

# READY FOR A NEW RIDE

With the internet, software and mobile 'eating the world' in three phases of convergence, the policy issues for communications services and the information society may now lie predominantly outside the sector, writes **BRIAN WILLIAMSON**

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It was Marc Andreessen who explained in 2011 'why software is eating the world'.<sup>1</sup> Now services such as Uber are showing how it's done in the latest phase of convergence, phase three, with all phases now still in play.

We can trace events back to the dotcom crash in 2000, after which Apple launched iTunes in January 2001 and later that year the iPod. Another milestone, at least in the UK, was the launch of the BBC's iPlayer, which left beta and went live on Christmas Day 2007.

This first phase of convergence saw digitised content substitute progressively for physical content. It provided a stimulus for broadband adoption, was benign from a communications market perspective, and continues to drive a transformation of the music and video industries.

The combination of smartphones and apps stores, with the launch of the Apple app store via an update to iTunes in July 2008, set the stage for the subsequent two phases of convergence.

The second phase of convergence involved social networking and communications services such as Facebook, which opened to the public in September 2006, and WhatsApp, which launched in November 2009, and rapidly evolved to include photo sharing. Like the first phase, content is digital in this phase, but networks of people and user generated content were now central.

The third phase of convergence has barely begun and involves a blurring of the digital and physical worlds, including peer-to-peer services such as Uber. Yet it may prove the most profound, as most economic activity is embedded in the physical rather than virtual worlds.

Common threads that weave the phases of convergence together are the development of new software platforms and mobile devices. New developments including context awareness via location, sensors and the identity of the user are bringing greater personalisation and intelligence

to applications. The personal computer has finally arrived.

Mobile not only brings computing on the go, but also brings computing to people who did not previously have access to it – those who never went online previously and mobile workers such as field staff who did not or could not use desktop computers. The internet opened up innovation to third parties and the edge of the network, and app stores allow discovery, global distribution and monetisation of new applications at low cost.

This process is ongoing with the launch in 2014 of health, automotive and home automation software platforms by a number of players, the development of wearable technology and the launch of applications using micro-location beacon technology.

Weaving these services together, and providing supporting artificial intelligence, is the cloud. Reinforcing this is the fact that the phenomenon is genuinely global, in a way that fixed connectivity and the PC never was and may never be.<sup>2</sup>

## CONVERGENCE PHASE 1: DIGITAL CONTENT AND THE TRANSFORMATION OF MUSIC AND VIDEO

This phase of convergence is most familiar, and while disruptive for some has been largely beneficial for the telecoms sector, driving demand for more advanced network connectivity. This is admittedly less clear cut for video services, where many telecoms operators have developed their own service.

However, in response to an analyst's question, Verizon's chairman and CEO took the view that any demand – whether it be for video services or broadband – is good.<sup>3</sup>

*"Well, I don't view it as a threat to our pay-TV; let me put it that way. Nobody at this point makes much money if any on content, distributing content. Where you make your money is in the transport. So if the model went to, for example, a 20-channel customised package, that a customer*



could figure out what it is they want and do that over the top, over a FiOS broadband service, that is terrific.”

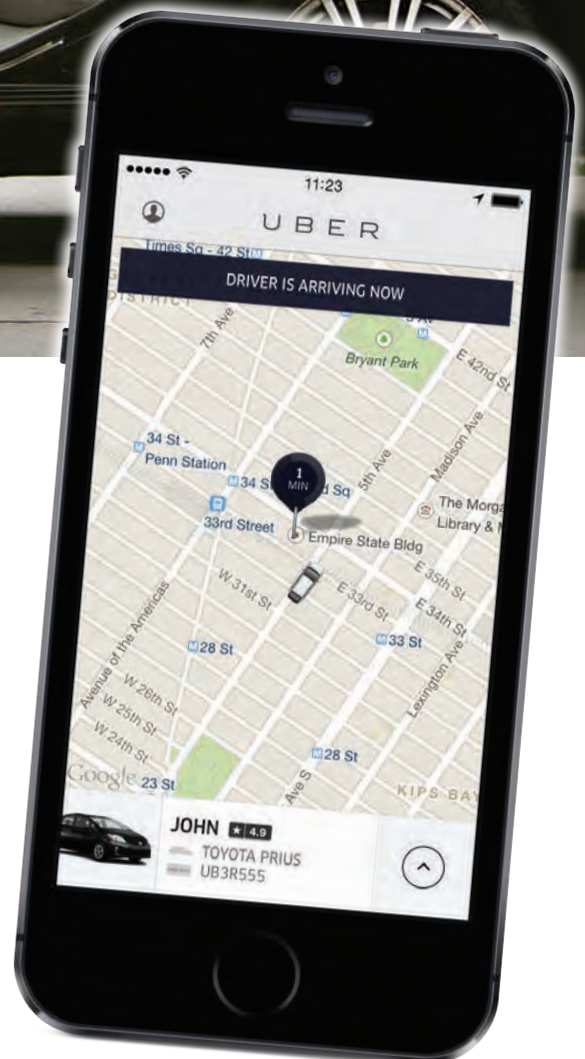
However, this phase of convergence is still playing out, with the shift from content download to streaming having a long way to run before the internet protocol (IP) overtakes broadcast video services. The transformation of the music industry, past and anticipated, is illustrated on page 37.<sup>4</sup>

### CONVERGENCE PHASE 2: THE TRANSFORMATION OF MESSAGING

IP-based communications services existed in the desktop PC environment – for example, the first public beta version of Skype was released in August 2003. While this was revolutionary, in particular, for distance communications, the full impact of IP messaging had to await widespread adoption of smartphones.

Once smartphone penetration, particularly within certain cohorts, reached a high enough level there was scope for communications apps to take off. WhatsApp, while not alone in the

Uber, the taxi app, is among the most disruptive – and controversial – new services



ATTRIBUTES OF LEGACY VOICE AND TEXT SERVICES VERSUS OTT COMMUNICATIONS APPS

	Voice	SMS	Email	WhatsApp	Skype
Personal identity, eg. photo, presence, read receipt and response indication	✗	✗	✗	✓	✓
Photo/video sharing	✗	✗	✓	✓	✓
Group chat/group video calling	✗	✗	✓	✓	✓
Phone number interoperability (by default)	✓	✓	✗	✗	✗
Device interoperability, eg. PC and mobile	✗	✗	✓	✗	✓
Network interoperability, eg. WiFi and cellular	✗	✗	✓	✓	✓

over-the-top (OTT) communications market, exemplifies this. Following its launch in 2009 it had grown to half a billion active users globally by April 2014, sharing more than 700 million photos and 100 million videos every day.<sup>5</sup> Perhaps ironically, WhatsApp has shifted from a free service to a paid one to avoid growing too fast.

One driver of OTT services initially was the price plans of telecoms operators, which included fees for voice and text services. However, operators are changing their pricing models to focus on mobile broadband access with many plans, particularly 4G data plans, now including unlimited domestic text and calls.

Yet the rise of OTT may continue since, from early on, OTT services were not only cheap or free but offered service innovations which consumers value. These include personal profiles, presence, photo and video sharing services and interoperability across connectivity types. Network interoperability to include WiFi alone is an important attribute for OTT services, allowing users more extended coverage and an opportunity to avoid roaming charges (with network interoperability now been extended to conventional messaging services).<sup>6</sup>

The table compares some of the service attributes of legacy voice and messaging services with a number of OTT communications apps. Clearly the appeal of OTT apps extends beyond free or low cost service.

While OTT messaging has impacted on the revenues of telecoms operators that were slow to adapt, OTT services have helped grow the messaging market and offer more upside in terms of data

consumption than messaging alone. OTT messaging services have encouraged explosive growth of photo sharing, the type of service on which the business case for enhanced 4G mobile coverage depends (an investment that text and voice services do not require).<sup>7</sup>

While some in the telecoms industry appear to view demand growth as a problem rather than an opportunity, others recognise the potential to monetise demand, such as the CEO of EE:<sup>8</sup>

*“The chief executive of UK mobile operating giant EE said the growth of mobile messaging services like WhatsApp wasn’t a threat to his business as the sector’s growth is driven by data-hungry consumers.”*

The consumer benefits, and competitive nature of the OTT market, was recognised in the European approval of the acquisition of WhatsApp by Facebook<sup>9</sup> while the role in stimulating demand was acknowledged by Neelie Kroes, the outgoing vice-president of the European Commission responsible for the digital agenda:<sup>10</sup>

*“Today, all EU homes have broadband coverage; 76% have a connection; almost half can access it on their mobile. They are demanding greater and greater bandwidth, faster and faster speeds, and are prepared to pay for it. But how many of them would do that if there were no over-the-top services? If there were no Facebook, no YouTube, no Netflix, no Spotify? OTT players are the ones driving digital demand – demand for your services! That is something you can work with, not against.”*



**The phenomenon is genuinely global, in a way that fixed connectivity and the PC never was.**



September 2014 quarterly results for the telecoms sector in Europe also point to data demand and a shift to the monetisation of data as factors in the stabilisation of the previous long-term decline in revenues.

It is time to move on.

**CONVERGENCE PHASE 3: THE BLURRING OF ONLINE-OFFLINE AND TRANSFORMATION OF EVERYTHING ELSE**

The combination of mobile devices, wireless connectivity, location awareness and sensors allows the online world to interact with, and transform, the offline world that makes up most of the economy. We are seeing the beginning of this with apps such as Uber (which “is software eats taxis”, according to Andreessen) that are allowing users and service providers to interact on a peer-to-peer basis. This transformation is not always welcome, as opposition to Uber from taxi drivers shows. It also serves to illustrate the mercantilist and protectionist sentiment that has at times surfaced in European policy debates.

Having recently used Uber, I learned useful lessons from the service and from the driver, who had a deep understanding of what services like Uber have enabled. For both the driver and the user their respective identities are clear and recorded, and a map showing the time and route are provided and recorded by default. Further, cash does not change hands, something my driver commented on as reducing risk.



**It is therefore not the case in general that the 'same service' should be subject to the same regulation.**



These considerations also suggest that the way in which a service is delivered may impact on the appropriate form of regulation. It is therefore not the case in general that the 'same service' should be subject to the same regulation.

My driver also likes the fact that an algorithm (his words), rather than the driver and a car dispatch operator, decide the price based on an optimised route, and match cars and customers based on location rather than favouritism towards certain drivers.

In his view this not only better serves customers, but also results in a better and fairer deal for drivers, increasing utilisation and reducing 'favouritism' (he put it less subtly) which he claimed was endemic within the minicab industry in

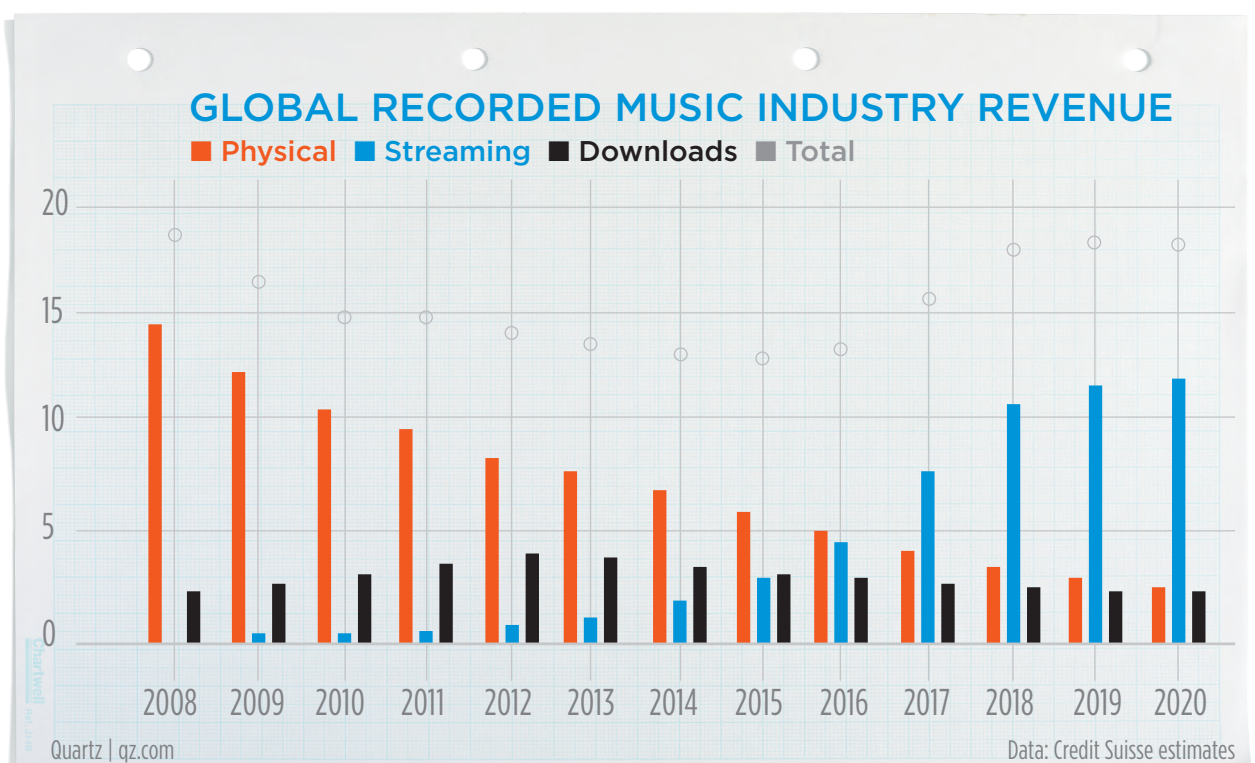
London. It is a good insight that an algorithm could help clean up an industry, and benefit both drivers and users via neutrality.

This story also points to the fact that policy should be decided not from the perspective of existing players within an existing market structure, but from a consumer perspective, and allowing innovation to flourish within a minimal set of constraints to ensure customer protection. The US Federal Trade Commission (FTC) has championed the peer-to-peer economy:<sup>11</sup>

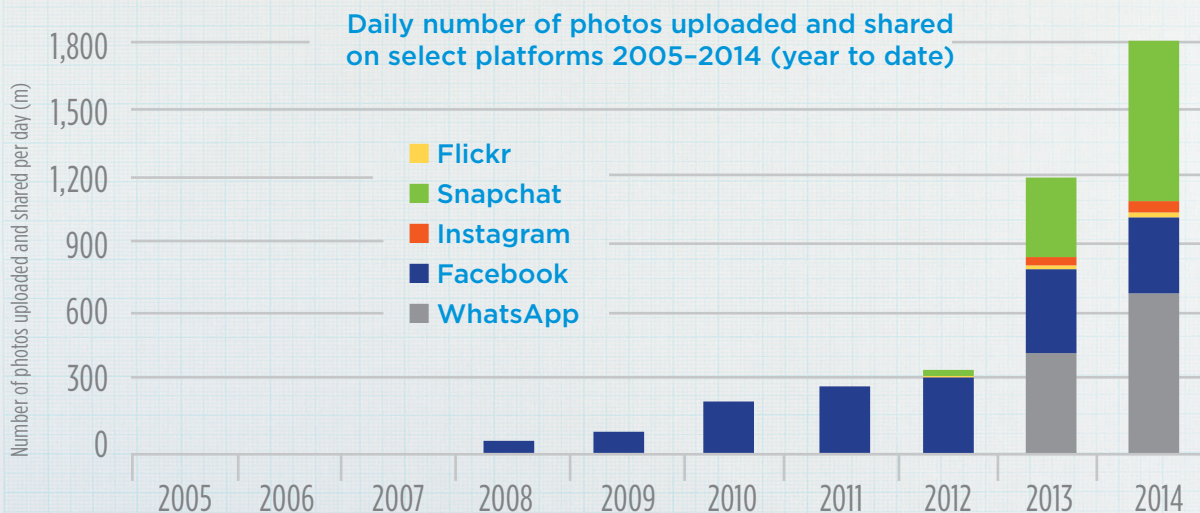
*"One of the most vibrant areas of recent economic development has been the 'share economy'. Facilitated by popular smartphones and animated not only by economics, but also by many people's interest in expanding social networks, peer-to-peer (P2P) software applications now facilitate services from shopping to local accommodations... Vigorous competition among sellers in an open marketplace can provide consumers the benefits of lower prices, higher quality products and services, and greater innovation. This is just as true for app-based transportation and other kinds of P2P services."*

The FTC, in a separate context, also put the case for a consumer focus clearly:<sup>12</sup>

*"Such change can sometimes be difficult for established competitors that are used to operating in a particular way, but consumers can benefit from change that also challenges longstanding competitors. Regulators should differentiate between regulations that truly protect consumers and those that protect the regulated."*



**PHOTOS ALONE = 1.8BN+ UPLOADED AND SHARED EACH DAY...**  
 Growth remains robust as new real-time platforms emerge



Source: KPCB estimates based on public company data

Europe should champion these developments too, though in the absence of a clear overarching ‘federal’ body, policymakers at all levels need to adapt local laws to allow innovation and promote the consumer interest.

Finally, from a telecoms market perspective, the blurring of the online-offline boundary illustrates how regulation outside the sector may be at least as important to its future health as regulation of the sector. The third phase of convergence will create additional demand for telecoms, but only if we allow it.

**RESPONDING TO THE POLICY CHALLENGE**

These developments provide opportunities, but also involve disruption for those who are slow to adapt. The chorus of alarm, from the music industry, the telecoms industry and most recently the taxi industry, is sometimes hard to ignore. Yet sound policymaking requires that these voices are, if not ignored, considered from the perspective of consumer rather than producer interests.

The innovations that are driving these transformations will not be uninvented. Those who seek to stand still will delay the benefits while reaping greater destruction, as the old economy fails to adapt by incorporating the new and is overtaken by others.

Those economies that are successful will be the ones that seek to understand what is happening, and accommodate change while protecting core values in new ways rather than attempting to protect the old ways of doing things. A wide-ranging re-examination of old rules and institutions, built up over many years, is required.



**A new game requires new rules rather than the ‘level playing field’ of the old rules.**



It is time to start the hard work of devising the rules that support rather than hinder the information society. A new game requires new rules rather than a ‘level playing field’ application of the old rules. In some instances this may involve reduced regulation as innovation brings new forms of competition to the market,<sup>13</sup> while in other areas intelligent differentiation of regulation based on the means of service delivery

may be appropriate. Inevitably, new problems and fresh calls for regulation will arise. In weighing these, dynamic benefits from innovation and new business models should be given due weight.

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**REFERENCES** **1** Marc Andreessen. Why software is eating the world. Wall Street Journal, August 2011. [on.wsj.com/1wcaah0](http://on.wsj.com/1wcaah0)  
**2** Lily Kuo. China’s mobile internet revolution is mostly taking place among the working class. Quartz, 3 November 2014. [bit.ly/1uipkYR](http://bit.ly/1uipkYR)  
**3** Goldman Sachs 23rd Communacopia conference, September 2014. [vz.to/1oVrgWr](http://vz.to/1oVrgWr) **4** John McDuling. Why music must embrace the latest wave of industry disruption. Quartz, 20 October 2014 [bit.ly/115Dg6r](http://bit.ly/115Dg6r) **5** WhatsApp blog, April 2014. [bit.ly/1xE2Wn0](http://bit.ly/1xE2Wn0) **6** Dan Thomas. Apple dials up WiFi calling to boost mobile coverage. Financial Times, 10 September 2014. [on.ft.com/115mALO](http://on.ft.com/115mALO) **7** Mary Meeker. Internet trends presentation. 28 May 2014. [bit.ly/1otPLGi](http://bit.ly/1otPLGi) **8** WhatsApp is killing SMS, but that’s OK, EE’s CEO says. Wall Street Journal, 20 February 2014. [on.wsj.com/1wxRyVJ](http://on.wsj.com/1wxRyVJ) **9** Mergers: Commission approves acquisition of WhatsApp by Facebook”. European Commission, October 2014. [bit.ly/1x5XzF](http://bit.ly/1x5XzF) **10** Neelie Kroes. Adapt or die: what I would do if I ran a telecom company. European Commission, October 2014. [bit.ly/1th9S3Z](http://bit.ly/1th9S3Z) **11** Getting around town in the share economy. FTC, 2014. [1.usa.gov/1fhenFw](http://1.usa.gov/1fhenFw) **12** Who decides how consumers should shop? FTC, 2014. [1.usa.gov/1189wfo](http://1.usa.gov/1189wfo) **13** The removal of markets 1 and 2 relating to fixed voice from the list of relevant markets susceptible to regulation is an example – in part motivated by increased competition from OTT services. [bit.ly/11537YS](http://bit.ly/11537YS)