Commoditization and convergence

Managing the trends shaping the global telecom industry
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EXECUTIVE SUMMARY

Two trends are coming together to transform the global telecom industry over the next several years. They will radically change how telecom companies operate and how customers consume telecom services.

The first is commoditization. In 2019, Strategy&, PwC’s strategy consulting group, conducted its third annual study of commoditization in the worldwide mobile telecom industry. These studies look back in time, and thus we can state that for the first time in 10 years, what has seemed like an inexorable process of commoditization has stalled, at least temporarily. (Commoditization is signified, in our studies, as narrowing market share and shrinking spreads between low- and high-priced services.) In 2019, for the first time, we also measured the extent of commoditization in the fixed telecom industry. Here, declining market share spreads continued to drive commoditization over the past year, although price spreads remained considerably wider.

The second trend is convergence — the continued erosion of the boundaries between fixed and mobile telecom services. A host of new technologies are finally bringing about the long-predicted marriage of these two sectors, though at very different rates in different markets. As the markets for fixed and mobile services become increasingly blurred, carriers will have new ways to differentiate their services, and thus also will have new ways to compete.

Together, commoditization and convergence are shaping the way this industry does business. Though telecom has often been seen as a fairly homogeneous business, with most companies making their profits the same way, that is no longer the case. Every company needs its own focused strategy. Commoditization can be avoided; convergence can be exploited. In this Viewpoint, we describe the underlying dynamics of these two trends and show how they can help leaders of telecom enterprises crystallize their strategy.
Commoditization pauses in mobile telecom

Telecommunications company leaders will be pleased to hear that there was no increase in commoditization across the global mobile telecom industry between 2017 and 2018, according to our third annual telecom commoditization study. This is a significant change from the general trend over the past decade, during which commoditization increased a total of 9 percent. (Our formula for calculating this is detailed below.) And yes, commoditization did increase in one region: Asia-Pacific. But overall, the trend has come to a halt in the past year, and in Central Asia it’s gone into reverse.

Commoditization is a loss of differentiation, making companies vulnerable to competition based on price alone, and thus to shrinking margins. The key to competitive advantage in any industry lies either in differentiation or in cost advantage. But few if any operators have succeeded in gaining pricing power by differentiating their products and services. And virtually every low-cost strategy has led to a race to the bottom, or at least close to the bottom. The result: commoditization.

Whether the slowdown in mobile commoditization is a trend or just a year-over-year blip remains to be seen. Our analysis of the causes offers insights into the factors that have driven the decline in pricing power in this industry and the changes that have affected the industry this year.

We measure commoditization as a function of two factors: the average revenue per user (ARPU) spread (the difference between the highest and lowest ARPUs among the operators in a particular market) and the market share spread (the difference between the largest and smallest shares of revenue in a given market). Together, these two metrics provide a clear picture of just how efficiently a particular market operates — and how distinct or interchangeable competitors’ positions are.

Over the past 10 years, both metrics have narrowed globally, and they have narrowed in more than 40 percent of the 58 territory markets we track. The ARPU spread declined from 45 percent to 39 percent, a 12 percent change, tracking the decline in ARPUs overall. The market share spread fell even further, from 35 percent to 29 percent, a 16 percent change, indicating that competitors are trending toward dividing up their markets more evenly, another sign of lack of differentiation. Exhibit 1 (next page) illustrates these changes graphically, both overall and in each of the seven regions we studied.

“Whether the slowdown in mobile commoditization is a trend or just a year-over-year blip remains to be seen.”
EXHIBIT 1
Mobile telecom regional markets on the edge of full commoditization, 2008–18

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<thead>
<tr>
<th>Region</th>
<th>2008</th>
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Differentiated Comfortable

ARPU spread

Market share spread

Source: PwC’s Strategy&
Why has the seemingly inexorable process of commoditization slowed down over the past year? As we answer that question, remember that the overall index represents a population-weighted average of the markets we track, and is thus heavily influenced by the most populous regions and by the biggest markets within each region (see Exhibit 2, next page).

- **North America.** This market, which remains within the “comfortable” zone of commoditization (in which it has not yet greatly affected revenues and profitability), is dominated by the U.S., which is dominated, in turn, by just four companies. Therefore, although the ARPU spread has fallen considerably over the past decade, it declined just 2 percentage points — from 47 percent to 45 percent — over the past year, and the market share spread has remained constant. As a result, ARPU itself has also remained relatively constant.

  Several factors account for the U.S. market’s short-term stability. First, all the mobile carriers there have moved to unlimited, all-inclusive pricing plans, leading to a de-escalation in their ongoing price wars and a new, if perhaps temporary, price equilibrium. Second, carriers are no longer willing to pay the high costs of acquiring new customers (especially of the coveted post-paid kind). Third, pending mergers in the market may be making carriers hesitant to cannibalize one another’s customers, and are instead causing them to take a more cautious wait-and-see stance.

- **Asia-Pacific.** China is the largest market in this region by far, and unlike the U.S., it is continuing on the path to commoditization. The country’s largest player, China Telecom, is losing market share to its smallest, China Unicom. As a result, the ARPU spread there has decreased over the past year, from 24 percent to 18 percent, while the market share spread has narrowed from 46 percent to 43 percent. ARPU has also decreased, from US$8.21 last year to a current $7.98. The effect of the first foreign entrant to the market, BT, in January 2019, remains to be seen.

  The mobile market in Indonesia became slightly more commoditized over the past year. Although the market share spread grew slightly, the ARPU spread dropped significantly, from 82 percent to 77 percent, and ARPU declined from US$2.01 to $1.64. Indonesia’s mobile market is dominated by prepaid cards, with very few bundled services. This makes it easy for customers to switch providers, and the increased competition drives down ARPU and ARPU spread.

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“China is the largest market in this region by far, and unlike the U.S., it is continuing on the path to commoditization.”
EXHIBIT 2
Mobile telecom commoditization in selected territories, 2008–18

Source: PwC’s Strategy&
• **Central Asia.** India, the largest market in this region, has become relatively less commoditized since 2017. This has lowered the region’s overall commoditization metrics; in 2018, they were 10 percent lower than in the previous year. The ARPU spread there has increased from 60 percent to 69 percent, and the market share spread has moved up from 20 percent to 23 percent.

Yet the country’s ARPU has declined significantly, falling from US$1.69 to $1.28. This is largely due to the launch of Reliance Jio, which is trying to gain more market share by introducing even lower prices. The trend toward commoditization will likely pick up steam again as soon as the premium-price leaders are forced to compete by offering their own low-cost plans.

• **Other regions.** The Southern and Eastern European (SEE) region has experienced perhaps the largest move toward commoditization in the past decade, moving it from the zone we call comfortable to being on the verge of full commoditization. And the three other regions — Northern and Western Europe (NWE), Latin America, and the Middle East and North Africa (MENA) — followed suit, more or less, and now are all what we classify as “on the edge” of being fully commoditized.
Deals lead to fixed broadband commoditization

Unlike the mobile market, the market for fixed telecom services, which we analyzed for the first time this year, continued on its long-term path to commoditization, which has increased by 11 percent since 2008.

Overall, the fixed market’s trend toward commoditization is being driven almost exclusively by contracting market share spreads, which have decreased 25 percent over the past decade, from 44 percent to 33 percent. Market share spreads narrowed by 5 percent in just the past year alone. This is due largely to the rise of new cable- and fiber-based broadband providers that have provided an alternative to the fixed offerings of national incumbents in many markets, and thus begun to close the gap in their relative market shares. These new carriers — and especially local cable operators — have also grown through consolidation, combining their efforts to become larger and more competitive players with both broader geographic coverage and market shares approaching those of the incumbents.

In contrast, overall average revenues per account (ARPA) spreads have narrowed by just 11 percent over the past decade and by just 3 percent over the past year, suggesting that the largest players in many markets have been able to retain their pricing power. This is likely because fixed broadband technologies vary significantly in performance, enabling top players in many markets to maintain their differentiation in services, and thus pricing. Moreover, many territories within certain markets, especially in rural areas, are still essentially monopolies. There are duopolies even in many large metro areas, where imperfect competition and steep fixed-cost barriers to new entrants have allowed leaders to maintain high prices (see Exhibit 3, next page).

Considered on a region-by-region basis, however, fixed markets vary significantly in how the competitive environment is structured. This affects their degree of commoditization and the reasons for that commoditization. Whereas mobile markets are moving toward a common competitive configuration, typically with three or four providers (although there are exceptions) fixed-market competition unfolds within a narrow set of different market archetypes (see Exhibit 4, page 9):

• In the U.S., deregulation has created a hodgepodge of regional interlocking monopolies or duopolies with an assortment of regional telecom and cable networks, and no national incumbent. Market shares among the big players remain consistent, and price movements are driven more by technological development and new-product changes than by competitive pressure. A spate of consolidation among smaller operators in 2015 and 2016 led to a slight increase in the market share spread, but that has since stabilized.

After declining for years, ARPA spreads have gone up in the past three years. The trend has been driven by Verizon’s divestiture of its copper assets to Frontier so that it could become a pure fiber player. As a result, Verizon became a market leader in ARPA overnight, and the operator continues to command more and more pricing power in its footprint. All in all, however, the U.S. market remains within the “differentiated” zone, with each operator differentiated by its exclusive footprint.
EXHIBIT 3
Fixed telecom regional markets moving to commoditization, 2008–18

ARPA spread

Market share spread

Source: PwC’s Strategy&
EXHIBIT 4
Fixed telecom commoditization in selected territories, 2008–18

Source: PwC’s Strategy&
• **In the Northern and Western European markets**, former incumbent operators, now privatized, compete with regional competitors that have built their own cable and fiber networks. There, market share spreads have narrowed considerably, leading the region to the edge of full commoditization.

Germany, for example, moved steadily from the comfortable category in 2008 to the on the edge category in 2018. During the past decade, Deutsche Telekom, Germany’s national fixed incumbent, has been joined by a second main player, Vodafone, and they have captured a combined 60 percent of the fixed telecom market. With its acquisition of cable operator Kabel Deutschland in 2013, Vodafone added national scale beyond its legacy Arcor DSL footprint. As a result, market share and ARPA spread have decreased at the same rate, declining 34 percent over the period. It remains to be seen how Vodafone’s continued inorganic growth will impact competitive dynamics in the years to come, as the addition of Unity Media’s cable footprint (a deal approved by the European Union in July) will further expand its household coverage and ability to provide a home broadband alternative to Deutsche Telekom and other smaller local competitors.

Markets whose modern economies have reached maturity only recently, including many of the Gulf Cooperation Council countries and developing African and Asian growth markets, lack pervasive legacy copper and cable infrastructure. There, competition is focused on fiber-based players in major cities, while other areas continue to depend on mobile networks. Neither the MENA region nor Central Asia is fully commoditized, although both have seen dramatic drops in their market share spread over the past decade.

India is the exception to the rule. It has become strongly commoditized over the past decade, largely thanks to a narrowing of the ARPA spread there. Bharat Sanchar Nigam Limited (BSNL), the national fixed incumbent, has dominated the fixed market there, capturing a 56 percent market share. The next two largest providers of fixed services, Airtel and Mahanagar Telephone Nigam Limited (MTNL), have grown their subscriber base steadily over the past decade, but both have experienced declining market share, owing mainly to the growth in number of other fixed players entering the market. But the increased competition has led to a rapid narrowing of the market’s ARPA spread, which has declined a total of 62 percent since 2010, landing the market on the edge of fixed commoditization.

It will be interesting to see if LTE-based and ultimately 5G-based cellular fixed access will become sufficiently pervasive to add a new set of competitive alternatives to every market. Having five or six players vying for customers’ home and enterprise broadband business, compared with the one or two players most markets now maintain, would surely change the rules of the competitive game. Would it enable carriers to differentiate themselves and thus reestablish some pricing power? Or would it only lead to even further commoditization? And would it contribute to the rise of convergence?
Will mobile and fixed telecom converge?

The idea of convergence — the merging of mobile and fixed telecom markets — has been top of mind in the global market for more than a decade now. In the past few years, a flurry of M&A activity in the industry has led to the beginnings of convergence in some markets. Overall, however, worldwide telecom markets are just now beginning to make the technological advancements necessary for true convergence to emerge over the next few years, with 5G acting as the catalyst.

What exactly is convergence? It’s simple, in theory. In a perfectly converged market, distinctions between mobile and fixed broadband will disappear, and users will get their connectivity seamlessly, both at home and away, purchasing it as a single service from a single carrier for a single price.

This state of telecom nirvana — at least for consumers — will come about in two stages. First, providers will build assets through consolidation and M&A and expand into adjacent mobile or fixed markets, allowing them to offer bundles of mobile and fixed services, and thus increase their market share. Eventually, network technology will evolve into hybrid networks, with fixed broadband at its core and mobile both for consumers on the go and as the last-mile connectivity to homes and businesses.

Telecom markets will experience two kinds of convergence, in market share first, and then in price. Exhibit 5 (next page) illustrates the likely path for most markets. The first step, bundling, will give providers a proportionately equal share of the combined mobile and fixed markets, while they continue to compete on the basis of price. In hopes of gaining market share, carriers will likely begin by offering quasi-quad plays (voice, Internet, mobile, and television) — as Xfinity Mobile has in the U.S. — with little or no discount for bundling these services.

Over time, carriers will continue their push to expand their network nationally and try to gain market share by acquiring competitors, by making wholesale agreements with MVNOs (mobile virtual network operators), and in some cases by encouraging the construction of state-owned networks such as NBN in Australia and Red Compartida in Mexico. Building the capabilities and the new products and services needed may be done organically and by developing interim technologies that temporarily lower the cost of providing converged services, such as offering mobile services over local hotspots.

Only in the second step, when technologies such as FTTN (fiber to the node) and, ultimately, 5G, CBRS (Citizens Broadband Radio Service), and 6GHz implementation allow fixed and mobile networks to converge fully, will markets experience price convergence. In this final stage, every provider will offer the same single product: a fully converged offering of mobile and fixed services. Because there will be no differences among the offerings of different carriers, or because only one offering will be available, there will be no differences between ARPU and ARPA.

Once a market is fully converged, competition among carriers will no longer be based on their physical network assets. Instead, they will all compete for the same mobile customers and fixed households or businesses, differentiating themselves by the kinds of services customers want, and by other options such as speed and bandwidth.
As pleasant a scenario as this sounds for consumers, full convergence will likely open up a threatening new chapter of commoditization for telecom companies. First movers in offering fully converged services will likely gain an advantage in both market share and pricing. But once others follow, carriers will run out of ways to differentiate themselves. In short, convergence offers the specter of an almost perfectly competitive, almost perfectly efficient market. But that will be a highly commoditized market as well.
Three territories

We measure convergence using two distinct factors. Individual operators are measured in terms of the difference between their fixed and mobile market shares, expressed as a percentage; 100 percent is totally converged. Each market is also measured in terms of a weighted average of the market shares of all the operators in the market, also expressed as a percentage (and referred to here as market share convergence). This allows us to assess the extent of convergence among individual operators and in the market as a whole as it changes over time (see Exhibit 6).

Germany. In Germany, overall market share convergence has risen slightly over the past decade, to just under 50 percent, as two of the country’s three major operators increased their level of convergence. Vodafone has been leading the charge, beginning in 2013, when it bought Kabel Deutschland and significantly augmented its fixed network. In July 2019, the company acquired some of Liberty Global’s European operations, which will help it ramp up its converged services further.
Similarly, in 2014, Deutsche Telekom launched its MagentaEINS service, which combined fixed voice, broadband, and TV services with its mobile plans. Since then, Deutsche Telekom has grown increasingly converged, and it is now Germany’s most converged operator. Although Telefónica Germany has gained share in the country’s mobile market since 2008, its share of the fixed market has been in decline since 2011.

**India.** The fast pace of mobile market growth in India has vastly outstripped the growth in fixed services. Some incumbents with large fixed-market shares, including BSNL and MTNL, also offer mobile services, but they have been forced to lower their mobile prices in their struggle to compete against new, private operators. As a result, these companies have not been drawn into convergence of fixed and mobile. This trend is reflected in the data, which shows declining market share convergence in India from 2008 to 2015.

Recently, however, the telecom industry in India has been consolidating, and private players are expanding their fixed and wireless assets. Airtel, for example, primarily a wireless player in the past, has been moving into fixed services, and Jio, a recent entrant into the wireless market, has also been investing in “fiber to the X” (FTTX) services. With the private operators getting into convergence plays, market convergence has increased over the past few years.

At the same time, the large geographic scale of the country makes the nationwide deployment of fixed services a challenge. The government recently announced bold ambitions for universal Internet access by 2022, and regulation may just end up as a catalyst for convergence in the country.

**The U.S.** The U.S. is a special case. Given the huge area to be covered and its vexed telecom and cable history, the market has evolved differently from the rest of the world. The old “Baby Bells” from the 1980s have consolidated into two giant players, Verizon and AT&T. The other two major U.S. telecoms, Sprint and T-Mobile, are almost certain to combine. Cable operators’ exclusive regional footprints give them captive markets.

The U.S., like India, is a vast country with a geographically dispersed population. Convergence evolution will probably not play out in those two countries as it will in most of the rest of the world. Instead, convergence in the U.S. will likely take place primarily over mobile rather than fixed networks, because the distances are too great for fixed investment, especially in rural areas. Indeed, over the past decade, growth in mobile has far outstripped growth in the fixed market. At the same time, some operators, including Verizon, have offloaded a portion of their legacy fixed assets, making their share of the fixed market smaller while increasing their mobile share. As a result, the data shows that convergence in the U.S. market has actually declined.

Current corporate strategies suggest that the divergence between fixed and mobile will continue, perhaps for a year or two. AT&T and Verizon will take years to build out their fiber networks, and the mobile operators will likely never expand nationally in the fixed market with fiber offerings. Although some cable companies, notably Comcast and Charter, are beginning to enter the mobile market, they face little or no price pressure because their fixed markets remain unthreatened.

Some industry observers argue that with fixed asset redistribution settled and mobile subscriber growth reaching a saturation point, this divergence trend will reach its end at some point in the next few years. From their perspective, the market is primed for convergence.
One key factor promoting convergence would be the implementation of 5G networking. It offers the promise of a national network that is equally capable of providing mobile and fixed connectivity. Nonetheless, given the patchwork nature of the U.S. market, significant challenges to deploying 5G on a national scale remain. The big telecom companies are struggling to build their 5G networks, the smaller players are proposing a heterogeneous mix of quasi-5G networking technologies, and the cable operators will continue to complement their coaxial networks with various wireless technologies.

In short, unless all these different players can figure out ways to partner with competitors for true 5G and to expand beyond their current geographical footprints, full convergence is unlikely to come to the U.S. anytime soon.

“ Unless big telecom companies, smaller players, and cable operators can figure out ways to partner with competitors for true 5G and to expand beyond their current geographical footprints, full convergence is unlikely to come to the U.S. anytime soon.”
Conclusion: Living with uncertainty

Given just how different the process of convergence is for fixed and mobile services in each market, predicting the future is tricky. Factors include their current competitive setup, networking structure, and regulatory burden. Markets with a national fixed incumbent supporting a national fixed backbone and a few cable challengers, such as some markets in Europe, will evolve differently from markets with fragmented regional players, such as India and the United States. Heavily regulated markets such as Mexico and Australia will behave differently from more lightly regulated ones. And, of course, the willingness and ability of operators to make the investments necessary will greatly affect the timetable in every market. But one way or another, virtually every market can expect to experience convergence over the next five to 10 years.

And convergence can only mean further commoditization, as the services offered by players become less and less distinctive. This will present an existential problem for all players, unless they can find a way to distinguish themselves from their peers. The recent PwC report “Telecoms: Creating value in a disruptive age” outlines a choice between two strategic alternatives:

- **Diversification.** Many carriers have long sought to jump-start revenue growth by diversifying into sectors such as media and entertainment, financial services, and healthcare. The results have been decidedly mixed. But convergence, and especially the advent of 5G networking, should provide a boost in this direction. Companies with the will and ability to move quickly into new services could gain a distinctive identity and thus a competitive advantage.

- **Infrastructure.** Meanwhile, companies that decide to focus their efforts on converging their networking services can then provide a wide range of attractive services to consumers and businesses alike. They might offer a variety of speed and bandwidth alternatives, depending on customer needs, while selling access to their networks to others looking to benefit from their advanced technology.

In the end, convergence, and especially the promise of 5G, could help telecoms save themselves from becoming commoditized businesses. New consumer content and services will enrich everyone’s digital lives. The Internet of Things (IoT) offers a wealth of data and control over industrial activities in every sector. Ultra-high-performance networks will enable the customization of networking needs. Data privacy and security could be controlled centrally as Internet activities move through carriers’ networks.

Few if any of these opportunities will come to pass, however, if telecom executives do not find the will to develop a clear and coherent strategy for their company’s future — one that is decisively differentiated and clearly committed to a competitive edge. Too many operators are still trying to be all things to all people, and the results are bloated cost structures, mixed marketing messages, confusing brand identities, overextended managements, and unfocused innovation efforts.

The telecom industry is on the brink of a new era of connectivity, brought about by 5G, the IoT, and powerful new data analytics. Now is the time to devise and begin to carry out a focused strategy, one that stands a good chance of leading your company out of the dilemma of commoditization and into the brave new world of convergence.
Strategy&

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