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# Net Neutrality – Competition Issues

## A consumer & Internet view

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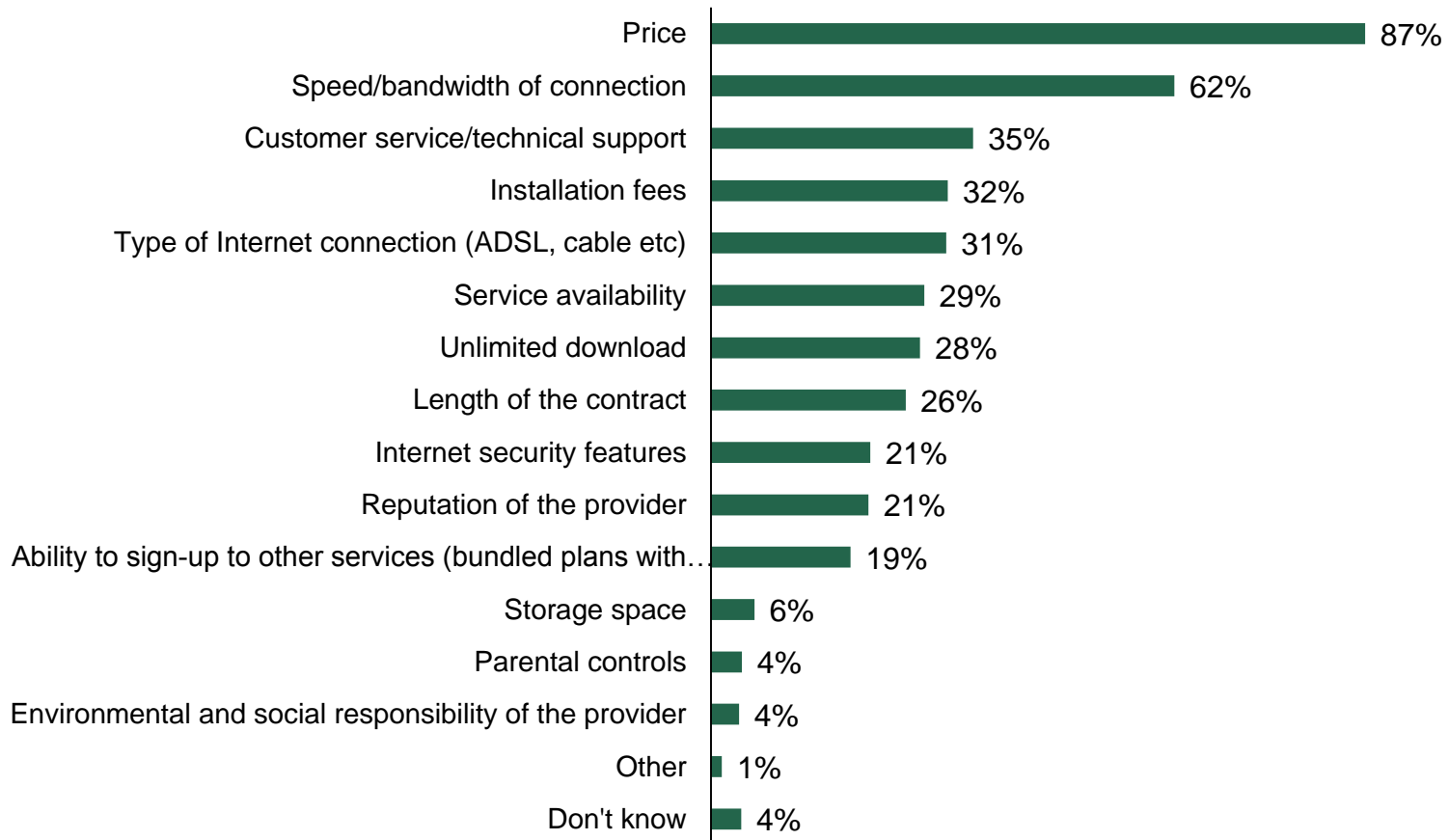
Forrester

October 6, 2010

If consumers were prepared to pay more for quality Internet access, net neutrality would not be such a tricky topic now

# The speed-price paradox, more consumers care about price than speed

“Which, if any, of the following are most important to you when choosing a new Internet Service Provider?”



Base: 13,654 European online users

Source: Forrester Technographics® Consumer Technology Online Survey, Q4 2009

TV and online video brands are multiplying, major video brands are now tied to Internet-based delivery



# Internet brands are also now key communications brands

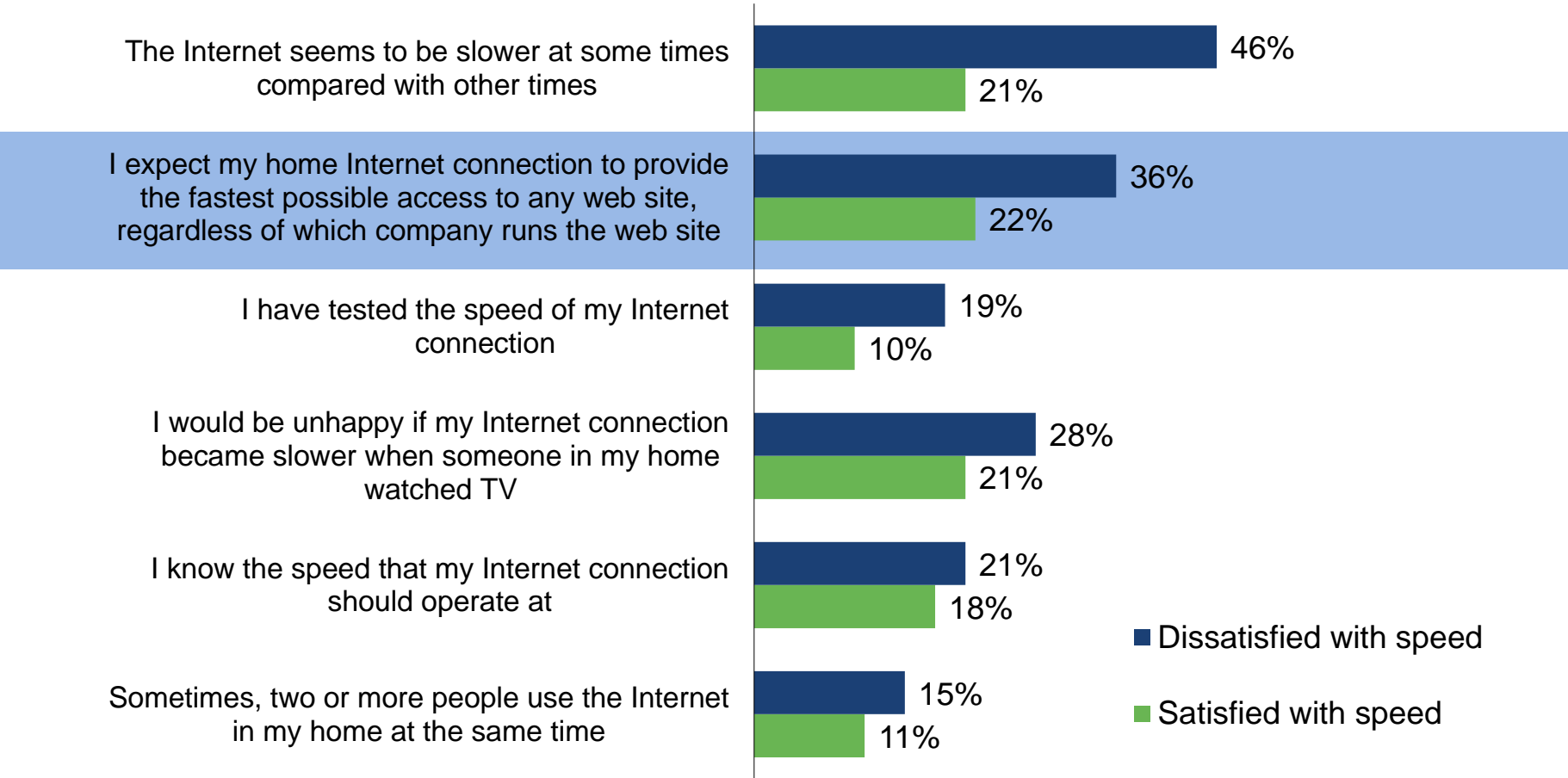


# Disruptive Internet innovation is at the heart of the net neutrality challenge

- Europeans are consuming ever more data, but driven by non-telecoms firms
- But consumers are reluctant to pay more for home broadband
  - Price is the most important factor when Europeans choose an ISP (87% cite it)
  - This is the speed – price paradox
- Mobile broadband and mobile Internet is experiencing a similar race to the bottom in key European markets already
  - 3 UK: 5UK for 1Gb of smartphone data on pre-pay
  - Vodafone or O2 UK iPad tariff: 1Gb data for 10UKP with no contract
- So, how can operators build sustain business cases & fund NGA fixed & wireless network builds and upgrades?
  - New revenue sources – two-sided business models, e.g. charging Internet firms
  - Product diversification – e.g. advertising, content such as TV
  - Persuade consumers that quality access is valuable & worth paying for

# Consumers that are sensitive to traffic differentiation by brand are also highly engaged Internet users that pay for online content

“Thinking about your home Internet connection and your experience of how fast the Internet feels when you use it, which of the following statements apply to you?”



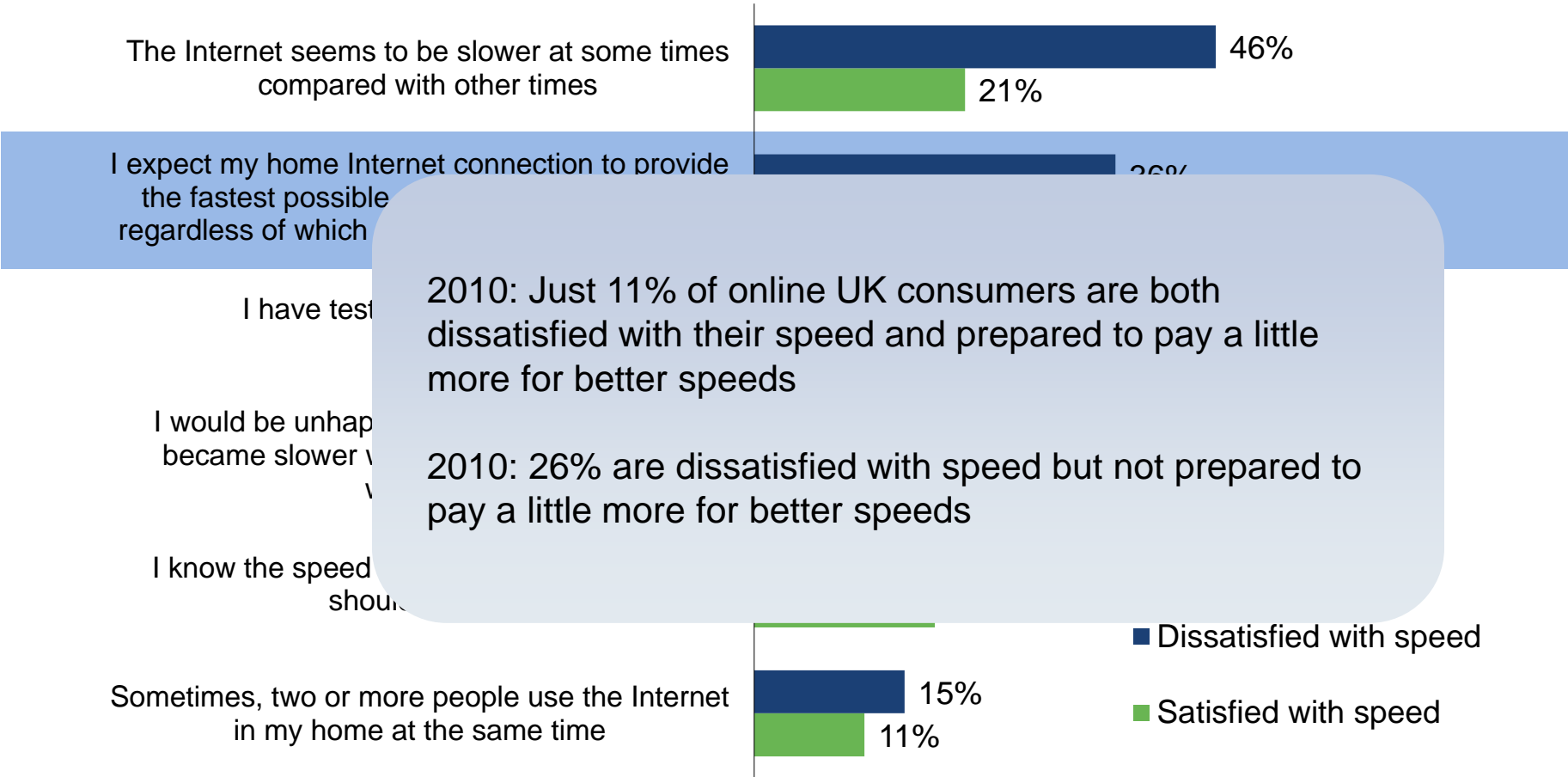
Base: European online households

Source: JupiterResearch Consumer Survey (9/2008) – France, Germany, Italy, Spain, Sweden & the UK, n=4,268



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# For competition to work, we must overcome the key consumer challenges around net neutrality

- The 'Net neutrality prisoner's dilemma' – avoid via industry-wide coordination
  - It's not in the interests of any one operator to be transparent & explain limitations
  - But without, consumers will see no reason to pay for quality = race to the bottom
  - With market-wide clarity => consumers understand the value of network quality => some are prepared to pay for it => better revenues per customer, for everyone
- Transparency & clarity – how to communicate network quality clearly
  - Many tricky tech characteristics to explain:  
Data limits; throttling; differentiated speeds by firm's service, etc.
- Predictability – for the life of a customer
  - Operators must honour the Internet service a consumer has bought
  - Contract lock-ins, either explicit or implicit, make this more important
- Choice – variety of packages & operators
  - The push for NGA threatens to increase consolidation
- Interpretation – this is hard for the industry as well as consumers

# Internet innovation has especially challenging disruptive characteristics for telecoms

- New players outside the telecoms industry are entering
- They have key software expertise that they use to create vertically integrated products and “Curated ecosystems”
  - Consumer devices that are tightly tied into cloud services
  - Software is a core capability and strength
  - App stores are managed/curated, integrated with devices
- Markets are colliding (convergence is far too gentle a term)
- The speed of innovation is extremely quick
- Internet brands have even greater scale for consumer products/software/services than even the largest operator
  - Facebook: 500m accounts / Skype xxx m / Live xxx / Yahoo! xxx
- Value chains are evolving all of the time alongside this innovation

# The challenge of overcoming clashing time horizons for telecom and Internet business models

## Telecoms

- Higher margin
- Subscription-based consumer charging that greatly discourages switching
- Long timescales:
  - 10-20 years spectrum license terms, e.g. for LTE or 3G
  - 5-20 years ROI on fibre or wireless infrastructure
- Very slow innovation in telecom-controlled devices like the home phone or home gateway

## Internet

- Lower margin
- Freemium & advertising models that enable very easy consumer switching
- Entire businesses can start, prosper, dominate and even begin to fade inside of 5 years:-
  - Hulu: 2007 launch.
  - Facebook – 2004 private launch, to public 2006.
  - Youtube – 2005, bought by Google 2006.
  - Skype – 2003, bought by eBay 2005, spun out 2009.
  - BBC iPlayer – beta launch 2005, left beta in 2007.
- Rapid innovation of Internet devices:
  - Apple iPhone / iOS – 2007
  - Google Android – 2008
  - Palm WebOS – 2009.
  - Windows Phone 7 – 2010.

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- **Ex ante?**
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**Ex post?**

# There no fundamental sustainable net neutrality differences between mobile/wireless & fixed

- Wireless networks do have different tactical technical challenges
  - Greater unpredictability of end user data consumption
  - Mobility creates very localised network issues
  - Limits on spectrum/bandwidth -> total capacity is lower than fixed & will continue to be lower
  - Backhaul bottlenecks from base stations
- Such challenges are not fundamentally / strategically different to
  - Cable / HFC network bottlenecks
  - DSL line length or crosstalk issues
- The only key difference is that *mobile operators have a lot more to lose* as they have high ARPU rates and are accustomed to a very strong value chain position compared with home ISPs

# Competition & 'Net neutrality' is a bigger issue than the network alone: The overall consumer experience is key

- Search neutrality
  - One search engine dominates Europeans' search usage
  - What happens if a search provider differentiates results based on payment?
- In mobile, most smartphones are not open and neutral
  - Operators often customise experiences & prevent consumers changing it
  - e.g. Verizon shipping Android smartphones with Bing as sole search engine
- "Curated ecosystems"
  - To what extent should App Store owners control the catalogue?
  - If consumers have a choice of app stores on a phone does the answer change?
  - Is curation acceptable on some devices but not others? Consoles, PC, phones...
- Privacy and net neutrality
  - Should operators partner with advertising players for behavioural modelling? If so, on what basis? e.g. Phorm things, or custom DNS services

# Key takeaways

- Net neutrality issues are a direct result of value chain pressure from the arrival of disruptive Internet competitors in telecoms
  - Old market definitions no longer apply, this is collision and not convergence
- It's not too late to persuade consumers to pay more for access
  - Greater clarity and transparency market-wide is essential
    - => otherwise a prisoner's dilemma results with a race to the bottom in pricing
- Consider the overall Internet experience, not just the network
  - “Curated computing” ecosystems are part of neutrality:-
    - e.g. App stores; Search / discovery; Devices / phones / tablets / consoles etc.
- Be pragmatic, avoid a paralysis of analysis, by breaking neutrality into bits
- Mobile/wireless is not different - apply the same net neutrality principles
- Allow differentiation of traffic by application on technical grounds
  - Differentiation by brand/firm's traffic is much harder to justify, but not impossible



# Thank you

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