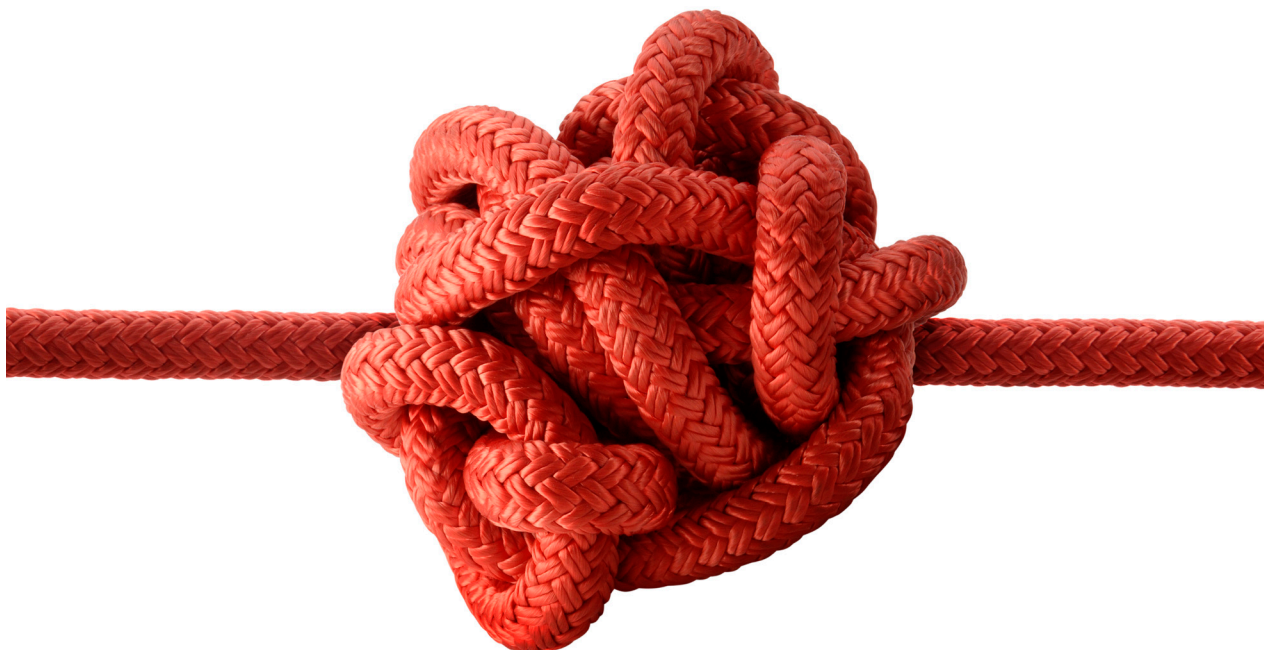


booz&co.



After the Downturn
Four Trends That
Are Shaping
Telecom's Future

Contact Information

Beirut

Mohamad Mourad

Principal
+961-1-985-655
mohamad.mourad@booz.com

London

Stuart Cockburn

Senior Associate
+44-20-7393-3213
stuart.cockburn@booz.com

Dubai

Karim Sabbagh

Partner
+971-4-390-0260
karim.sabbagh@booz.com

Munich

Gregor Vogelsang

Partner
+49-89-54525-590
gregor.vogelsang@booz.com

Düsseldorf

Roman Friedrich

Partner
+49-211-3890-165
roman.friedrich@booz.com

Riyadh

Ghassan Hasbani

Partner
+966-1-249-7781
ghassan.hasbani@booz.com

Peter Weichsel

Partner
+49-211-3890-231
peter.weichsel@booz.com

Vienna

Dieter Trimmel

Principal
+43-1-518-22-926
dieter.trimmel@booz.com

Mohamad Mourad also contributed to this Perspective.

EXECUTIVE SUMMARY

As the global downturn begins to show signs of abating, forward-looking players in the telecom industry must begin to focus on the strategies that will ensure their success in a more stable and growth-oriented economic environment.

Based on an extensive series of interviews with industry leaders, Booz & Company has identified four trends that will change the face of the industry in the coming years:

- *Commoditization versus innovation*
- *Lean operations versus strategic investment*
- *Consolidation versus fragmentation*
- *Re-regulation versus deregulation*

Each of these trends requires industry players to understand the interplay between opposing forces and what that dynamic will mean for them. All industry players, along the entire telecom value chain, must examine their place in the industry, determine their aspirations for the future, and create the right set of strategic capabilities to get them there.

Ultimately, companies need to define their undeniable right to win in the more challenging marketplace of the future.

TRENDS AND TENSIONS

After more than a year of slow or negative economic growth worldwide, many experts are beginning to see glimmers of hope on the economic horizon. Although there is no real consensus that the worst is over, it is time for companies in every industry to start planning for what is coming after the downturn.

The telecommunications industry is a case in point: On the one hand, the industry is weathering the storm quite well compared with other industries. For the most part, consumer spending on telecom has not dropped significantly, especially because so many consumers are in long-term, flat-rate plans or see their telecom service as essential. On the other hand, the industry's ability to gain access to financing for investment or acquisition capital has been significantly reduced by the state of the financial sector, which is in the eye of the economic storm.

Thus, the downturn itself—combined with the very nature

of telecommunications, the kinds of services it offers, and the large amounts of investment capital required to sustain and grow the industry—has created a set of opposing forces within the sector. Industry players must pay strict attention to the dynamics of these tensions if they are to sustain their business after the recession ends: They are likely to transform the structure of the telecommunications industry, potentially driving both operators and equipment makers onto very different paths than they are taking today.

Anticipating this challenge, Booz & Company recently conducted a study of the global telecom industry, combining primary research and interviews with industry leaders with a deep review of a wide range of industry and economic data. The input we received has allowed us to identify and explore four specific sets of opposing forces with the potential to redefine the boundaries and practices of the industry:

1. Commoditization versus Innovation

The commoditization of infrastructure, and especially basic connectivity, has been accelerated by the downturn. As a result, only players that can achieve significant scale will be able to compete on the basis of infrastructure. Players that are not in a position to make major investments in infrastructure projects must shift their focus, differentiating themselves from their competition with innovative services, applications, and technologies—especially those requiring relatively less investment than do infrastructure projects. One approach may be to partner with or acquire new, innovative players to enhance their own capabilities in this area.

2. Lean Operations versus Strategic Investment

Telecom players have turned to short-term cost optimization as a defense against potential declines in revenue and the limited availability of financing—a trend that will continue as players hedge

the risk of longer-term shifts in consumer behavior. At the same time, however, creating a sustainable market position will demand that players make selective smart investments in areas that will allow them to remain competitive after the dust has settled. The circumstances and priorities will vary depending on the player, but everyone will have to dedicate future investment to building scale and/or scope. Driving cost reduction will be a critical capability. Telecom players will need to cut costs substantially—not just enough to sustain their current business, but enough to generate cash flow that will allow them to invest in growth.

3. Consolidation versus Fragmentation

The commoditization taking place within the industry is forcing large operators to consolidate even further to build scale. Domestic operators must improve their cost positions by directly consolidating infrastructure. At the international level, the same is true for service

providers, such as IT system integrators, as well as most equipment makers. Although funding for acquisitions is scarce or available only on less than favorable terms, the strongest players still have access to financing—and there are plenty of attractive acquisition targets, now that company valuations have dropped sharply. As always in consolidating markets, opportunities will arise for niche players to assume attractive alternative positions, based on a combination of innovative technology and business models. Therefore, every player must gauge its capabilities either to take an active part in the consolidation trend or to define its own differentiated niche capabilities.

4. Re-regulation versus Deregulation

The heyday of accelerated liberalization and deregulation, when market forces were thought to be the best way to shape the course of the industry, is over. Now, policymakers and regulators are facing a bipolar scenario: On the one hand, they want to continue promoting

Industry players must pay strict attention to the dynamics of opposing trends and related tensions if they are to sustain their business after the recession ends.

competition and deregulation; on the other, they are realizing that pure market forces will not by themselves promote the significant investments in new infrastructure every economy needs to build the mass-market broadband network of the future. Thus, regulators are beginning to take an active role in enhancing value in the sector, promoting investments in national telecom infrastructure as a means of supporting present and future growth, and even committing substantial public funds to the effort. Every player therefore must determine how best to position itself to benefit from changing regulatory approaches, while taking an active part in shaping the outcome of those regulatory changes.

These four tensions pose clear challenges to the global telecom marketplace. Industry leaders must navigate this new marketplace carefully, investing in the capabilities needed to prevail in the long term. Operators may decide to exit specific segments or regions; suppliers may streamline existing product portfolios while determining where to grow. Content and service providers will benefit from commoditized infrastructure even as they are challenged by the struggles of the advertising business and by operators expanding their value chain.

Several companies have already started on this challenging journey. For instance, after 10

years of rightsizing, one mobile operator, the third-largest player in a highly competitive market, is outperforming the market leader on a cost basis; now, however, it is struggling to finance the next round of 3G and 4G investments and seriously considering retiring from the infrastructure business entirely.

Every company's overall portfolio of capabilities must be designed in a coherent and comprehensive way to support its strategies, which may mean eliminating capabilities that do not fit revitalized goals as well as building new ones. Industry players that fail to recognize and respond to these new realities will find it difficult to maintain their competitive advantage in the long run.

Leaders must navigate the post-recession marketplace carefully, investing in the right capabilities to prevail in the long term.

COMMODITIZATION VERSUS INNOVATION

As basic network services become more and more commoditized, industry players need to take a hard look at themselves and determine whether they have the scale to compete by offering the lowest possible cost. Most will not. Because commoditization leaves so little room for differentiation in network services, the industry is likely to see a clear move to acquire scale even as a new wave of innovation emerges, with industry players seeking out ways to set themselves apart from competition.

Commoditization

The way in which telecom's network-based services are packaged and sold has been evolving for decades. The downturn, however, has hastened the move toward commoditization, particularly for traditional network services. For the integrated IP networks of the future, the last and only true network differentiators appear to be speed of access and reliability.

The long-standing force behind the trend toward commoditization of basic network services such as Internet access has been the increasing standardization of core network components, as well as market leaders' desire to increase scale in the face of growing competition. The current economic downturn has accelerated the

move toward commoditization, as operators try to leverage scale to maintain their subscriber bases and stabilize prices at an affordable level. Players that are able to maintain or increase their scale in the current environment and after the downturn ends will enjoy healthy returns and a strong position in the industry, even if they focus on a bit-pipe strategy that depends only on their infrastructure.

Similarly, suppliers of network equipment have long struggled with the rapid commoditization of every new generation of technology. Converging standards make network components an increasingly undifferentiated commodity, forcing suppliers to reduce prices on a regular basis and bringing on severe global price wars. The cost of a standard mobile base station,

for example, has declined from about US\$30,000 in 2006 to less than \$10,000 today. Suppliers have reported revenue declines in the range of 40 percent to 50 percent in 2009 compared to the 2008 baseline, on top of the significantly depressed results of 2007. Here, too, only players with clear scale advantages will succeed against smaller competitors in a price war.

Germany's telecom market offers a telling example of the effect of commoditization on margins in a given market. As *Exhibit 1* illustrates, in 2007, industry players captured 40 percent of the market's overall margins through core fixed and mobile network services. By 2012, however, that percentage will decline to just 32.5 percent, to be replaced by offerings including

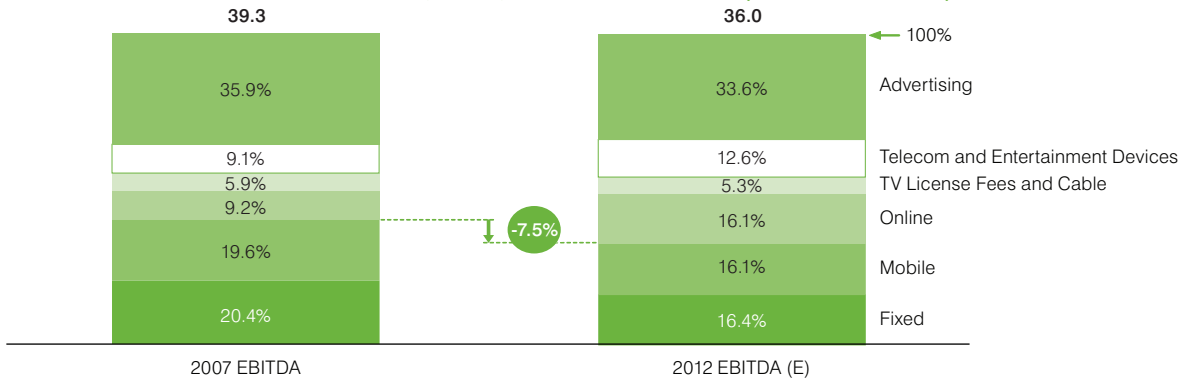
online services and devices. Consequently, the overall size of the pie will be smaller, but it will be split among fewer players, as those that are able to achieve scale drive out their weaker competitors.

Innovation

Opposing the trend toward commoditization, innovation in

Exhibit 1
Fixed and Mobile Services Are Losing Ground as Critical Telecom Offerings

TOTAL VALUE OF GERMAN COMMUNICATIONS, MEDIA, AND TELECOM MARKET (BILLIONS OF EUROS)



Source: Ovum; Datamonitor; Direktmarketing Deutschland; Booz & Company analysis

advanced applications and services across all market segments is injecting new life into a maturing industry, and bringing it real economic benefits. As network services become commoditized and margins erode for those not able to play the scale game, telecom players are turning their attention from infrastructure investments to applications and content innovation. One mobile network operator, with a small share of a large market, is planning to exit the infrastructure business entirely, and become a mobile virtual network operator (MVNO), focusing on serving very specific customer segments with tailored, segment-specific services.

Innovative value-added services are also on the rise, as highly differentiated Internet players such as Google, YouTube, Facebook, and Twitter creatively develop new value

propositions that go far beyond core Internet access services. Each of these players—most notably Google—started small but succeeded in creating new markets by generating demand for its services. Now they can use the scale and share they have achieved to launch new applications that bring significant benefits to users and generate revenues through advertising. The telecom industry has a lot to learn from such companies about how to add value far beyond their traditional access models—even taking a page from media companies to develop specific content and advertising services for dozens of unique and clearly defined audience segments.

Despite their current difficulties, equipment manufacturers are also moving to promote innovation to counter commoditization. Next-generation technologies must

both offer high-speed access and support differentiating services and applications. Solutions that allow for user-generated content, facilitate the convergence of low-cost services and applications, and enable innovative pricing plans will be increasingly in demand. For example, femtocell solutions, which allow mobile operators to offer high-bandwidth services for in-home usage by shifting a significant portion of traffic to a fixed line, are set to create a new wave of innovation. The additional capacity generated by the shift will allow operators to offer new services such as Internet protocol TV (IPTV) on mobile devices. A number of players, including SAGEM, Ubiquisys, and Nextivity, are emerging to compete with traditional equipment manufacturers on their own turf.

Building Capabilities to Address Commoditization and Innovation

Maintaining the proper balance between commoditization and innovation will become a key strategic capability for every successful telecom player. Doing so will involve deciding what its role in the network access business should be: Can it win the commoditization game through the development of superior cost structures that will allow it to make decent margins? Or should it forgo the infrastructure business entirely and concentrate on developing innovative services and applications, in hopes of achieving sustainable differentiation from the market leaders within specific segments?

The key is not to get stuck in the middle. Every player must begin by

assessing the sustainability of its infrastructure investments. Should it invest in yet another mobile infrastructure, such as LTE (i.e., the mobile technology known as long-term evolution or 4G)? The market leaders clearly will; indeed, they are already pursuing the opportunity. Most of the third and fourth players in specific markets, however, will be forced to give up the race for speed in their infrastructures, retire from the infrastructure business completely, and find an alternative path to growth. Germany's E-Plus, for instance, has firmly positioned itself for commoditization, employing a low-cost model to give itself a clear competitive advantage against giants such as T-Mobile and Vodafone. Others will be forced to pursue innovation in the services or content and media part of the value chain, imitating the approach that Google

and Apple have taken as they have tied handsets to content and applications. In one case, a mobile operator is considering whether to dedicate a team of up to 200 people to developing handset applications and launching its own flagship handsets based on Android, the mobile operating system initially developed by Google. But there, the right to win can rarely be obtained in a single national market, given the scale necessary to win on applications and content; although the content might differ nationally, the application itself must be globally relevant to achieve scale. Hence, they will have to build multinational growth capabilities. Even large multinationals and strong national incumbents may struggle to sustain an innovation agenda against agile global niche players with new technology and innovative business models.

LEAN OPERATIONS VERSUS STRATEGIC INVESTMENTS

Of the four tensions, this may be the one that sets its two forces most strongly in opposition to each other. In the past year, industry players have made deep cuts in spending in preparation for recession-induced declines in revenues—which may turn out to be less severe than expected. Nonetheless, even if revenue reductions are more moderate than anticipated, the impact of the recession on most consumer-focused operators, together with the overall decline in prices for commoditized basic connectivity, will require all service providers to continue cutting costs as margins erode. Some opera-

tors have slashed costs by 10 to 20 percent of the baseline.

At the same time, however, no player can overlook the need for strategic investments dedicated to developing new targets and capabilities; in the current environment, even if they cut their investment levels slightly, operators should consider devoting up to 50 percent of their investments to new capabilities. In order to have the cash flow available for future strategic investments, further cost reductions beyond this past year's savings will be required. Delivering the next round of cost reductions will require advanced cost-management measures that address truly structural cost drivers.

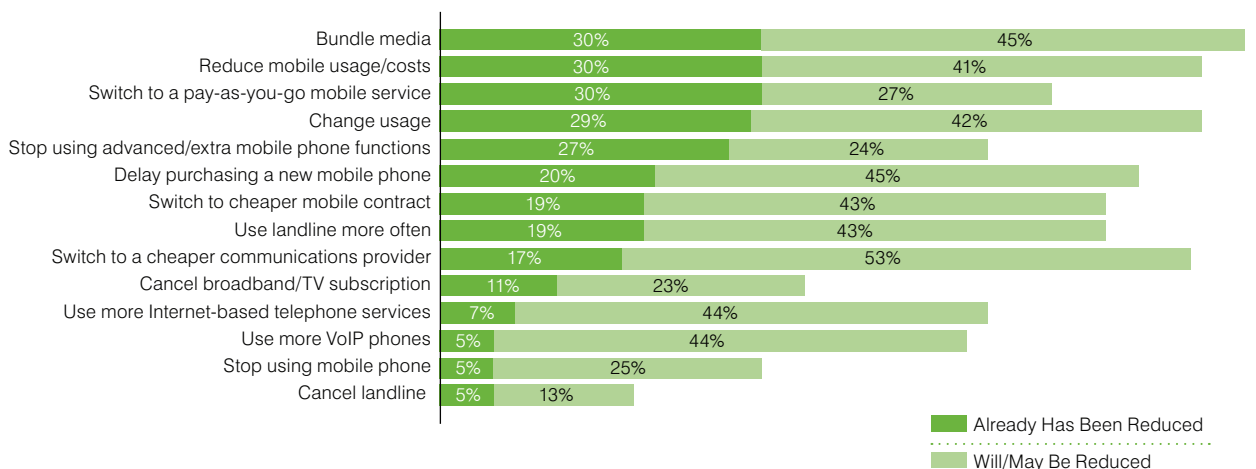
Lean Operations

The downturn has forced most telecom operators to step up their recent efforts to reduce spending, explore ways to rapidly cut operational costs, and defer or reduce capital expenditures.

These pressures extend along the entire value chain. On one end, both supplier financing and direct financing for infrastructure projects have become scarce: With operators suspending all but the most essential investments, suppliers have been hit hardest by the downturn. On the other end, the downturn has influenced how consumers use communications services, forcing operators to further reduce basic prices and subsidize all kinds of communication devices, from mobile phones to set-top boxes. In general, operators have not been as severely affected by the downturn as other industries—in Western Europe, revenues in the automotive sector have declined more than 30 percent, and more than 40 percent in mining. Still, the top line has been under pressure. In the U.K., for example, 30 percent of consumers have already reduced their mobile spending, and more than 40 percent are planning to do so in the near future (see *Exhibit 2*).

Exhibit 2

U.K. Consumers Are Planning or Have Already Made Reductions in Their Telecom Spending



Source: Booz & Company Consumer Survey, February 2009

In markets as fiercely competitive as the U.K., however, consumers looking for better deals as a result of the downturn are unlikely to be able to reduce their bills much further, and that, in turn, will lessen the squeeze on telecom revenues relative to other industries. Instead, operators will more likely prefer to offer more services for the same rates. Yet with operating margins already tight in many markets—mobile players in the U.K., for example—cost-management measures that began as a natural evolution in response to increased competition, market liberalization, and deregulation have become a short-term necessity, as telecoms look to weather the economic storm.

So far, most telecom players have been managing their costs in the traditional ways: reducing head count, lowering energy consumption, and cutting unnecessary discretionary expenditures. Yet the long-term effects of changes in customer behavior, and thus pricing, are uncertain, so it has become imperative for all telecom players, no matter how healthy they are, to go beyond manipulation of the traditional operating expenditure levers and to take more advanced measures to address their structural cost drivers. That means further emphasizing a variety of cost-

management trends that are just beginning to emerge in the telecom industry:

1. Increased outsourcing of operations and sharing of infrastructure: Driven by the need to reduce costs, operators have already outsourced operational functions such as field operations and network services. Now, the commoditization of infrastructure services, together with the financing squeeze, is encouraging more operators to share infrastructure. Ultimately, this trend may lead to the creation of stand-alone entities in partnership with other operators, suppliers, and government entities.

2. Pay as you grow and deferred payments: Because their position vis-à-vis suppliers, and especially vendors, continues to strengthen, operators are moving away from a business-management approach focused on EBITDA and toward a model based on free cash flow—a trend that allows them to better manage both working capital and capital expenditures. This technique involves the use of “pay as you grow” schemes, rather than direct investments, and the use of deferred payments in build-operate-transfer contracts. In some cases, vendors have had difficulty getting financing to support such deals, while others

have turned to government and national financial institutions to get by during the downturn. Going forward, such measures are likely to become common practice in the industry.

3. Hubbing: In addition to the levers mentioned above, a large network operator can consolidate and reduce costs in network implementation and operations by leveraging one of its larger operations, such as an in-country operating company, to serve as the network hub for several of its smaller operating companies or other regional carriers.

Meanwhile, we also expect the pace of traditional outsourcing to increase. Because field operations outsourcing, for instance, can bring savings of 20 percent to 30 percent of operational costs, it remains an attractive option for operators looking to cut costs further.

Because such structural cost-saving measures will substantially reshape the telecom industry’s value chain, they have met with some resistance from various stakeholders, such as unions. Yet the downturn has made the public more open to these approaches, a trend that should provide more support for even the least popular, but necessary, measures.

Strategic Investments

Telecom players with a lean financial structure and a strong balance sheet will be able to use their strong cash flow to attract financing or invest directly in anticipation of the recovery. In the summer of 2009, for example, one multinational operator succeeded in raising more than \$1 billion for a planned acquisition within days, despite the apparent lack of new financing due to the meltdown of the financial sector. Those companies that know where to place their bets now—with the capability to make the proper investment decisions and a clear picture of where they want to be in the long term—will emerge with a distinct advantage over companies focused exclusively on cost management.

The kinds of investments each player should make will vary from one geography to another and from one operator or supplier to another. But players that can successfully use the value released from their cost-optimization efforts to make smart

investments that boost both scope and scale will find themselves in a position of strength as the industry emerges out of the downturn.

Any number of players offer examples of such smart investments. By the first quarter of 2009, several targeted transactions had already taken place in geographies such as the Middle East, where ambitious operators such as Batelco and STC managed to benefit from the attractive market conditions to acquire an asset in India and a license in Bahrain, respectively. Etisalat, too, continues to prospect for new opportunities internationally, recently bidding on a license in Libya. Divestitures and acquisitions of assets will continue to proliferate in the immediate future and after the upturn: For instance, Zain has engaged in multiple discussions about the possibility of selling a significant stake in the company. Meanwhile, Orascom Telecom has divested its shares in Hutchison Telecom and its subsidiary in Iraq in order to generate the cash needed to acquire a new asset in Europe.

On a similar note, both Vodafone and Telefónica are eyeing a collection of fixed assets in Western Europe, in hopes of evolving into integrated players. Simultaneously, they are considering selectively unloading distressed operations, such as T-Mobile in the U.K. and Vodafone in Turkey.

Players that make strategic investments and thus position themselves to win the race for speed and scale on the network side can look to a variety of new technologies that may give them an enduring advantage. LTE mobile technology, which is already gaining a foothold in Europe, is set to play a key role in the development of post-recession wireless infrastructure. Wide-scale fiber deployment, particularly fiber to the home (FTTH), is another potential winner in wired high-bandwidth connectivity.

As the global telecom market evolves, every player must make investments that create sustainable competitive advantage. New business opportunities that offer enormous

Cost optimization should create funds to invest in capabilities that will help operators develop a position of strength.

room for growth are emerging in adjacent industries such as mobile banking, education, and healthcare. The convergence of media and telecom, in particular, remains fertile ground. Several telecom operators speak of the threat—real and perceived—from social networking and mobile content applications providers such as Google, YouTube, and Yahoo, which could usurp telecom players’ potential roles in the content area of the value chain, reducing operators to mere “pipes.” However, opportunities to establish a foothold in services by investing in this space, partnering with the right applications provider, or building capabilities through acquisition are on the rise.

Building Capabilities to Address Lean Operations and Strategic Investment

In the current downturn, cost optimization has become a necessity rather than a differentiator. Now is the time, therefore, to apply advanced measures to address structural cost drivers and reconsider operating models at every

stage of the value chain. Measures may include network sharing, outsourcing, hubbing, and the like. Industry players must define the cost structures that will allow them to build a sustainable market position, with decent margins, as the downturn draws to an end. No part of the business should be taken for granted, just because it’s there. A number of mobile operators are already pursuing network-sharing deals, effectively exiting some parts of the value chain; in the U.K., T-Mobile and Hutchison 3G UK Ltd. (operating as 3) have teamed up to share 3G infrastructure, for instance.

But focusing exclusively on the cost side will not help companies succeed in the future. Striking the right balance between sustainably cutting costs and making the right strategic investments will be a key capability for every successful telecom company. Several operators are already pursuing the possibility of moving outside their current domain into information technology or financial services, through both partnerships and acquisitions. O2,

for instance, has partnered with credit card provider Barclaycard to allow the use of its mobile phones for contactless payments and even the London Underground. Here, operators need to acquire the capabilities required to address the needs of Generation Content, the always-on, always-connected next generation of telecom services users. Every industry will be transformed by the ubiquitous connectivity of the future, and the combination of telecommunications and financial services, transportation, energy, health, and education will provide ample opportunity for future growth.

Across-the-board cost-cutting will not deliver the necessary results. Leading players will understand where cost-cutting will do the most good, and where to step up investment in areas essential to their business and to future growth. Eliminating costs and investing the savings strategically is a critical capability that telecom players will need to move in the direction determined by their strategy, and to gain the clear right to win.

Striking the right balance between sustainably cutting costs and making the right strategic investments will be a key capability.

CONSOLIDATION VERSUS FRAGMENTATION

The recession has had a significant, if temporary, impact on mergers and acquisitions activity in the telecom industry, as the continuing scarcity of outside investment capital, combined with substantial uncertainties about the valuation of target assets, has delayed deals for some time. Yet we are facing a clear structural shift toward a significant consolidation of both operators and suppliers, much like the wave of M&A activity that swept through the U.S. telecom sector following the bursting of the dot-com bubble. At the same time, the accelerated pace of technology innovation will create

select opportunities for fragmented businesses and service offerings outside of areas of consolidation, eventually allowing them to define categories of their own and assume a leading position.

Consolidation

The slowdown in telecom M&A reflects the woes of the cross-border growth market. Capital has become increasingly unavailable and access to financing is more difficult. The downturn has created a great deal of uncertainty regarding the valuation of targets; shareholders, clinging to the inflated valuations of 2007–08, are holding back their stock as they await some clearer indication of future valuations. As a result, although the downturn has clearly reduced company valuations and created attractive acquisition targets, shareholders remain risk-averse and reluctant to pursue them.

The consensus in the industry is that equity markets are unlikely to be the source of significant financing in the short term. Even so, the dynamics driving the trend toward consolidation cannot be denied—and although an environment in which cash is constrained is a challenge for the industry overall, it is an opportunity for players that have maintained strong cash flow.

But even for those without strong cash flow, there may be other options. The number of global equity-based stock transactions (or “paper deals”) was up 27 percent in 2008. Such deals could provide an ideal solution for stronger operators looking to acquire or merge with companies in distress, and for fragile operators that have struggled to secure financing and are seeking funds, but whose shareholders do not want to exit the industry.

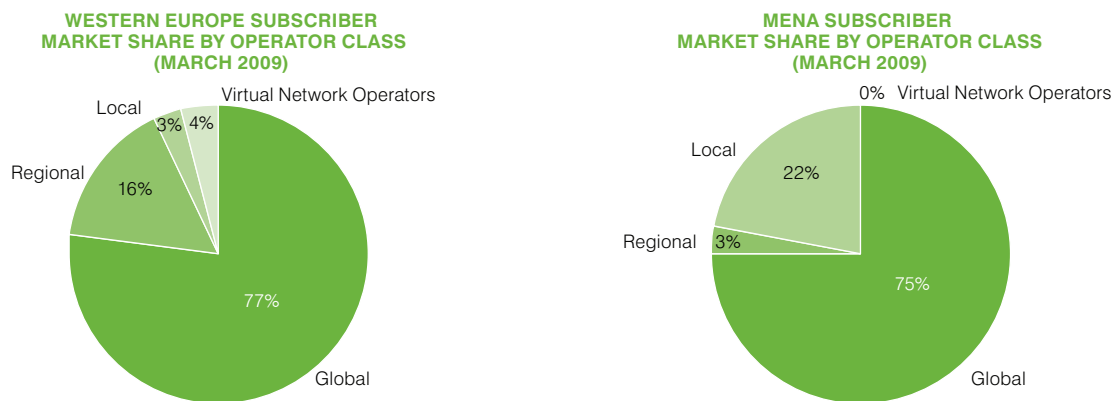
The dynamics of the trend toward consolidation vary among the different sectors in the industry:

Telecom carriers: Cross-border consolidation will increase among carriers; multinational groups already dominate the telecom markets in Europe, the Middle East, and Africa, and smaller, single-market operators will not be able to maintain their positions. Indeed, they are likely to be wiped out if not “protected” by their national

governments. Single-market players have already largely disappeared in Europe, and the trend is also becoming apparent in regions such as the Middle East (*see Exhibit 3*). Merger deals within countries and across borders are also likely to happen among well-established players. Given the size of such deals and the limited availability of external financing, they will come in the form of mixed cash and equity mergers or alliances, and in some cases will be all-equity deals.

Such deals are already being executed, as evidenced by the September 2009 announcement that Deutsche Telekom and France Telecom would merge their U.K. operations, thus easing pressure in one of Europe’s most competitive markets. Similarly, until September 2009, Bharti Airtel and Mobile Telephone Networks (MTN) were in advanced talks for cross ownership in a mixed cash and share-swap deal.

Exhibit 3
Operators That Are Limited to a Single Market Are on the Wane



Note: Global operators are all operators in each region with footprints beyond the region. Regional operators are those that operate solely in each region.
Source: Globalcom; Merrill Lynch; Booz & Company analysis

Horizontal consolidation will increase among carriers, with an emphasis on combining existing fixed and mobile infrastructures, or joining forces to deploy new infrastructure, which would be too expensive or too risky for a single company alone. A recent Booz & Company study demonstrated that integrated fixed-mobile players can increase EBIT margins by as much as 4 percentage points while reducing churn among customers of converged products or bundles by up to 2.5 times, compared with nonintegrated operators. Such synergies are likely to encourage further integration in individual markets.

Even as horizontal integration increases, some operators will focus on making downstream acquisitions in order to move into new sales channels or entirely new services such as banking. Expect more consolidation and vertical integration on the retail side as well. As handset retailers continue to struggle with poor margins and

an inefficient channel structure—especially the overexpansion of retail space—distribution channels will most likely be a further area of strong consolidation. With the large operators already eager to enter this business, the retail landscape could be significantly transformed. In Russia, for instance, VimpelCom has taken over Euroset, a move that was followed swiftly by the acquisition of several smaller retailers by VimpelCom’s competitor Mobile TeleSystems OJSC (MTS).

Manufacturers: Whereas the downturn has created some gusty winds for operators, it has blown in a perfect storm for manufacturers. Consequently, we expect a much more substantial contraction on the equipment front, leaving only those with scale and financial flexibility standing.

For *equipment manufacturers*, the ongoing trend toward horizontal consolidation has been accelerated by the downturn. As the technology

road maps of the future become increasingly standardized, niche technologies such as WiMAX, MediaFLO, and Flash-OFDM will become more and more marginalized and unlikely to attain scale. Giant global operators are exerting significant purchasing power over suppliers, turning the former margin-rich equipment business into a commoditized battlefield.

In light of these developments, equipment vendors are trying to make a fundamental shift: As operators move downstream, vendors are following suit, moving from the provision of infrastructure to offering its operation as a service. This is already the structure in India, where two or three large vendor-owned outsourcing players, in combination with a shared tower operator, are basically running the infrastructure for a multitude of market-facing operators.

Entering the service business requires a healthy financial position,

however, because many advanced solutions require an up-front investment or risk participation from the vendors in return for a potential future revenue stream. Therefore, moving into services will not be an option for all players, particularly those that are already struggling. But it will offer clear opportunities for players with strong balance sheets or easy access to financing, as is expected to be the case for Chinese multinationals Huawei Technologies and ZTE Corporation.

Handset makers have been hit hard by the downturn, and we expect that several major manufacturers are likely to leave the business entirely.

The mid-market segment will be especially pressured, as the market concentrates on either low-cost, white-label products from Southeast Asia or high-end devices. The latter includes the iPhone, BlackBerry, Nokia N-Series, HTC smartphones, and top-of-the-line devices from LG and Samsung, more and more of which will offer sophisticated integrated vertical service solutions. A further side effect of streamlined portfolios will be the elimination of niche technologies: Nokia, for instance, recently decided to abandon WiMAX by discontinuing the production of its N810 handheld, its only mobile device based on WiMAX.

Fragmentation

At the same time that the rate of industry consolidation picks up, ongoing innovation in technology and business models will create select opportunities for fragmented businesses and service offerings outside these areas of consolidation. These new ventures will serve as a much-appreciated complement to industry heavyweights in the marketplace. Niche players will not be restricted to current markets, however. They can define categories of their own and assume a leading position in newly defined areas, as Google, Facebook, and Twitter have done.

Every player in the industry must accurately assess its position within its market and then develop a strategy appropriate to that position.

One source of opportunity lies in building on a specific technology solution that works on the edges of the mainstream technologies. However, new technologies are rarely successful without corresponding innovations in business models—the early successes as well as the current struggles of Skype are a case in point. Niche wireless broadband solutions such as femtocells are beginning to offer the opportunity to serve telecom users with broadband connectivity, though they may be as disruptive in their business model as they are in changing the way mobile and fixed networks are operated in the future.

Other opportunities may come in the form of new business models, creating a multitude of MVNOs offering services to niche market segments and basing their service philosophies on the emergence of local or global communities. Such communities might come in the form of ethnic groups, special-interest groups, or professional communities. First movers in this arena will have a particular advantage, as they can define their own niche markets early

on. The possibilities are numerous, and the commoditization of network infrastructure will offer such players a cost-effective base service upon which they can build their differentiated offerings and fill the capacity on underused networks.

Building Capabilities to Address Consolidation and Fragmentation

Every player in the industry—operators and equipment makers alike—must develop the capability to accurately assess its position within its market and then develop a strategy appropriate to that position. Is it among the leading players in its market, those that can gain the scale to offset the decline in margins caused by commoditization? If so, can it actively sustain this position or even pursue a consolidation strategy? If not, then it needs to pursue innovative new business models that can generate higher margins and seriously consider exiting businesses in which it doesn't have the required scale or differentiation.

For example, du operates within a single market, the United Arab

Emirates, where it competes with the global operator Etisalat. In hopes of improving its position, it has opted for an innovation-based strategy that focuses on differentiation rather than scale. Alternatively, some operators have begun to build portfolio management capabilities that allow them to look at their business units as portfolios of businesses that could be sold if they don't return sufficient strategic and financial benefits. Once a business has been sold, operators can use the proceeds to develop and acquire the capabilities needed to take a differentiated position in more fragmented areas.

Finally, some globalizing players are building concrete operating models that will allow them to realize synergies across geographies. Vodafone, for example, has been among the pioneers in leveraging synergies in such areas as global product development and supply chain management, and has extended this capability to operators not owned by Vodafone, through its Vodafone Partnership program.

RE-REGULATION VERSUS DEREGULATION

The limited appetite among incumbent operators for investing in fiber infrastructure outside core urban areas has been troubling regulators worldwide for quite some time—and the current recession has put an end to the hope that free market forces alone can help this situation. Consequently, regulatory bodies are slowing their efforts to liberalize telecom markets and are regulating markets less stringently, in part to help operators survive the cost and pricing pressures they are currently facing. At the same time, telecom regulators are renewing their focus on the further development of the telecom sector—an initiative that will result in long-lasting structural changes. In accelerating these trends, the recession is partially undermining the free market-focused regulatory philosophy that has long prevailed among most regulators.

Re-regulation

The recession has substantially reduced telecom operators' willingness to make investments in capital projects such as infrastructure deployment and new-license acquisitions, and regulators have become increasingly concerned

about the slow pace of evolution on the Internet superhighway of the future in both fixed and wireless. Even if operators were willing to invest heavily in new national network infrastructures, the most recent business cases suggest that it would take them a decade to achieve their objectives while remaining financially viable. However, many governments see the building out of broadband infrastructure as an important factor in promoting economic recovery and a key enabler for the economy in the long term.

That's why regulators are experiencing a paradigm shift. They no longer see value in their traditional policing role if it comes at the expense of national infrastructure development. As they come to understand the social and economic benefits of large-scale broadband network deployment, regulators are increasingly shifting their focus toward sector development by fostering investments, a trend that tends to favor the large national incumbents, especially those with the appetite to invest in and play an active role in national infrastructure deployment. Moreover, some governments themselves are engaging in such

investments, either through direct investments or through public-private partnerships with new or existing operators (see Exhibit 4).

With regulators increasingly focusing on—or governments even getting involved in—next-generation infrastructure development, we expect a renewed wave of regulation with respect to these national networks.

- **Competition.** Regulatory authorities will have to carefully calibrate their role in finding the right balance between encouraging incumbents to invest in large-scale infrastructure and preventing anti-

competitive behavior. Regulators might typically extend regulatory holidays or grants to trigger such investments, and in some cases work to stimulate demand for high-bandwidth services by subsidizing consumer prices directly.

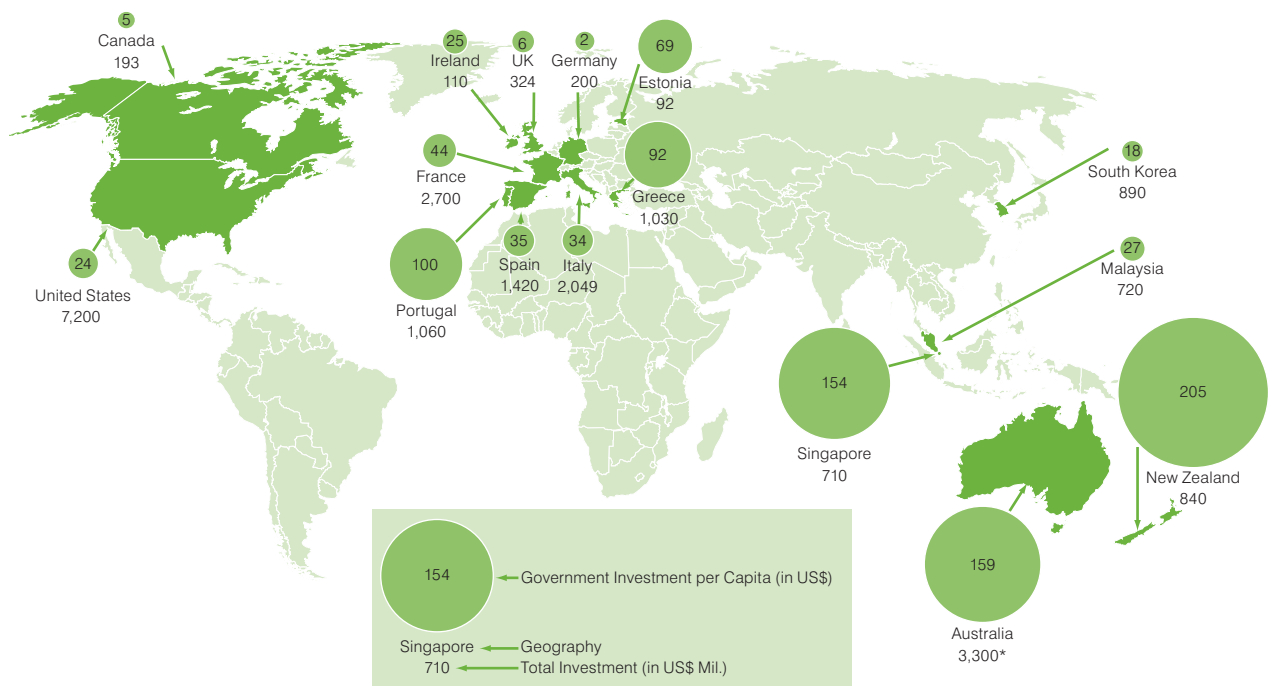
- **Infrastructure.** Encouraging infrastructure sharing is an effective lever regulators can use to enhance infrastructure development without leaning too much toward national monopolies. Regulators could encourage voluntary sharing or even go to the extent of enforcing mandatory rationalization of certain infrastructure components, including passive infrastructure

elements such as towers and ducts, perhaps in specific geographies such as rural areas. Triggered by a scarcity of cash during the recession, operators are in general becoming more open to such regulatory measures.

Deregulation

With regulation focusing more on the infrastructure side in order to ensure fast deployments of national broadband networks, we expect the ongoing deregulation trend to continue along the key dimensions of easing retail regulation and licensing. Retail regulation in the EU is a case in point: The number

Exhibit 4
Government Investments in Next-Generation National Broadband Networks Are on the Rise



*Based on an initial commitment of A\$4.7 billion, out of a A\$43 billion required investment; the plan to keep a 51% stake in the announced National Broadband Network Company could increase the Australian government's investment to A\$21.9 billion.
Source: Booz & Company analysis

of regulated retail and wholesale telecom services has declined from 17 services in 2003 to just eight in 2009. At the same time, we expect that over time, new licensing will be based more on services than infrastructure, across both wireless and fixed markets, as most countries have already liberalized their telecom sectors. As a result, a new wave of virtual network operator (VNO) licensing will likely emerge around the world.

Along the same lines, we may see further decisions being made regarding network neutrality. Regulators may grant infrastructure providers some advantages—either in wholesale price regulation, acceptance of infrastructure consolidation, or regulatory holidays—demanding in return that any service on the network be able to benefit from the digital superhighway of the future without discrimination, even in cases where the incumbents' business models are disrupted by services such as Skype or Hulu.

With every telecom player focusing more on creating innovative services, the overall trend toward industry convergence will be accelerated. The most prominent aspect of this trend

is the convergence of telecom and media, driven by the proliferation of content and applications services offered by telecom operators, such as IPTV, mobile music, and games. As such, regulators are beginning to be more open to viewing their roles in different ways. The long-standing separation between the regulation of telecom and that of media will slowly be eliminated, with “digital authorities” converging to serve as integrated steering bodies that regulate all elements of the digital economy. Such models are already emerging in Australia, Italy, Malaysia, and the U.K.

Building Capabilities to Address Deregulation and Re-regulation

Managing the interplay between the continued deregulation of retail services and the renewed regulation of national networks will become a critical strategic capability for industry players that hope to succeed in this more highly regulated future.

As regulators focus their attention on the promotion of infrastructure and less-open markets, successful telecom players will target their competitive efforts at less-regulated areas such as service innovation. Creating sustained advantage in

service innovation, however, has never been an easy task, and it is particularly unlikely to be successful in a single national market, as the lack of success among new Internet ventures clearly indicates.

In order to win in this environment, operators must instill innovation as a core capability in their organizations and explore the possibility of expanding into adjacent sectors such as banking, healthcare, and education, among others. Globe Telecom, for instance, recently secured a banking license through a joint venture with the Bank of the Philippine Islands (BPI) in order to offer mobile banking services in the Philippines market. Pursuing such opportunities requires a variety of capabilities, such as the ability to structure partnerships and alliances, and to learn the dynamics of industry sectors new to most telecom operators. To that end, for instance, telecom operators in at least three European countries are considering or pursuing partnerships with energy companies to develop a market for smart home/smart energy applications that offer consumers both energy savings and the convenience of automation.

POSITIONED FOR THE FUTURE

The very different environment that telecom industry leaders will face once the recession ends and the recovery begins demands that every player make a conscious decision about its future role in the industry and the corresponding capabilities it will need to succeed. These capabilities will differ substantially for individual players. Industry leaders will continue to balance, manage, and lead all facets of their business, even as they fight to maintain and extend their scale in infrastructure as a source of growth. For industry leaders and every other player, the four trends outlined herein will require dedicated focus and difficult decisions on their part if they hope to build the capabilities that will create the undeniable right to win.

We suggest that all players in the telecom industry ask themselves the following questions; the answers will help stakeholders define their positions in the telecom world of

the future, and determine how best to get there.

Key Questions

- What will your market position be in two to three years, and who is aiming to take that position away from you?
- What will your role be in the telecom value chain in the next three to five years?
- Which elements of your value chain are consolidating? What should your role be in that process?
- What is your right to win in your current position in the market and along the value chain—and in your targeted future position?
- Which core capabilities will you need to achieve and sustain your right to win, given both where you are today and where you aim to be?
- Of the capabilities you have now, which ones will you not need to achieve this role? What do you intend to do with these assets?
- How does your ambition reflect public aims and approaches to regulation?
- Where do you want regulation to go, and how can you influence its direction?

About the Authors

Ghassan Hasbani is a partner with Booz & Company based in Beirut and Riyadh. He specializes in telecommunications markets assessment, investments strategies, mergers and acquisitions, marketing, product and service development, organizational restructuring and governance, technology plans, channel strategy and management, customer care, business development, and CFO and CEO agendas.

Peter Weichsel is a partner with Booz & Company in Düsseldorf and Moscow. He is a strategy and technology specialist within the telecommunications and high-tech industries.

Dieter Trimmel is a principal with Booz & Company in Vienna. He specializes in strategy, technology, and organizational development for the telecommunications industry.

Stuart Cockburn is a senior associate with Booz & Company in London. He specializes in strategy for fixed and mobile telecom operators.

The most recent list of our office addresses and telephone numbers can be found on our website, www.booz.com

**Worldwide
Offices**

Asia

Beijing
Delhi
Hong Kong
Mumbai
Seoul
Shanghai
Taipei
Tokyo

**Australia,
New Zealand &
Southeast Asia**

Adelaide
Auckland
Bangkok
Brisbane
Canberra
Jakarta
Kuala Lumpur
Melbourne
Sydney

Europe

Amsterdam
Berlin
Copenhagen

Dublin
Düsseldorf
Frankfurt
Helsinki
London
Madrid
Milan
Moscow
Munich
Oslo
Paris
Rome
Stockholm
Stuttgart
Vienna
Warsaw
Zurich

Middle East

Abu Dhabi
Beirut
Cairo
Dubai
Riyadh

North America

Atlanta
Chicago
Cleveland
Dallas
Detroit
Florham Park
Houston
Los Angeles
McLean

Mexico City
New York City
Parsippany
San Francisco

South America

Buenos Aires
Rio de Janeiro
Santiago
São Paulo

Booz & Company is a leading global management consulting firm, helping the world's top businesses, governments, and organizations.

Our founder, Edwin Booz, defined the profession when he established the first management consulting firm in 1914.

Today, with more than 3,300 people in 59 offices around the world, we bring foresight and knowledge, deep functional expertise, and a practical approach to building capabilities and delivering real impact. We work closely with our clients to create and deliver essential advantage.

For our management magazine *strategy+business*, visit www.strategy-business.com.

Visit www.booz.com to learn more about Booz & Company.
