ANALYSIS

Convergence: repositioning in an expanded mobile ecosystem

November 2015
Executive summary

Convergence itself is not a new concept, but it is changing. Fixed-mobile convergence has been around since 2005. This can be thought of as convergence 1.0 based on unified communications to the enterprise. Fixed and mobile networks were linked, but only converged at a local level (allowing, for example, office workers to route fixed phone calls to their mobiles). The difference now is that convergence has expanded to involve deeper integration of all-IP networks on a national scale, and it has been productised to consumers through triple- and quad-play bundles.

For mobile operators as well as cable and fixed line players, this is about strategic repositioning in an expanded mobile ecosystem, where the lines distinguishing these players are becoming increasingly blurred. At least four factors make the case for convergence strong:

1. **Customer retention**

Product bundling reduces churn and establishes a control point for customers when they have the option to consume services through multiple devices and networks (other sectors such as consumer banking and energy supply also do this). For mobile operators this means expanding from their core strength in wireless into the home (broadband and TV), and from the home into wireless for cable and fixed line providers. Ironically, consumer demand for quad-play bundles has remained relatively low, although it is higher in markets that have had multiple fully converged players for several years (such as France and Spain) and that have offered bundle discounts of 30–40% to drive take-up. Market interest is moving in this direction as mobile and fixed line players increasingly compete for the same customers, and we expect penetration to accelerate in 2016.

2. **Enhanced user experience**

Mobile’s share of media time is rising. The positive is that operators are starting to monetise data. As more content is being viewed outside of the home and work (e.g. in transit), controlling both access points and being able to offer consumers ubiquitous, always-on connectivity with seamless handover between fixed and mobile is a key advantage for a converged business. The negative is an increase in capacity stress on the network, driven by exponentially rising use of video. This underlines the value in offloading mobile traffic onto fixed networks, for which the economics are stronger if both networks are owned.

3. **Margin/investment expansion from network consolidation**

Network ownership and, increasingly, ownership of converged networks allowing the delivery of voice, data and video over IP at scale are a key source of competitive advantage for operators as well as cable and fixed line players. This is a fundamental driver of margin expansion because larger companies are able to spread their high fixed cost base across a larger revenue-generating customer footprint, in turn driving increased investment for larger converged players in scale and network quality. Lower churn from bundled customers also helps margins by reducing retention costs.
4. Hedging against disruptive technology

One route into mobile being pursued by cable companies (mostly in the US) is to go Wi-Fi first, in combination with an MVNO backstop when out of Wi-Fi range. Cablevision launched the cable industry’s first Wi-Fi led mobile service earlier in 2015, while other companies such as Comcast (with more than 8 million hotspots) are working on similar services. This is not an existential threat - Wi-Fi hotspots are far from ubiquitous, particularly outside cities, and there are inherent technological limitations that make it an inferior technology to cellular in dense areas. Additionally, some mobile operators are among the proponents of new technologies such as LTE-U (enabling LTE to be deployed in unlicensed frequencies) to complement Wi-Fi and relieve capacity stress in dense urban areas. However, if cable companies were to offer cheap Wi-Fi based mobile propositions as a loss leader to entice customers into higher value TV packages, there is a risk of customer leakage from the operators.

In sum, the strategic rationale for convergence has grown increasingly strong because it is positive for sustainability. Does convergence provide the seeds for a step change in the revenue growth story for telecoms? We believe this is less likely, at least through the current productisation models. More likely, a converged playing field will become the new normal for competition. The objective of convergence should therefore be framed in stages. In the near term it consolidates networks and products to drive higher customer retention, an improved user experience and margin/investment expansion. Over the medium- to long-term horizon (at least three to five years), the direction of convergence goes beyond product bundling and towards a larger fusion of ecosystems through digitisation into the Internet of Things – the subject of the final two reports in this series.
Convergence is not new, but it is changing

The current wave of activity is not the first time convergence has been tried. Fixed-mobile convergence has been around since 2005. This can be thought of as convergence 1.0, and mostly involved unified communications to the enterprise. Fixed and mobile networks were linked, but only converged at a local level (allowing, for example, office workers to route fixed phone calls to their mobiles). The difference now is that convergence has expanded to involve deeper integration of all-IP networks on a national scale, and it has now been productised to consumers through triple- and quad-play bundles. Figure 1 provides an illustration of this evolution, along with a summary of the key characteristics of each stage in the accompanying table.

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<thead>
<tr>
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<th>FMC (1.0)</th>
<th>Product-level (2.0)</th>
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<tbody>
<tr>
<td>Market stage</td>
<td>Plateau</td>
<td>Growth</td>
</tr>
<tr>
<td>Products/services</td>
<td>Unified comms (e.g. video conferencing, fixed-mobile calling), cloud hosting</td>
<td>Triple and quad play</td>
</tr>
<tr>
<td>Business models</td>
<td>Mostly B2B reselling</td>
<td>Mostly direct to consumer (sell product/service to end user)</td>
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<td>Value chain</td>
<td>Tight vertical integration</td>
<td>Tight vertical integration</td>
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<td>Customer relationship</td>
<td>Direct delivery and billing</td>
<td>Direct delivery and billing</td>
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<tr>
<td>Networks</td>
<td>Integrated fixed and mobile</td>
<td>Converged all-IP</td>
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**Figure 1:** Evolution of convergence

*Source: GSMA Intelligence*
Strategic repositioning is driving the current wave of convergence

For mobile operators as well as cable and fixed line players, the rationale for the current wave of convergence is based on strategic repositioning in an expanded mobile ecosystem. At least four factors make the case for convergence strong:

1. Customer retention - product bundling is a key control point
2. Enhanced user experience - mobile’s share of media time is rising, and consumers expect always-on, ubiquitous connectivity
3. Margin/investment expansion from network consolidation
4. Hedging against disruptive technology

We discuss these in detail below, along with an important fifth factor – finding new sources of revenue – in the last section of this analysis.

Customer retention

Most telcos are productising their convergent business models by targeting the quad play (i.e. bundling mobile, fixed broadband, pay TV and landline). The objective is to reduce churn and establish a control point for customers when they have the option to consume services through multiple devices and networks (telecoms is far from the only industry to use such a structure; consumer banking does so using credit and debit cards, mortgages and loan products, while energy companies do so with gas and electricity). For mobile operators this means expanding from their core strength in wireless into the home (broadband and TV), and from the home into wireless for cable and fixed line providers.

The ongoing wave of cross-sector consolidation in Europe and the US has largely targeted this type of convergent business model from both sides, with few companies now entirely fixed or entirely mobile. Figure 2 summarises the transactions over the last five years:

- Roughly half were examples of in-market consolidation within the mobile sector; 29% are four- to three-player moves in Europe, and 26% were focused on consolidation in the US, mostly regional-level players being subsumed into one of the two incumbents (Verizon and AT&T).
- 25% were mobile operators purchasing (or combining with) cable companies or satellite pay-TV operators. Examples are Vodafone’s purchase of cable firms in Germany (Kabel Deutschland) and Spain (Ono), and recently mooted acquisition of Cabovisao in Portugal, as well as AT&T’s acquisition of DirecTV in the US.
- 14% were the reverse: cable and fixed combining with mobile. Examples include Altice’s purchase of SFR in France (and proposal in June 2015 to buy Bouygues), Zon combining with Optimus in Portugal, and BT’s proposed takeover of EE in the UK.
- By value, M&A among mobile, fixed line and cable players increased to over $130 billion in 2014.
Operators are also taking asset-light approaches in place of, or as a complement to, acquisitions. Telecom Italia has entered into a joint venture with Sky Italia, while Vodafone UK now bundles premium content (such as Netflix and HBO content) into high-end 4G tariffs. Telekom Austria recently trialled a streaming service (A1 Now) across its own network and those of the other two national operators that can be used on a smartphone, tablet or PC. It includes live TV (40 channels) and archived movie/TV series content, and offers cloud storage for non-linear viewing. (Verizon has the opportunity to do something similar with the newfound content assets it has assimilated through the AOL acquisition, notably Huffington Post, TechCrunch and Engadget.)

The irony is that, at least so far, there remains little evidence of consumer demand for quad-play bundles. Figure 3 shows example markets in Europe, the US and Asia from our recent global survey. In Australia, the US and UK around 40% of households subscribe to all the services in a quad play but less than 10% take them from one provider. Only Belgium (27%), France (24%) and Spain (21%) have any appreciable penetration of true quad play.

Figure 2: Number of recent telco M&A deals: the shift from in-market consolidation to cross-sector M&A
Note: Includes deals that have been proposed, completed, rejected and rumoured; Europe, US, Canada, South Korea, Japan
Source: GSMA Intelligence, company reports

In-market consolidation deals  Cross-sector M&A deals

<table>
<thead>
<tr>
<th>Year</th>
<th>In-market</th>
<th>Cross-sector</th>
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<tr>
<td>2011</td>
<td>1</td>
<td>2</td>
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<tr>
<td>2012</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>2013</td>
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</tr>
<tr>
<td>2015</td>
<td>4</td>
<td>1</td>
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This raises an important question – if the strategic rationale for convergence is so strong, why is consumer demand for it lagging?

This can be partly explained by the timing of convergence in different countries. France and Spain have multiple converged operators offering quad play; offers have been available for several years (Orange and Numericable in France; Telefonica, Vodafone and Orange in Spain). By contrast, BT would become only the second converged player with any appreciable scale in the UK, pending final regulatory approval in January 2016. Virgin Media has been the only quad-play option with any appreciable scale to now, but its mobile proposition has been relatively weak, operating as an MVNO with limited handset selection. (TalkTalk has also offered quad play but only recently started to push this.) This dichotomy has enabled early-adopter markets to build strong fibre rollouts and, crucially, tinker with pricing models to offer bundle discounts relative to buying products standalone. Telefonica’s Fusion bundles in Spain in 2012, for example, were priced at a discount of around 40% compared to buying the individual products standalone, with similar discounts offered by other incumbents.

Market structure is also part of the explanation. In the US, for example, cable and mobile have until recently competed in silos, with each building strong positions but with far less infrastructure overlap than European incumbents with cellular and DSL/fibre. Verizon and AT&T account for 70% of US mobile subscribers, 38% of broadband but only 14% of pay TV. 

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**Figure 3**: Quad-play penetration by market (selected countries), 2015
Quad play defined as subscribing to mobile, home broadband, landline (line rental) and pay TV from one provider

*Source: GSMA Intelligence SIM survey, 2015*
Finally, loyalty rewards and subsidies guard against consumers switching providers, and there remains the inertia problem: some consumers simply do not want to make the effort to bring all services under one provider.

Notwithstanding these factors, the increasing market interest in deploying quad play is not going away. The benefits of churn reduction and a customer control point have grown stronger as mobile and fixed line players increasingly compete for the same customers. We believe operators will continue to offer bundle discounts to drive take-up, a viable strategy provided it balances against the longer term risk of value destruction if price wars take hold. In sum, we believe the strategic rationale for quad play is stronger than the deterrent factors that have limited its uptake so far, and expect penetration to accelerate in 2016.

Enhanced user experience

Mobile is taking an increasing share of people’s time spent consuming digital media. Similar trends are evident in both Europe and the US, with the amount of time spent on mobile devices, including tablets, increasing five-fold over the last four years to between two and three hours per day (or a third of all media time, including TV, radio and print). This translates into more time than spent consuming media on PCs (home or work), an important milestone four years after smartphone sales eclipsed PCs in 2011. It also translates into crossover in use cases; nearly half of people in the US now use a smartphone while watching TV, compared to around a third using a laptop or tablet.

Figure 4: Share of media time spent on mobile (including tablets)
*Time with all media, including TV, PC, mobile, tablet, radio and print
Source: eMarketer, GSMA Intelligence

1 “TV and Mobile Device Usage: Two Sides of the Coin” Discovery Communications, 2014
For mobile operators, this is a double-edged sword. Examining data for the UK, Germany, France, Netherlands and Spain suggests an uplift factor of 2–3x in individual data usage on 4G relative to 3G (see Figure 5). The positive is that operators are starting to monetise this higher data usage through higher tier entry tariffs, which is driving an improved near-term revenue growth outlook in Europe from current rates of between –2% and –4% into positive territory in 2016 (albeit with northern Europe doing so faster than the south). The majority of time on the internet is spent at home and work, but premium content (such as Netflix, HBO or Premier League football) is increasingly being viewed in transit. Controlling both access points and being able to offer consumers ubiquitous, always-on connectivity with seamless handover between fixed and mobile is a key advantage for a converged business.

The negative is the main by-product of this increased time: rising data traffic on the network. Self-selection will always be a part of early-adopter patterns in that heavy data users will naturally gravitate towards 4G, but the trend of higher data usage has moved beyond the diehard to the average individual consuming high-bandwidth, on-demand content. Consumer internet traffic is forecast by Cisco to rise fourfold globally between 2014 and 2019 (or 27% per year), with nearly all of this driven by video (see Figure 6). The challenge for operators is that mobile’s share of this internet traffic is also rising (forecast from 6% to 18% by 2019), placing significant incremental stress on their networks. New spectrum release and refarming at low frequencies can help with this, but most of the mitigation will come from offload onto fixed fibre (especially for dense cell sites in cities). Although it is possible to offload onto a competitor’s fixed network, the economics are stronger by owning your own as a direct complement to wireless.
Marginal and investment expansion from network consolidation

EBITDA margins in Europe have deteriorated over the last four years, from around 31% in 2011 to 27% in 2015. The picture is a little better in the US, where margins improved to 37% in 2015 after flat-lining at around 32%, but this is distorted by the introduction of handset leasing plans, which have largely removed the downward pressure from subsidies (especially the iPhone).

Network ownership and increasingly ownership of converged networks allowing the delivery of voice, data and video over IP at scale are a key source of competitive advantage for operators as well as cable and fixed line players. This is a fundamental driver of margin expansion because larger companies are able to spread their high fixed cost base across a larger revenue-generating customer footprint, in turn driving increased investment for larger converged players in scale and network quality. Lower churn from bundled customers also helps margins by reducing retention costs. Figure 7 shows the positive relationship between scale and free cashflow generation.
Figure 7: Scale matters: market share versus free cashflow margin

*Free cashflow defined as EBITDA (or comparable operating profit metric) minus capex, expressed as share of revenue (US = 12 months to March 2015, Europe = 2014). Market share is of company’s primary sector (e.g. mobile, broadband, pay TV)

Source: GSMA Intelligence

**Hedging against disruptive technology**

For cable and fixed line companies, mobile presents an option that kills two birds with one stone:

- another screen to monetise and amortise heavy content investments across (a major reason for BT’s proposed acquisition of EE in the UK following the former’s purchase of domestic and European football rights)
- a buffering option against competing OTT content services (led by Netflix) that have been a major factor behind the acceleration of cord cutting in the US.

Interestingly, one route into mobile being pursued by cable companies (mostly in the US) is to go Wi-Fi first, in combination with an MVNO backstop when out of Wi-Fi range. Cablevision launched the cable industry’s first Wi-Fi led mobile service earlier in 2015, while other companies such as Comcast (with more than 8 million hotspots) are working on similar services. Ongoing speculation around consolidation deals in the US cable sector could lead to even greater scale in terms of Wi-Fi hotspots, though again it appears likely some form of MVNO agreement would be necessary to allow a truly competitive offering (Liberty Media Chairman John Malone has publicly commented on this: ‘The concept that Comcast, a greatly enlarged Charter and Cox could together offer a Wi-Fi optimised connectivity service with a default to a Verizon MVNO is interesting.’)
Google’s Fi is related to this; it uses Wi-Fi combined with dynamic cellular switching on Sprint and T-Mobile. In either case, this presents a disruption threat to mobile operators. To be clear, this is not existential – Wi-Fi hotspots are far from ubiquitous, particularly outside cities, and there are inherent technological limitations that make it an inferior technology in dense areas. However, if cable companies were to offer cheap Wi-Fi based mobile propositions as a loss leader to entice customers into higher value TV packages, there is a risk of customer leakage from the operators. In this sense, the play for operators acquiring fixed line and/or TV assets is a defensive hedge.

**Overall view: converged playing field the new normal**

The strategic rationale for convergence has grown increasingly strong. It is fundamentally positive for sustainability, with the long-term viability of mobile-only businesses challenging in the absence of scale. Europe and the US are the most advanced regions – and as such have been our focus in this analysis – but convergence is also happening in the CJK (China, Japan, Korea) triangle. We believe it is only a matter of time before this industrial shift reaches other markets, especially in Asia and Latin America. This is the new normal.

So far, there is little evidence that convergence will drive a step change in revenue growth. In the US – where both telco incumbents now run fixed, mobile and TV offerings – revenue growth has not shown any significant improvement over the last 12-18 months, with competition from smaller players and over-the-top video helping to limit cross-selling success (see Figure 8). Cable has shown the strongest growth among telco players at around 5%, with premium TV content the key lever for ARPU uplift. For context, Apple and some of the big internet players are growing at double-digit rates.

The objective of convergence should therefore be framed in stages. In the near term it consolidates networks and products to drive higher retention (i.e. lower churn), an improved customer experience (“any device, any service, anywhere”) and margin/investment expansion. Over the medium- to long-term horizon (at least three to five years), the advantage for converged operators is leveraging scale to fund network investment to enable more sure-footed entrances into new business areas in the Internet of Things (IoT) and 5G (even if that is five years away from being commercialised). A step change in revenue growth will only come by differentiating from adjacent competitors and offering compelling propositions to the customer.
From defence to offence?

The final two reports in this series will cover convergence in the long term - the next 5-10 years. We believe the direction of convergence goes well beyond product bundling and towards a larger fusion of ecosystems through digitisation into IoT. Digitisation is undoubtedly the most important wave in technology since the smartphone revolution, and as such presents the potential for new business areas. Smart cities, government services, augmented and virtual reality and even industrialised sectors in manufacturing and energy are all in the midst - to varying degrees - of being reshaped.

This presents the opportunity to move from a defensive/reactionary approach to one that is more assertive, but several challenges remain. Potential entrants face the challenge of gauging the potential market value of a digitised sector: what is the concrete revenue opportunity versus a loyalty-driven proposition (including hitherto peripheral features such as privacy, security and identity)? They also need to play a role in consolidating disparate value chains, which at present are more like siloed clusters from the physical world. Apple, Google, Facebook, Amazon and Microsoft are all developing horizontal capabilities in an attempt to bridge these opportunities. Operators bring a different set of assets to the table, but the importance of product innovation is no different when trying to carve out revenue-generating business lines in new areas.
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