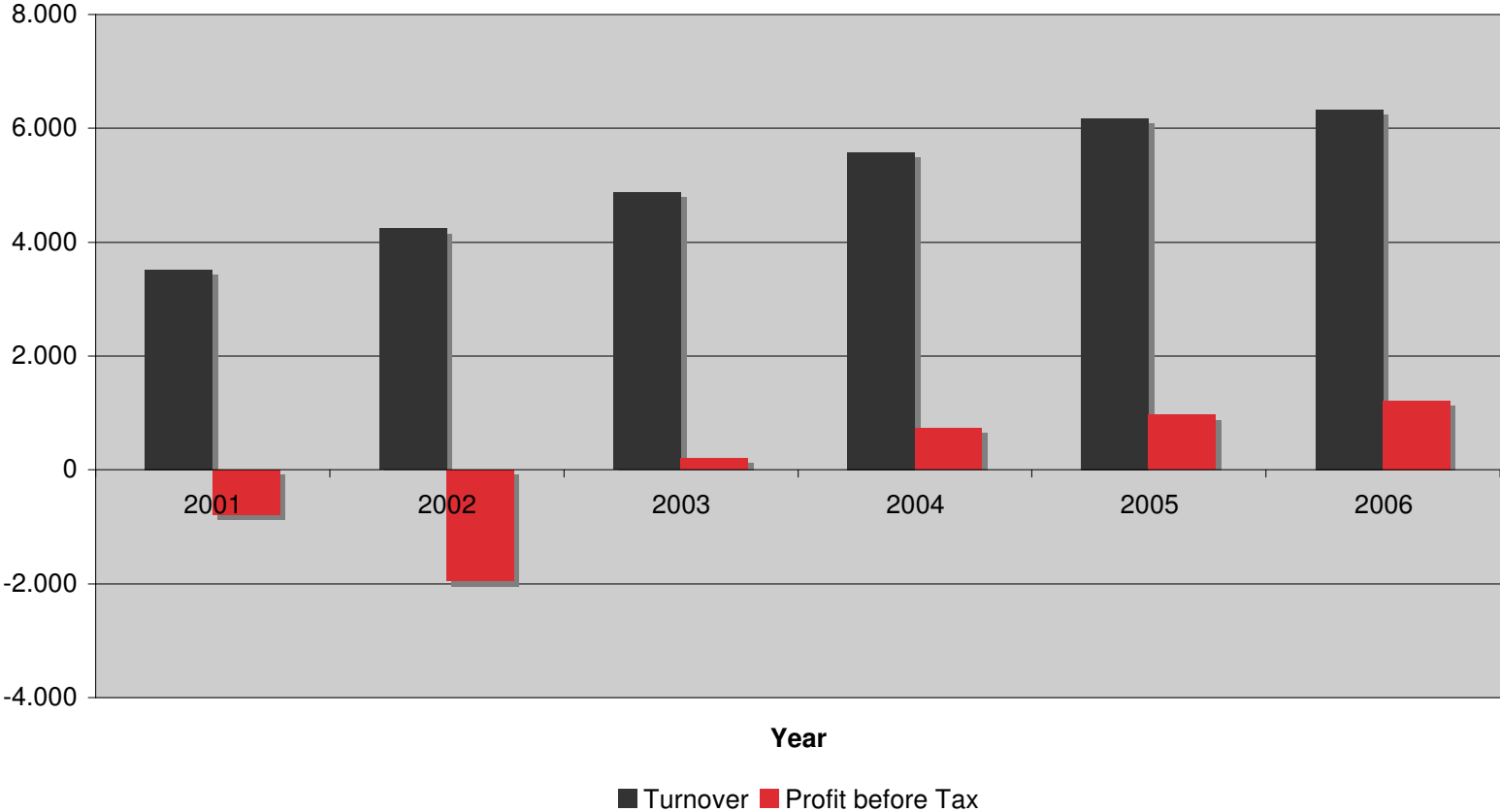
Value Chain within Broadband delivery: Examples

British Sky Broadcasting (Easynet)

- Aim is to deliver the best content to people regardless of which device is being used (satellite, broadband, mobile phone)
- Acquired Easynet to expand from pure satellite broadcasting to broadband communication and telephony in October 2005 for £211 million (about €322 million)
- Easynet is a pan-European advanced network owner with operations in ten European countries

Value Chain within Broadband delivery: An Example

British Sky Broadcasting Financial Performance



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