Telecom Industry Update

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Around the world in 5 minutes

- North America
- Wireline continues to be a tough business even for cable providers
- Wireless
  – LTE will become the dominant standard by the end of 2013. That said WiFi continues to be the preferred off load strategy for all carriers.
  – Verizon and AT&T remain the big players
  – Sprint and T-Mobile will continue to struggle
- Technology
  – Tablets will soon overtake Laptops as the mobile computing platform.

Emergence of the BYOD Strategies

- Cutting Costs and Accommodating Employee Preferences
    - Corporations (may) supply a handset and/or "you can use what you want, but you pay for it".
    - Corporations Supply various options for the data service and do allow you to expense pre-paid cards.
    - Support costs pushed from IT department but they must have MDM

- Liability issue
  Individually-liable models are more expensive, disfavored by employees.

- BYOD offers
  Productivity benefits
  Happy users
  Potentially reduced costs in corporate data plans
  more DIY for support

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Other Regions

- India/Africa
  - Subscriber landgrab but:
    - low ARPU ($4 – 8)
    - All pre-paid
    - 2 and 2.5G world of SMS based apps on cheap phones

- LatAm
  - Lots of opportunity growth both Subscribers and bandwidth build out

- EMEA
  - Mature, focus on Opex. "Managed Decline"

- Asia
  - Very mixed depending on the country/region
    - China – land grab
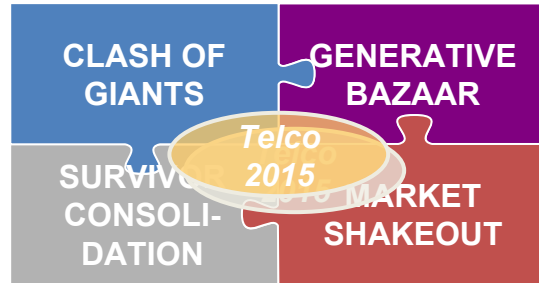   - Australia, Singapore, Malaysia – Mature with NBN's

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Other Trends and Topics

- *It's all about spectrum* Operators want it … But governments want to make sure that they get the most out of the existing spectrum before any new space becomes available.

- **This can't go on.** The OTTs continue to relegate mobile operators to "dumb pipes" just like fixed line operators. However, there is finally some concern that if the economic model isn't fixed between content provider and mobile operator then operators will:
  - slow down further investment
  - increase data charges
  - force more use of Wi-Fi

  meaning that bandwidth hungry applications will threaten the user experience for all apps.

- **Customer Sat and Security** are again back in focus, particularly as big bets are being placed upon mobile payments
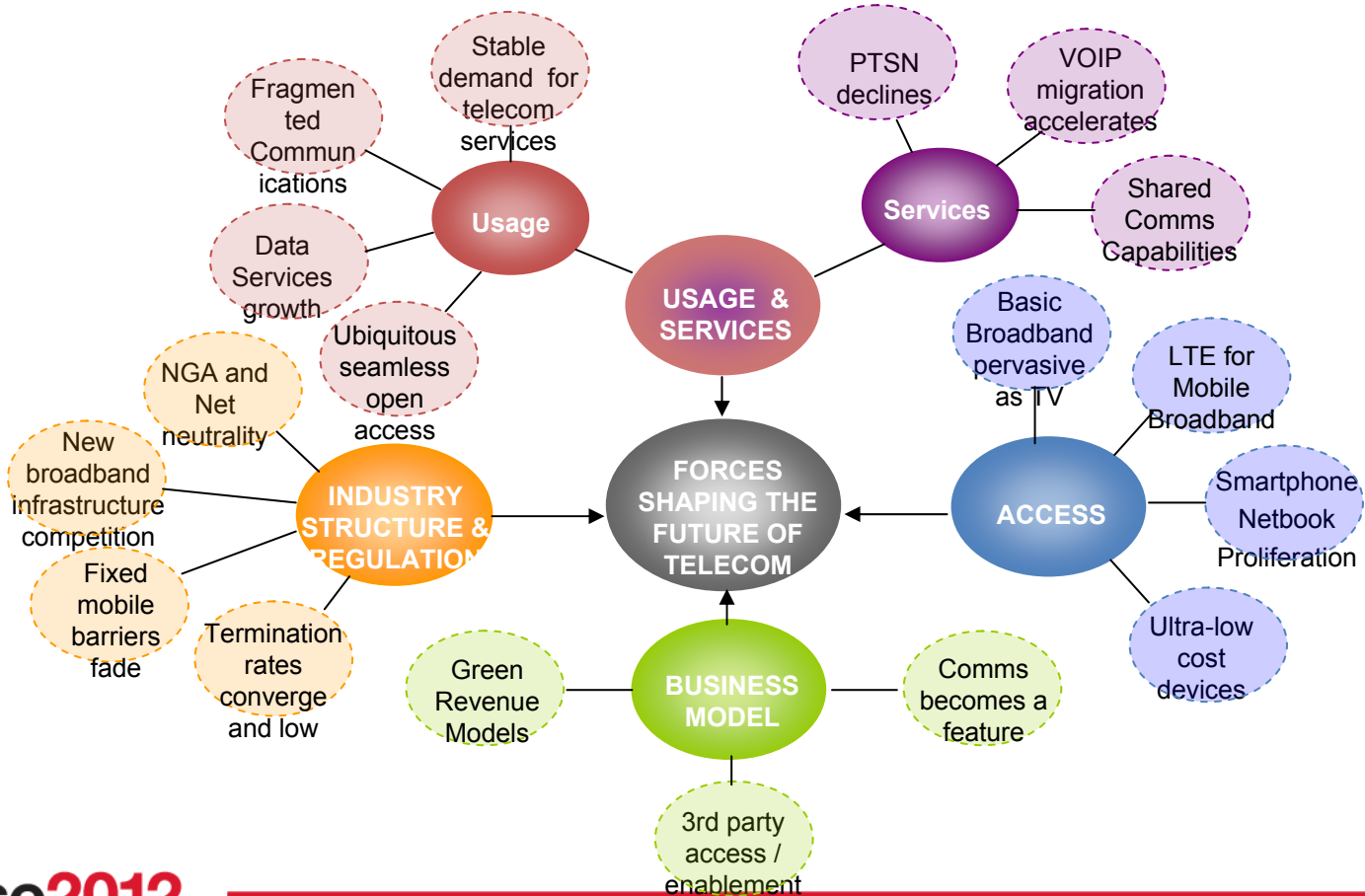
CSPs are pursuing different strategies for success …

Will the market expand and will there be a **clash** with OTTs and OEMs? Is global industry co-operation required to cope with the increasing competitive threats from these parties? Will emerging market providers
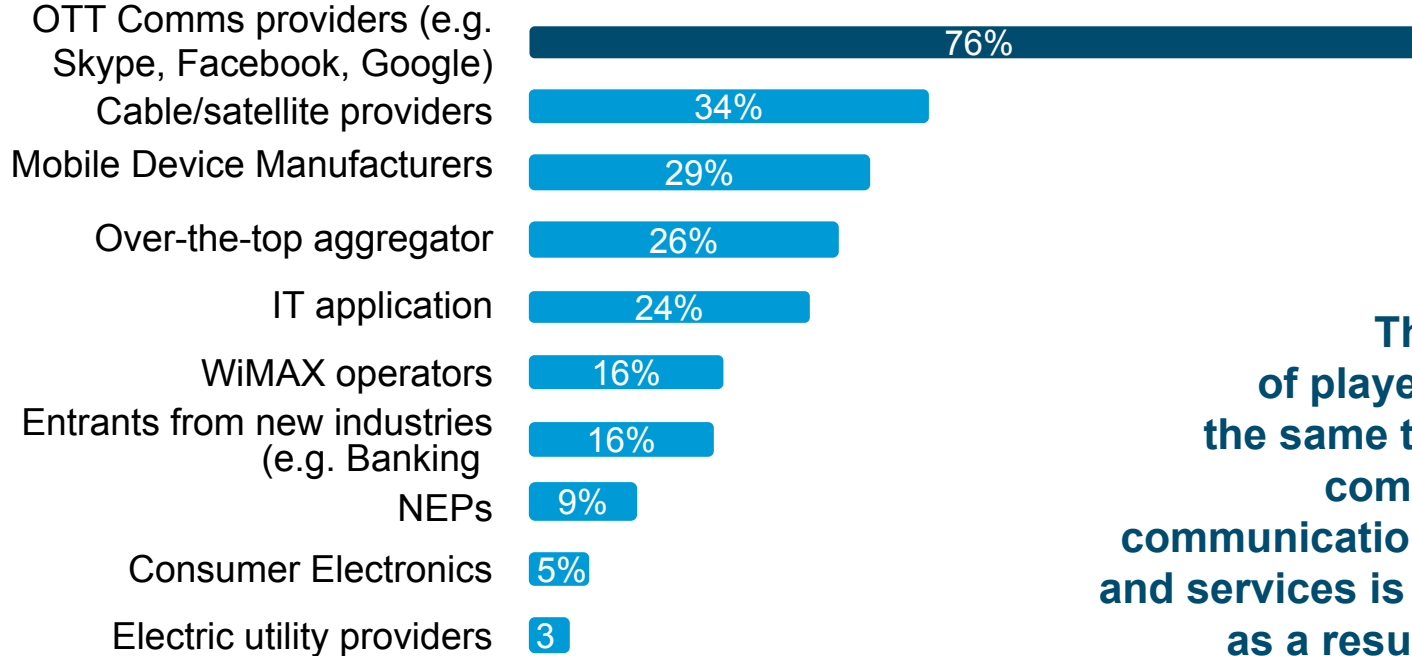enter mature markets?

Will a structural separation into distinct network and services businesses be the future, either under pressure from national governments or through voluntary co-operation. Will this, in whole or in part, provide a national and local **open** **access network infrastructure** to any person, provider or object?

CLASH OF GIANTS

GENERATIVE BAZAAR

Telco 2015

SURVIVO CONSOLI-DATION

MARKET SHAKEOUT

Will a prolonged global or local economic downturn result in reduced spending by customers? Will investor loss of confidence in the Telecommunications industry or specific CSPs produce a cash crisis? Will some CSPs focus on **aquistion or being aquired**?

Will, in a stagnant/declining market,   CSPs be forced to or choose to disaggregate assets in separate businesses? Will the market be further **fragmented** by initiatives from government, municipalities and others, providing ultra-fast broadband in certain areas?

OTT communication providers considered the greatest competitive threat by Telcos
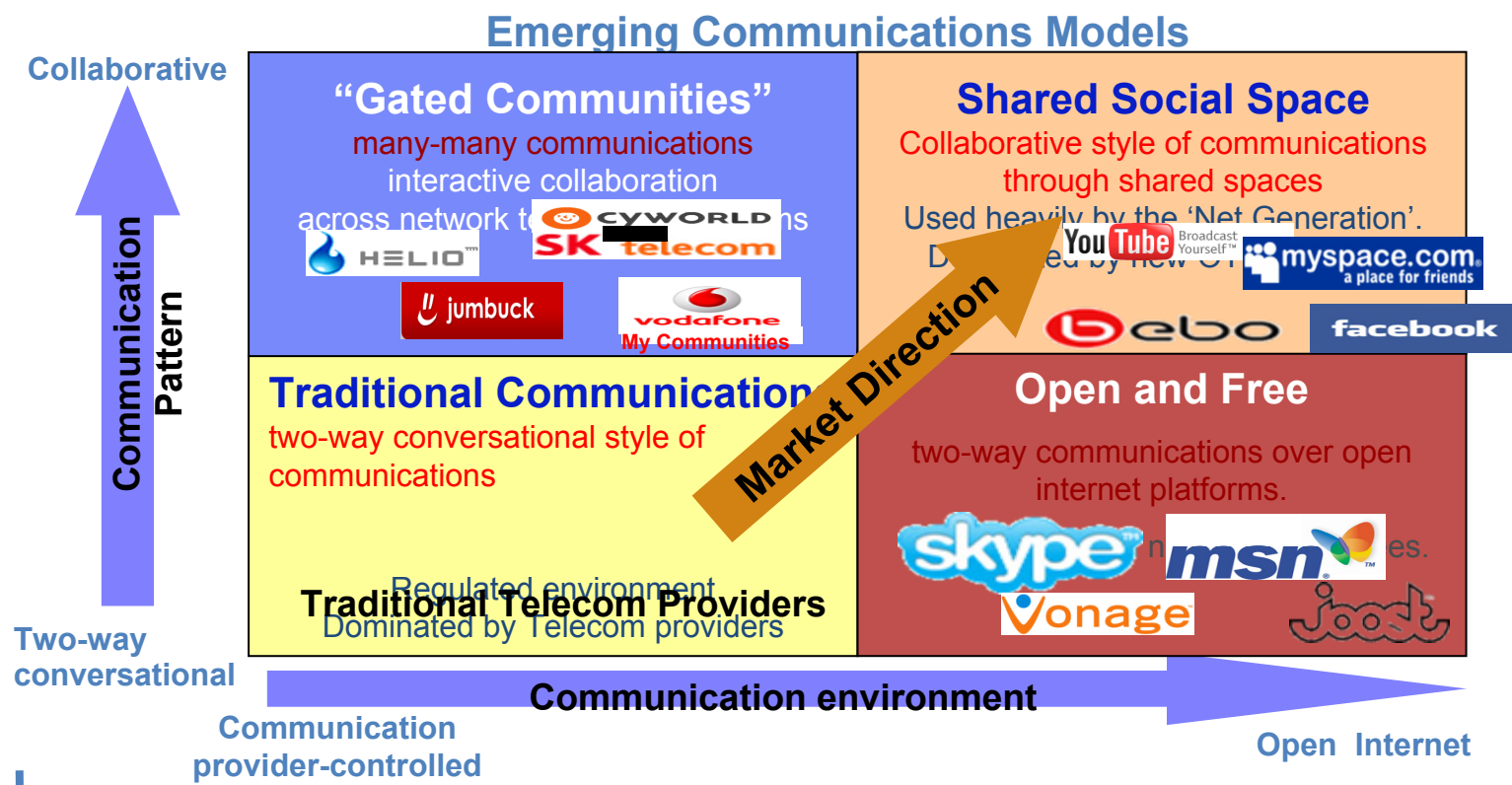
Industry transformation is evoked by communication becoming digital and new market entrants competing with Telcos over the open Internet

Category	Percentage
OTT Comms providers (e.g. Skype, Facebook, Google)	76%
Cable/satellite providers	34%
Mobile Device Manufacturers	29%
Over-the-top aggregator	26%
IT application	24%
WiMAX operators	16%
Entrants from new industries (e.g. Banking	16%
NEPs	9%
Consumer Electronics	5%
Electric utility providers	3

The number of players offering the same type and/or combination of communication products and services is increasing as a result of fading boundaries defined by access (i.e. fixed, mobile, cable, Internet)

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Shifts in communication *control* and *patterns* give rise to new business models

Emerging Communications Models

Collaborative

Communication Pattern

Two-way conversational

"Gated Communities"
many-many communications
interactive collaboration
across network technologies

HELIO · CYWORLD · SK telecom · jumbuck · vodafone **My Communities**

Shared Social Space
Collaborative style of communications
through shared spaces
Used heavily by the 'Net Generation'.
Dominated by new OTT

You Tube Broadcast Yourself™ · myspace.com a place for friends · bebo · facebook

Traditional Communication
two-way conversational style of
communications

Regulated environment
Traditional Telecom Providers
Dominated by Telecom providers

Open and Free
two-way communications over open
internet platforms.

skype · msn · Vonage · Joost

Market Direction

Two-way conversational

Communication provider-controlled

Communication environment

Open Internet

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What can we sell besides bandwidth?

Prioritised data services. I want a better service than the 12 year old sitting next to me in a restaurant. I'm not talking about net neutrality. I'm talking about business service levels vs consumer service levels. I'd pay (or my company would) a lot more for that.

- Better, enhanced insurance that doesn't require dealing with visiting stores, handing over cracked phones, waiting for them to determine the screen is actually cracked and then waiting to be told when to re-visit for a replacement. Apple care could be "Telstra care"

- Enhanced services — one number, multiple devices, for example.

- Family location monitoring and for my car, boat, anything else I insure.

- I'd like guaranteed 2-hour handset and SIM replacement 24-hours a day

- A personal roaming service plan.

- A concierge customer service telephone/online call centre just like the airline frequent flyer programs do.

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Thoughts on survival – If you can't beat'em, join'em

- Would an equity investment in the OTT providers change a Telco's attitude?
    - Consider an investment in skypc in 2004
    - Today
        - Netflix, Hulu, bebo, Disney, CNN, Vivendi/universal, Time Warner for exclusive content to your region (Comcast just bought NBC for content)
        - Exclusive caching of selected content in your region (get some money for those caches you have purchased).
        - Survivor/reality TV (think AT&T American Idol)
        - Do a deal with Facebook to use your messaging (before it destroys your SMS revenue!)
        - Pandora to your customers!
        - Exclusive apps and partnerships (healthcare, banking, insurance)

- Think about the above in the context of "what is the next bundle going to be"?
- National Fiber Optic Network in China

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