



PIECING TOGETHER THE DIGITAL AGE

The wave of digital destruction wrought by fragmentation and OTT is repaired by **KIM MALLALIEU** and **NIEVIA RAMSUNDAR** in an analysis of regulatory priorities

The communications industry has come a long way: from fixed line copper wired telephony and over the air television and radio, to wireless telephony, cable TV and internet radio; to mobile telephones with rich data and computational capabilities; to fixed and mobile computers with phone capabilities; and recently, to networks of autonomous nodes that interact with the environment without human intervention. It is clear that technology is moving faster than political will or regulatory form.

The market as a whole has had its own natural disasters or “waves of destruction”. These waves have marked inflexion points, as in Joseph Schumpeter’s gale of creative destruction (from 1942), the “process of industrial mutation that incessantly revolutionises the economic structure from within, incessantly destroying the old one, incessantly creating a new one”.¹ Each and every time, creative destruction has given rise to considerable market disruption in which industry players have had to reorganise business models, and regulators and governments have had to revise or construct a new legal and regulatory framework. This is not unique to the communications industry; neither is it new to the industry.

Kenji Kushida speaks of the “rapid, radical reorganisation of industry leaders and business models”.² In the case of the communications industry, he recognises three waves of disruption:

- Initial liberalisation of the traditional telephony market, with the dismantling of national telecoms service providers (telcos) and introduction of new competitors
- The rise of the internet as an open platform
- The growth of the mobile communications market and consequential demise of the carrier controlled handset.

Liberalisation was accompanied by harsh market disruptions; and the adoption of the internet as the global information superhighway or infobahn brought with it profound market transformations.

In today’s mobile communications market, the provision of products and services is no longer the sole remit of the mobile carrier, but is facilitated through a complex value network comprising the carrier, device manufacturer, operating system developer and a burgeoning number of third parties that supply content, applications (apps) and a rich array of innovative over the top (OTT) services. The OECD defines OTT services as “video, voice and other services provided over the internet rather than solely over the provider’s own managed network”.³

Apps and OTT services, highly sought after by consumers, are largely enabled through the processing and computational capabilities of end user devices, the increasingly open architecture of communications technologies, the explosion in open application programming interfaces (APIs) and open data, and the availability of cloud storage and

computing. These enabling factors have introduced several degrees of freedom that stimulate and support a complex value chain of interacting agents that are as complementary as they are competing. The dynamic nature of the market, its technologies, products and services make it impractical to say, “This is what you are, service”, “This is what you are, product” and “This is how I intend to regulate you”. From a regulatory standpoint, this current wave is particularly challenging.

The reality is that, much to the chagrin of the national telcos and other longstanding market incumbents, the market is characterised by a new level of fragmentation – and this fragmentation is not necessarily a bad thing. The development of the communications industry now sees the relevance of the telco as the creator and supplier of the national infrastructure upon which the open platform that is the internet can rest.

The Japanese story is a clear example of the national telco NTT emerging as the winner in its own communications battle. With political and regulatory support for retaining limited competition against NTT and its revenue savvy partnership agreements with content providers and carrier integrated billing, its model predated the application of these mechanisms by Apple’s iPhone and Google’s Android. Kushida observes that there are different winners and losers at each wave of disruption, depending on the political and regulatory processes which shape the industry in a particular jurisdiction at the time. Who emerges the winner or loser is not a uniform prediction in the global market.

The liberalisation of the sector in the early 1980s and 1990s also saw the increasing relevance and creation of a separate market for handset and equipment manufacture. While the “big three” EU countries (UK, France and Germany) grappled with getting liberalisation right, the Nordic countries swept into the R&D market for equipment, with Nokia and Ericsson the winners. These players also played a critical role on the global scene in the development of the GSM standard.

The development of technology at warp speed also led to the proliferation of numerous apps with downloadable software and upgrades completely exogenous to the mobile carrier. The US market focused its R&D on content and services, with the onslaught of Amazon, eBay, Google, Yahoo and a host of others. Therefore the apps emerged the winners in this market.

OTT and apps are now part of the value chain. They provide the innovation driver in today’s market and have led to the commoditisation of traditional services. Even the carrier is marketing smartphones with a shift to the provision of data services and packages bundled with OTT offers. At the same time, Wi-Fi proliferation has reduced the reliance on carriers. As a consequence, there is generally an increasingly disengaged customer base, lower thresholds of carrier loyalty and greater motivation to defect to other carriers when prices increase. Yet the reality is that neither traditional nor contemporary services can run without

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dynamic regime which enables network operators to flexibly adapt their business models to respond to market changes, while preventing the establishment of new barriers to entry into the evolving market.

It is futile to consider regulation of apps and OTT in the same way as the regulation of traditional services. This fails since, among other things, OTT is not specific to one country and therefore cannot be authorised in each country. The application of standard market definition and analysis tools is also largely irrelevant on account of the various dimensions and weightings of interdependence, complementarity and substitutability of traditional and contemporary services. The fit is unnatural, invalid and is often reduced to an unproductive war of semantics.

The creation of a level playing field must come from technologically neutral regulation applied to players similarly situated. The regulatory rhetoric, having already tried blocking OTT, and failed, and then tried regulating OTT, and failed, should now turn to mechanisms that recognise apps and OTTs as legitimate components of the value chain while ensuring that the fundamental objects of regulation are realised in a fair, reasonable and non-discriminatory manner (FRAND). The regulatory solution should therefore be adaptive, flexible and fit for purpose, while avoiding strangulation of creativity and R&D. A two tier approach in which regulation of infrastructure is separate from matters of services and products is inevitable. Key considerations are as follows.

1 INFRASTRUCTURE – Without a doubt, this has always been and should always be the main concern for the political and regulatory will. Without infrastructure, there is no access or push for R&D in the sector. Therefore, political will should be focused on ways to encourage and enhance funding mechanisms for infrastructure rollout. Use of funding allocated for the provision of universal services is always a key component of infrastructure rollout, as well as consideration of tax and other incentives to cushion the cost to the carrier for the build out of this most expensive resource.

Additionally and critically, resilience measures, such as redundancy and backup access, are essential. For example, the Caribbean is reeling from the aftermath of numerous hurricanes and it is critical that there are adequate mechanisms in place, facilitated by national governments, to avoid countries from going dark for long periods after a natural disaster or even after an act of terrorism. For weeks following Hurricane Maria, nearly half of ➔

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- 1 Schumpeter J (1942). *Capitalism, Socialism, and Democracy*. Harper & Bros.
- 2 Kushida, KE (2015). The politics of commoditization in global ICT industries: a political economy explanation of the rise of Apple, Google, and industry disruptors. *Journal of Industry, Competition and Trade* 15: 49–67.
- 3 OECD (2013). *OECD Communications Outlook*.

← Puerto Rican subscribers had no phone service. Dominica suffered unspeakable damage and with it, the complete loss of communications with the outside world, save through amateur radio relay.

Cyber-health issues are also critical to the infrastructural aspects of the communications value chain.

2 REVENUE ENHANCEMENT – In Trinidad and Tobago, where we are based, as in most of the world, there have been reductions in carrier revenue and subscriber numbers, in some cases without a transfer to other carriers. With the onslaught of OTT, customers now have access, through a Wi-Fi connection, to free communications technology for voice and video, free instant messaging, and free or low cost music and video content. The burden of the build, maintenance and enhancement of infrastructure along with operations and management and quality of service obligations rest with the carrier.

Carriers need to embrace this new wave, along with the transformation of the value chain, and enhance their revenue base by wooing customers to stay and become engaged while on their network. Many operators have entered into content sharing agreements with OTT players and implemented carrier aggregated billing. As well, bundling services with data and pricing to ensure ARPU goals are met may be crucial. For example, MTC Namibia provides a package that simulates instant messaging by bundling a high amount of texts (SMS) with voice and data; 21 countries in Africa have partnered with Facebook to provide a Free Basics package on their platforms.

Carriers can look to their access to big data and use that as a revenue earner – they can use the data to enhance and personalise the customer experience, increase operational efficiencies, partner with OTT players and extend their subscription revenues.

3 CONTENT – The main conundrum in addressing OTT is the authorisation of content. This is the major issue that requires action on a global scale not just by the communications sector but by the intellectual property (IP) sector as well. Emerging technology is premised on “whenever, wherever” and the ever popular “all you can eat” buffet. However, geo-blocking means that the customer who pays for a subscription in one jurisdiction cannot access her content when travelling in another region.

It is perhaps time to consider a change in the way we look at IP rights and the creation of artificial scarcity of these products. The open platform that is the internet does not support the creation of a product in one country being blocked from access in another – the reality is that the technology with all its techno-pirates and development of software defined networks (SDNs) enables the customer to get what she wants, when she wants, no matter what. The creation of a system that addresses the no-barrier zone that is the internet is now much needed.

4 COMPETITION – In 2011, the EU competition directorate approved the merger of Skype and Microsoft on the grounds that this internet voice and data merger did not significantly impede competition. In 2014, it approved the acquisition of WhatsApp by Facebook. It concluded that, regardless of whether Facebook introduced advertising on WhatsApp or collected user data, the transaction would not raise competition concerns.

The EU further relied on the fact that a large amount of internet user data that is valuable for advertising purposes is not within Facebook’s exclusive control. However, in 2017, Facebook was fined €110 million due to the submission of inaccurate information on whether it could link WhatsApp numbers to Facebook accounts. Apparently, it knew it could and subsequent to the approval in 2014, did so.

Such merger activity shows the vibrancy of a sector that is here to stay and that is supremely lucrative. But the need for effective competition regulation does not go away with the fact that a bunch of bright people have created a new dynamic frontier and does not mean a “free-no-consequences-attached” play. Whether competition regulation is fused with sector regulation is a political decision, but for small and emerging economies, competition regulation is best placed with those who know the sector and are required to regulate it.

We are also seeing the merger of companies in the sector that have a significant amount of control of personal and other information about customers. The big data phenomenon can be a good revenue earner for carriers, but it raises other important concerns.

5 PROTECTION – In consumer and national security interests the biggest cry of traditional operators is that of an unequal playing field. The argument is premised on the fact that they are authorised and subject to the standards of their authorisation and to fee and universal service requirements. However, it is the standards that are to be applied to OTT that should take up most of the regulatory debate. Regulation is not there to protect a carrier that cannot adapt to the new era and cannot effectively compete. Rather, regulation should ensure that the game is set with no preference for winners or losers, but for the protection of the customer no matter who wins the game. Therefore, global standards for the operation of OTT are required for quality of service, customer protection and privacy, cybersecurity and national security interests, and data security.

CONCLUSION

Regulation is not obsolete – not yet. In a dynamic market that is ever changing, rules must be set and a watchdog appointed to ensure that the customer experience is a good one and that the policy objectives of governments are met through the market players. What is needed is a supplement to national-specific rule making, since the game is now set over the global stage and the players are not always within the jurisdiction of our own national sovereignty.

The key is to set global rules for players regarding operable service standards to maintain; data and privacy to protect; and contracts and content authorisations to procure. It is critical that in as much as OTT may not be the best subject for regulation, the players are still placed within a framework of governance that would provide the rules of the game while allowing them to be the innovation drivers that they have become.

At the same time, regulatory and political intervention is needed to ensure that carriers, which are the inevitable bearers of the infrastructural burden, are provided with the assistance and growth mechanisms needed to prevent a crash and burn of the industry as a whole.

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