

Top 10 risks in telecommunications 2014

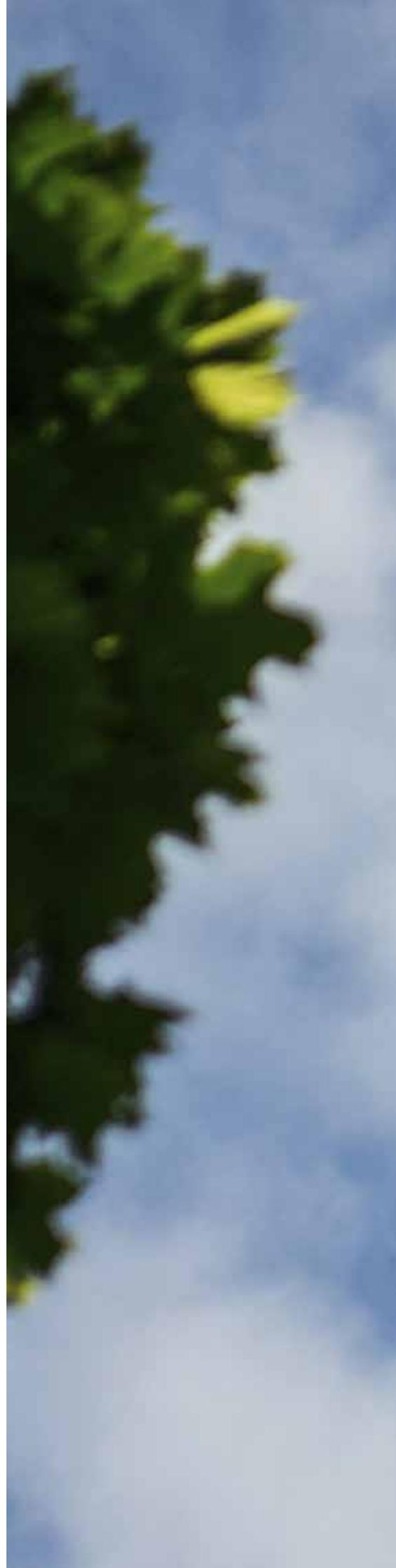


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Contents

About this report	3
The EY risk radar 2014: telecommunications	4
Overview and introduction	5
The top 10 risks in telecommunications:	8
1. Failure to realize new roles in evolving industry ecosystems	11
2. Lack of regulatory certainty on new market structures	13
3. Ignoring new imperatives in privacy and security	15
4. Failure to improve organizational agility	17
5. Lack of data integrity to drive growth and efficiency	19
6. Lack of performance measurement to drive execution	21
7. Failure to understand what customers value	23
8. Inability to extract value from network assets	25
9. Poorly defined inorganic growth agenda	27
10. Failure to adopt new routes to innovation	29
Below-the-radar risks for telecommunications operators	31
Contacts	





About this report

As the increasingly diffuse yet interdependent ecosystem of telecoms, technology and media continues to evolve, the risk universe for communications operators is changing rapidly. As they formulate and execute their strategies to target and occupy parts of this ecosystem, operators have to ensure that their understanding and management of the risk to their business keeps pace.

To help companies gain and apply the necessary risk insights, EY's Global Telecommunications Center has developed *Top 10 risks in telecommunications 2014*. This is the latest in our ongoing series of periodic reports designed to pinpoint the most critical risk issues in the sector, analyze the industry's evolving responses, and highlight elements of emerging best practices in addressing these risks.

As in previous reports, we do not claim that the list of risks we present here is comprehensive. Also, by its nature, it can provide only a generalized snapshot of the risks that we – and the industry as a whole – see at this time. Given this, we would encourage you to read this report with an open and inquisitive attitude. Are these really the risks you face in your own business? If not, how and why are your organization's risks different? And how do those particular risks impact your business?

This report was produced using the insights of our highly experienced sector practitioners across the world, supplemented by research and analysis from our Global Telecommunications Center. During the process of compiling the report, our professionals were asked to take two steps: first, evaluate the most important strategic challenges for global businesses in their industry; and second, rate the severity of these risks for their sector. This study reflects the findings from our telecoms sector practitioners.

The evolving industry ecosystem presents many major opportunities for operators. However, each individual company's ability to understand and manage the corresponding risks will be critical to identifying and seizing those opportunities. Unless an operator's growth strategy has a solid underpinning of risk management, it will never be robust or sustainable. This publication aims to help operators build and reinforce that sound platform.

The EY risk radar 2014

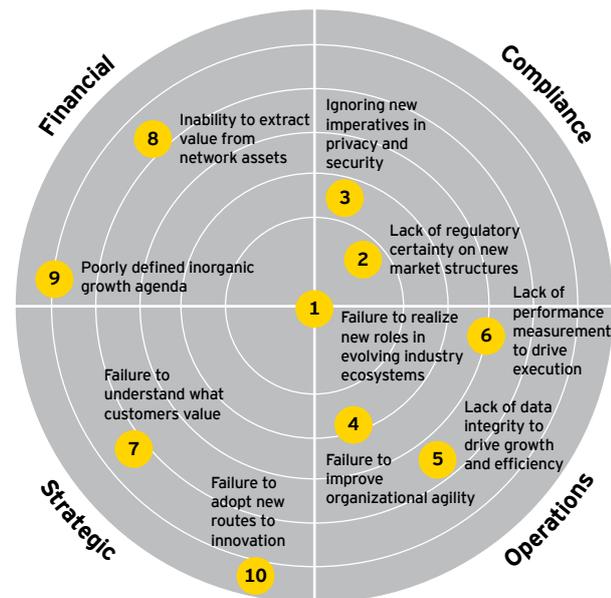
Telecommunications

The EY risk radar presents a snapshot of the top 10 business risks in an industry sector by dividing risks into four quadrants that correspond to EY's Risk Universe™ model. These quadrants are:

- ▶ **Compliance threats** – originating in politics, law, regulation or corporate governance
- ▶ **Operational threats** – impacting the processes, systems, people and overall value chain of a business
- ▶ **Strategic threats** – related to customers, competitors and investors
- ▶ **Financial threats** – stemming from volatility in the markets and in the real economy

The radar below plots the top 10 risks for telecoms operators on the 2014 risk radar.

Figure 1. Top 10 risks in telecommunications 2014



1. Failure to realize new roles in evolving industry ecosystems
2. Lack of regulatory certainty on new market structures
3. Ignoring new imperatives in privacy and security
4. Failure to improve organizational agility
5. Lack of data integrity to drive growth and efficiency
6. Lack of performance measurement to drive execution
7. Failure to understand what customers value
8. Inability to extract value from network assets
9. Poorly defined inorganic growth agenda
10. Failure to adopt new routes to innovation

Overview and introduction

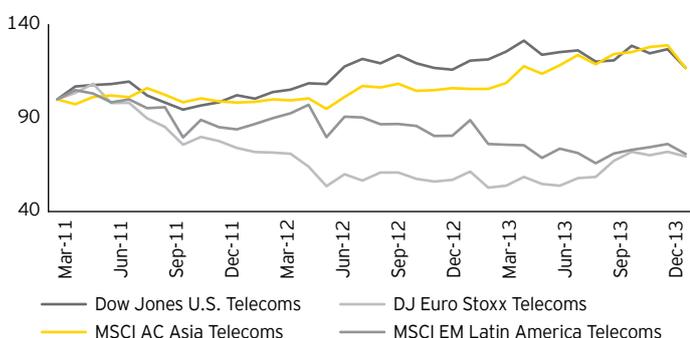
A world of wide regional variations ...

The global economy has undergone a significant shift during 2013, with recovery observable in a number of advanced economies and global output set to increase at a faster rate from 2014. While the prospect of reduced macroeconomic uncertainty is good news for operators, a number of structural pressures – from regulation on core service areas to increased competition from over-the-top (OTT) players – mean that market conditions remain challenging.

Moreover, operating environments vary significantly between regions, driving divergent industry performance. In Europe, for example, operators are facing a mix of intensifying competition and difficulty in replicating services across borders, reducing companies' ability to capture economies of scale. One of the clearest impacts of these constraints is that Europe – having led the world in the adoption of 2G mobile – has now slipped behind other developed regions in the migration to 4G networks.

Despite this somber background, European telco stocks have still outperformed those of other regions since mid-2013, mainly due to investors' anticipation of large-scale M&A within the region. However, as Figure 2 shows, over a longer timeframe European operators' shares have significantly underperformed their counterparts in other developed regions, largely as a result of macroeconomic headwinds and an uncertain regulatory landscape, coupled with the perceived risks of low profitability on wireless and enterprise services.

Figure 2. Telco share price development by region



Source: Capital IQ.

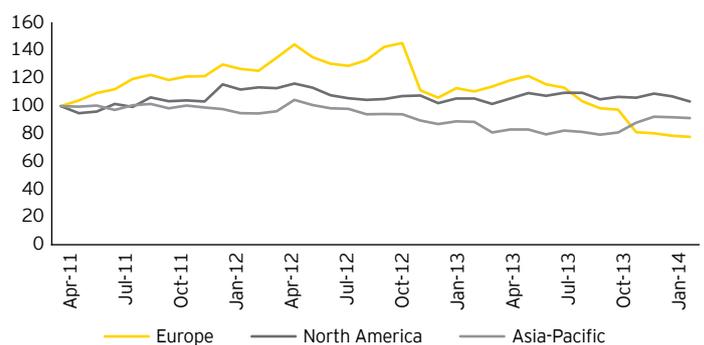
In contrast, long-term confidence in Asian telecoms operators remains buoyant, driven by strong mobile data consumption in the region's developed markets, and the substantial promise of emerging markets, where take-up of broadband capable devices and services is at a much earlier stage.

Meanwhile, the telecoms industry in North America has witnessed high levels of capital intensity and rising competition but has also been innovating strongly in recent years through the introduction of new mobile pricing plans and wider service propositions for consumers and enterprises alike. In Latin America, rising competition and ambitious convergence strategies are seen limiting core earnings growth, although consolidation can help create more rational market structures.

... sees legacy sector positioning come under scrutiny

A key outcome of the divergence in regional performance is to cast doubt on confidence in the sector's fundamental attributes. In the years since the global financial crisis, telcos have generally positioned themselves as dividend yield plays. However, a wave of dividend cuts has served to undermine investors' confidence in this sector positioning in Europe, while concerns over dividend sustainability have also risen for North American operators (see Figure 3).

Figure 3. Operator dividend yield development by region



Source: EY analysis.

Also, as operators roll out LTE networks and customer demand for mobile data continues to increase, network capital expenditure is expected to remain at elevated levels. This trend could in turn support current regulatory models that view competition as a catalyst for higher-quality services at a time when many leading operators are voicing their belief in consolidation as a route toward improved economies of scale.

At the same time, risks are also intensifying in the guidance-setting process for many telcos, while managing debt has become more important for many European players as they struggle to maintain profitability levels. In this light, dividend cuts have become important as ways to shore up balance sheets and preserve credit ratings.

A number of ICT segments see growth potential ...

This relatively gloomy environment for many operators is brightened by promising growth opportunities across a range of information and communications technology (ICT) services (see Figure 4). Some 4 in 10 mobile operators worldwide are now offering machine-to-machine (M2M) connectivity services, and enterprise demand for cloud and unified communications is increasing rapidly. At the same time, ongoing smartphone take-up is driving growth in areas such as mobile advertising and payments.

Figure 4. Selected ICT segments – global market size and growth

	2012	2017	CAGR, 2012-17
Enterprise cloud services	18.3	31.9	11.8%
M2M	13.6	36.9	22.1%
Mobile advertising	9.6	41.9	34.3%
Unified communications	7.9	19.0	19.2%

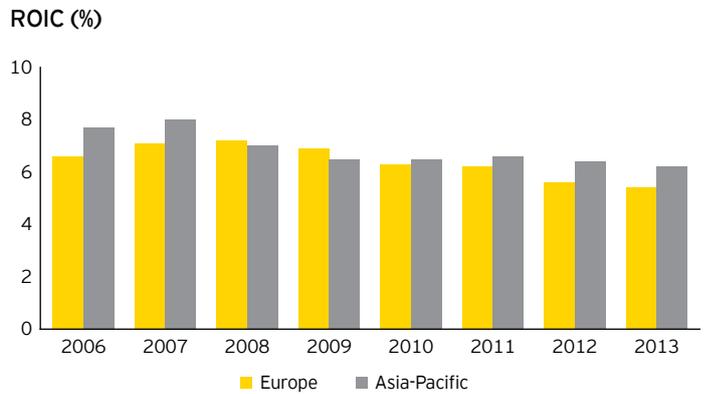
Source: Ovum, Analysys Mason, Gartner, NextMarket Insights.

In response to such trends, operators are positioning themselves to develop and pursue new use cases across a number of industry verticals. In doing so, they are addressing the perception that they have been failing to capitalize effectively on new opportunities presented by advancing technology.

... but profitability remains under pressure

However, despite the forecast double-digit compound annual increases in revenue in growth areas, margin management remains a key concern for operators. As Figure 5 highlights, return on invested capital (ROIC) measures continue to decline for operators in different regions.

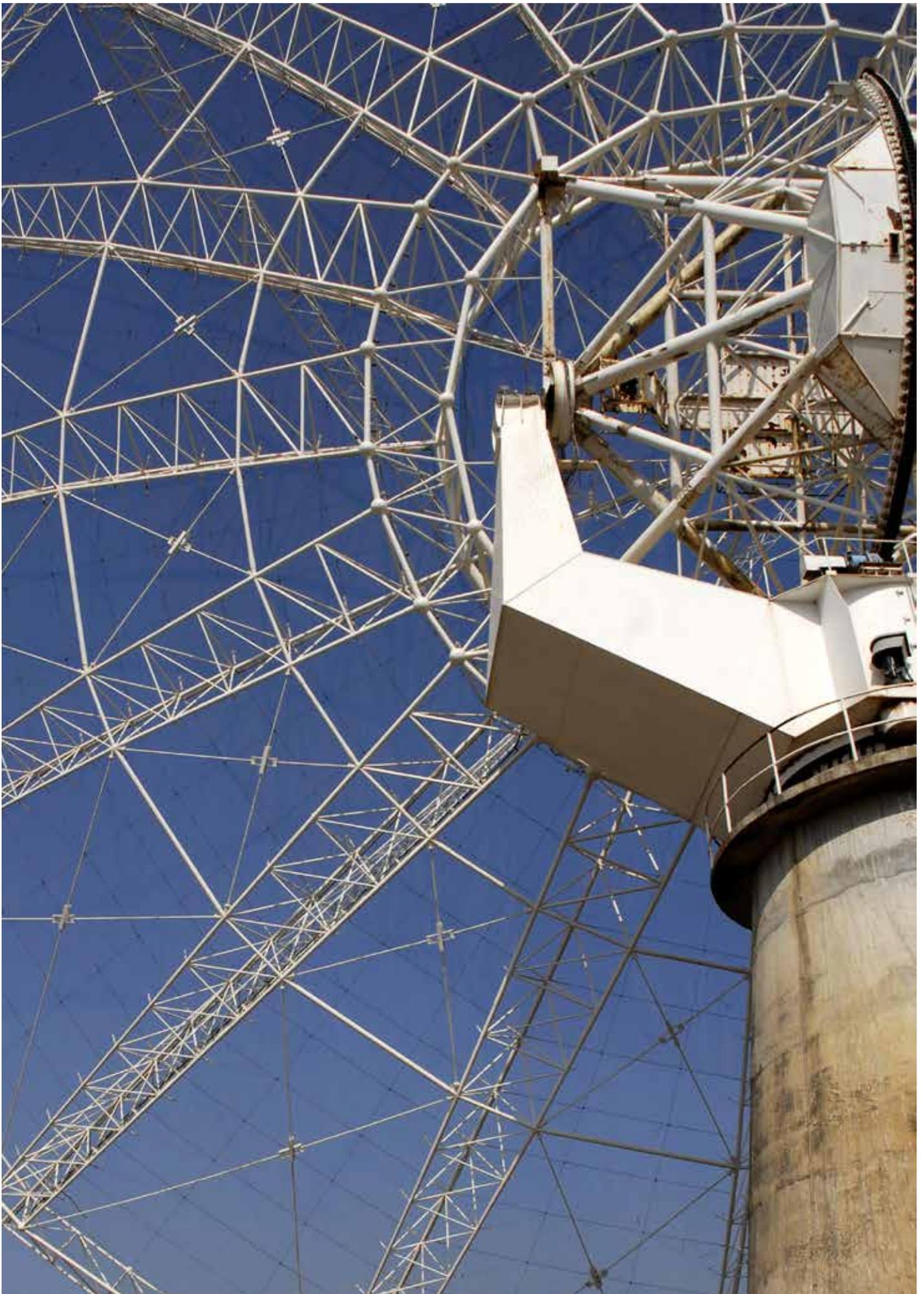
Figure 5. Operator ROIC by region



Source: Capital IQ, EY analysis.

This worrying trend reflects a number of factors – including intensifying competition from low-cost providers and OTT service providers, and high capital investment required to meet rising demand for mobile data. While regulation of some service areas, such as wholesale fiber access in Europe, is less prescriptive than in the past, competition rules are seen inhibiting more benign market structures.

Overall, 2014 finds the global telecoms industry on the threshold of major opportunities – but also facing significant risks in pursuing them. Those operators with the clearest understanding of the nature and impacts of these risks will be best-placed to win the race for profitable growth. We'll now examine the top 10 risks that we believe operators worldwide should be focusing on over the coming year.



The top 10 risks in telecommunications

1

Failure to realize new roles in evolving industry ecosystems

see page 11

- ▶ New growth opportunities require new value chain positioning
- ▶ Sharing customer ownership with disruptive players

2

Lack of regulatory certainty on new market structures

see page 13

- ▶ Attitudes to consolidation and cross-sector relationships are in flux
- ▶ Operators must help shape new regulatory attitudes

3

Ignoring new imperatives in privacy and security

see page 15

- ▶ Consumer trust levels are in decline as regulators revisit data protection guidelines
- ▶ New opportunities are opening up for differentiation

4

Failure to improve organizational agility

see page 17

- ▶ Greater agility is essential in a more diverse industry ecosystem
- ▶ Fostering flexibility and innovation from within

5

Lack of data integrity to drive growth and efficiency

see page 19

- ▶ Data integrity requires organizational overhaul ...
- ▶ ... and moving from big data to better data

Lack of performance measurement to drive execution

see page 21

6

- ▶ Turning digital strategy into business reality ...
- ▶ ... requires new metrics to unlock measurable progress

Failure to understand what customers value

see page 23

7

- ▶ Customer confusion limits appeal of new services
- ▶ Balancing simplicity with flexibility in the proposition

Inability to extract value from network assets

see page 25

8

- ▶ Addressing a wider mix of network technologies – and of potential rivals
- ▶ Driving more value from a heterogeneous network landscape

Poorly defined inorganic growth agenda

see page 27

9

- ▶ M&A needs are evolving in new directions ...
- ▶ ... as operators seek to make the most of a wider partnering landscape

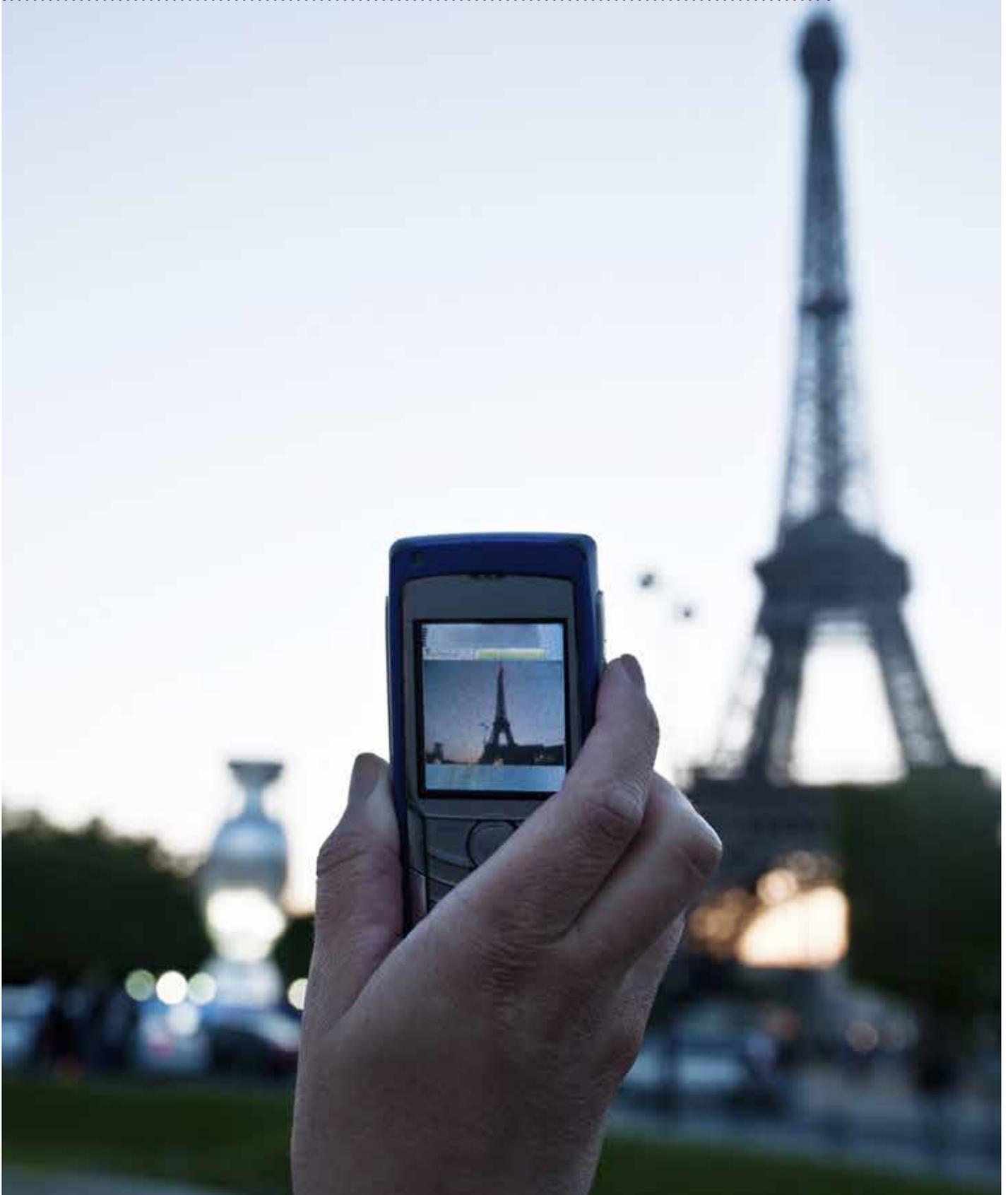
Failure to adopt new routes to innovation

see page 29

10

- ▶ Sourcing innovation at an earlier stage
 - ▶ Attracting and sustaining a wider range of talent
-

The top 10 risks in telecommunications



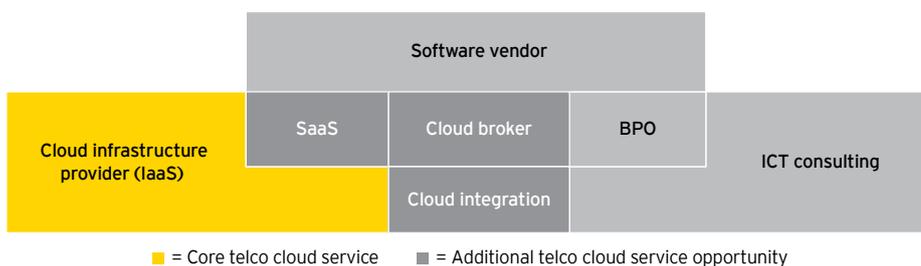
Failure to realize new roles in evolving industry ecosystems

New growth opportunities require new value chain positioning

As operators focus on pursuing the fresh vistas of growth opportunity now opening up, not only must they change their business models – a process that many have started – but they must also adapt to new roles across a growing number of industry value chains.

For example, as telcos have moved into cloud service delivery stretching across enterprise ICT services, many have seized the opportunity to play a key role in providing infrastructure-as-a-service (IaaS) solutions. But from there they can also go on to realize higher value by doing more, such as aggregating services from IT specialists as a cloud “broker” or acting as a channel partner for software-as-a-service (SaaS) vendors (see Figure 6). In such scenarios, existing partnering arrangements will need to be revisited as new forms of cooperation emerge.

Figure 6. Telcos' potential scope for cloud service offerings



Source: EY analysis.

New digital growth opportunities are attracting a number of participants from different industries, ensuring that value chains are both volatile and rapidly evolving – with startups taking new roles in growth areas such as mobile point-of-sale (mPOS) solutions and with consolidation under way at various points in the value chain as service providers seek scale in sectors like mobile advertising. For operators, such developments open up opportunities to extend their wholesale focus and engage in “white-labeling” of services and platforms for a wider range of customers.

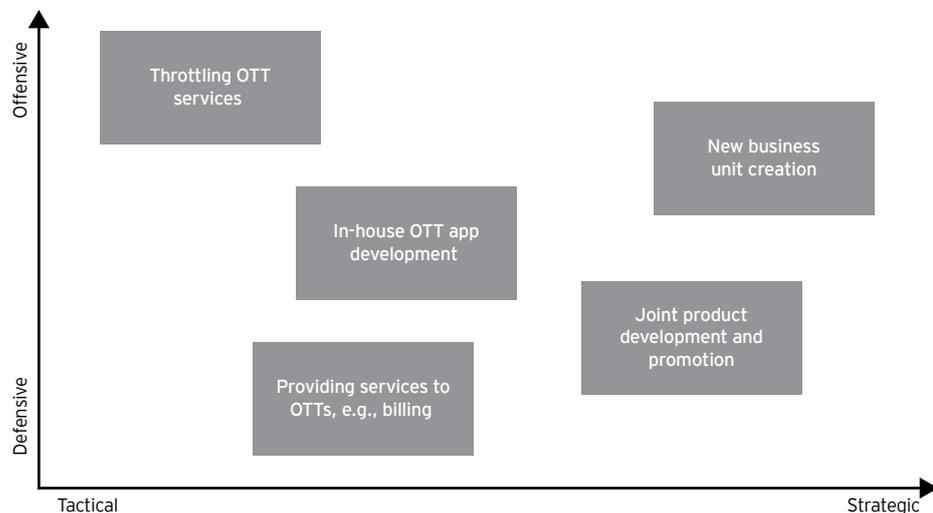
Sharing customer ownership with disruptive players

The evolution of value chains also brings operators' interrelationships with OTT players to the fore. In many cases, OTT providers have created more appealing alternatives to traditional offerings – for example, with mobile instant messaging services offering greater functionality compared to traditional SMS.

The question for operators is whether they should try to emulate these OTT alternatives by developing cross-platform apps in-house or partnering proactively with these players to deliver a richer customer experience. Options here include bundling music streaming as part of mobile data packages but excluding data traffic on that app from the customer's monthly data allowance.

As more and more operators choose to partner with application providers, a number of tactical and strategic options emerge. This in turn opens up a range of potential ecosystem positions for telcos, including forging exclusive partnerships with OTT players, engaging in joint product development or even providing services such as billing to OTTs themselves. A number of these various ecosystem positions are illustrated in Figure 7.

Figure 7. Telco approaches to OTT service provision



Source: EY analysis.

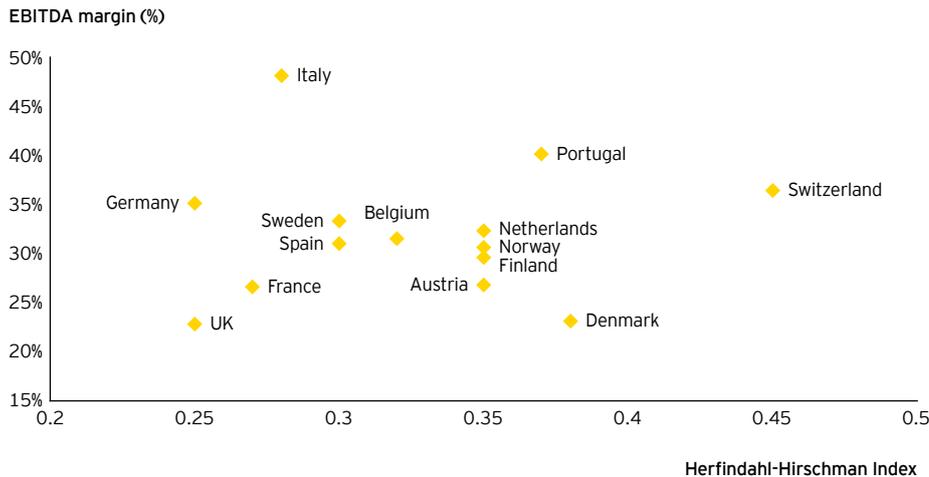
Operators can choose to occupy a range of positions within a single ecosystem in order to maximize the possibilities for value creation. There are already signs that different value chains themselves are combining to create new types of interdependencies – the convergence of mobile payments and location-sensitive marketing capabilities is a case in point. As a result, operators must take a holistic view of new digital ecosystems, considering how they are likely to expand as customer needs change and complementary use cases arise.

Lack of regulatory certainty on new market structures

Attitudes to consolidation and cross-sector relationships are in flux

A combination of factors – including price deflation driven by competition from OTT providers and adjacent market players such as cable companies and unbundlers moving into mobile services – mean market conditions for operators remain highly challenging. Using the Herfindahl-Hirschman Index of market concentration, European markets vary significantly in terms of concentration of market share. At the same time, profit margins remain below average in markets such as the UK, France and Austria, where aggressive fourth market entrants have driven long-term price erosion.

Figure 8. Mobile market concentration and profitability



Source: EY analysis.

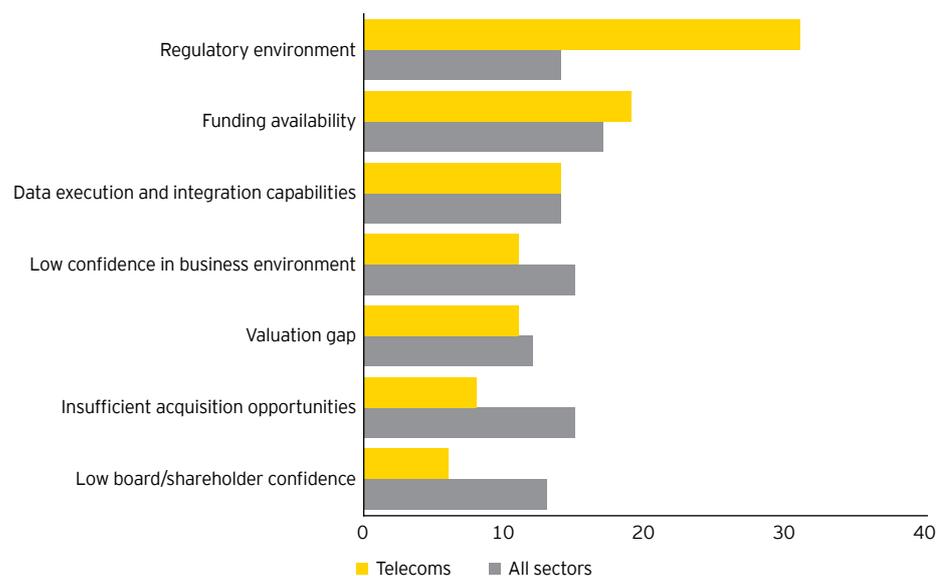
Against this background, stressed European operators see consolidation as a route toward more rational market structures – which they hope will in turn help to justify higher levels of network investment at a time when 4G take-up in the region is lagging other markets worldwide and spectrum costs remain high.

In emerging markets, spectrum shortages and low telecoms prices mean more rational market structures are also envisaged – either through consolidation or new wholesale mobile broadband networks.

Although regulators recognize the need to reform existing rules to drive industry growth, attitudes to in-market consolidation remain unclear, with antitrust reviews of proposed mergers proving contentious. An EY survey of senior executives found that the regulatory environment is the leading reason for telcos not to pursue acquisitions.

Figure 9. Deal inhibitors in telecoms M&A

Q. What is your primary reason for not pursuing acquisitions in the next 12 months?



Source: *Capital Confidence Barometer*, EY, April 2014 (survey of 1,600 senior executives including 56 telcos).

At the same time, net neutrality issues are coming to the fore following legislative proposals and court rulings in Europe and the United States. Nevertheless, policy approaches in this arena also lack clarity, with competing viewpoints on how an open internet can function most effectively – and for the benefit of operators and content distributors alike.

Operators must help shape new regulatory attitudes

Breaking this logjam will require action and commitment from telecoms providers. Regulators already understand the need to balance pro-competition and pro-investment policies. But, to drive progress, operators need to seize the initiative by prioritizing shared industry positions and re-evaluating the relative merits of in-market consolidation – including conditions attached to mergers – versus network sharing and other synergy drivers.

Looking ahead, operators and regulators both need to focus on market structure-related issues such as wholesale mobile network provision. Other key areas include the provisions around spectrum release, licensing and sharing. The release of new sub-1GHz frequency can support long-term growth in mobile data and provide associated uplift in economic productivity – and shared, well-informed industry positions can help shape policy agendas in this regard.

At the same time, operators' ability to innovate their business model will depend on new relationships with other industry entities. Definitions and frameworks of the open internet are likely to evolve gradually in ways that balance end-user freedoms with incentives for players across the value chain to compete, invest and develop innovative services.

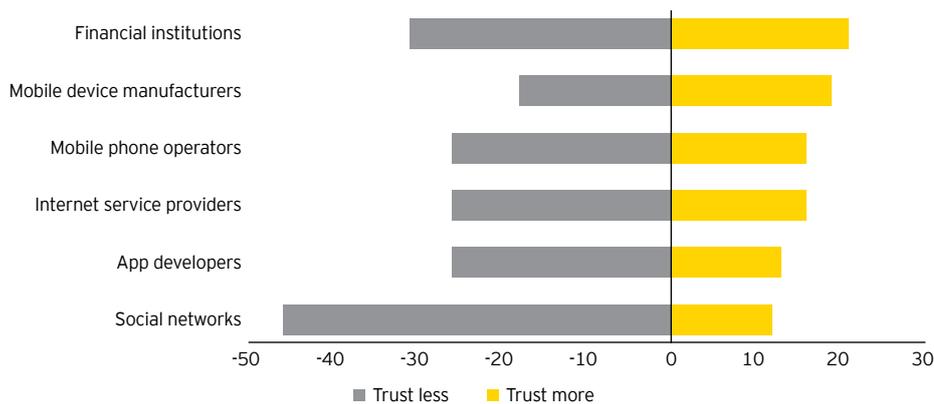
Ignoring new imperatives in privacy and security

Consumer trust levels are in decline as regulators revisit data protection guidelines

In the wake of recent negative headlines about telecoms and data privacy, the levels of consumer trust levels in various service providers are in decline. However, as Figure 10 shows, while trust in mobile operators and ISPs is falling, consumers' attitudes toward other ecosystem players such as app developers and social networks have declined even faster.

Figure 10. Changing consumer trust levels in organizations

Change in trust in the past 12 months by organization type (%)



Source: "The Future of Digital Trust," Orange, February 2014 (2,023 online respondents in France, Poland, Spain and the UK).

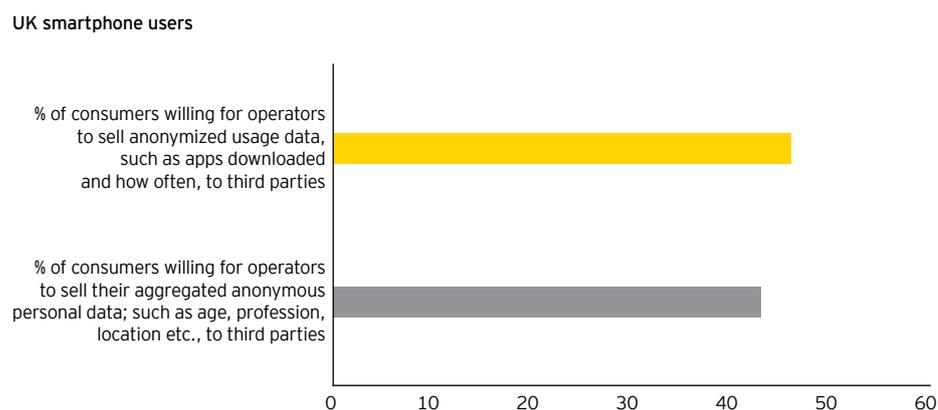
The uncertainty and concern around data privacy and security are being exacerbated by an escalating political and industry debate, which is expanding into new areas such as data sovereignty and internet governance. Countries from Germany to Brazil are considering new ways of ensuring the integrity of national data amid a rising focus on cross-border collaboration to provide greater global consistency of cybersecurity policies.

At the same time, existing regulation remains in a state of flux following the Edward Snowden revelations. The EU's data retention directive, established in 2006 to help combat serious crime and terrorism, is now deemed a threat to digital rights, and the EU is preparing full-scale overhaul of data protection and online privacy safeguards through general data protection regulation (GDPR).

New opportunities are opening up for differentiation

The unease over data privacy has contributed to highly ambivalent attitudes among consumers over companies' access to and reuse of their personal data. Some customer segments are willing to release personal identification and usage data on an anonymized basis. However, many consumers believe that information on customer purchasing and related behavior benefit companies gathering big data more than end users themselves.

Figure 11. UK smartphone users' attitudes toward use of anonymized personal data



Source: Guavus, May 2013.

By catering to these ambivalent attitudes on personal data, operators have an opportunity to drive trust levels that can in turn help to unlock new service scenarios. For example, improved privacy and security features are vital to the take-up of services such as mobile payments. On the enterprise side too, demand is rising for secure cloud and connectivity services, with the physical location of data playing a far greater role in cloud purchasing behavior and higher levels of due diligence now conducted on cloud providers.

By adding enhanced privacy and security features to their service propositions while understanding the quid pro quo involved in the repurposing of big data, operators can reverse declining levels of trust among end users. At the same time, proactive stances are required on privacy and security issues with partners and policy-makers so that new demands for data sovereignty, personal data privacy and cybersecurity – which may vary according to geography – can be reconciled in the long term.

Failure to improve organizational agility

Greater agility is essential in a more diverse industry ecosystem

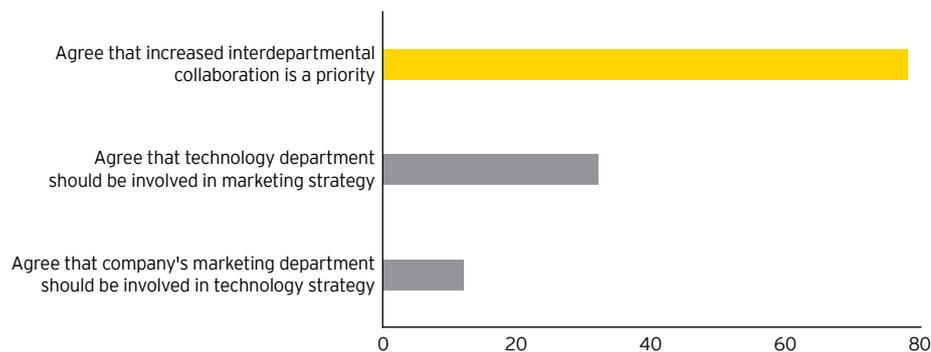
The need to seize innovation opportunities and defend their legacy market positions will require operators to overhaul their siloed organizational structures for more flexibility and agility. While operators have moved in recent years from network-centric to customer-facing structures, and in some cases have also added new digital and app-focused business units, they essentially remain highly complex, multi-local organizations with a mixture of product- and geography-oriented business units.

Simplifying and streamlining these structures while driving new forms of interaction within organizations will be vital if telcos are to cope with a range of escalating trends. These include the need to develop and launch new service propositions more quickly as technology cycles shorten, proving more responsive in the face of disruptive competition from smaller, more agile innovators, and creating the flexibility to interact with customers, partners and suppliers in new ways.

The challenges to achieving these goals are illustrated in Figure 12. While most of the European operators surveyed by Comptel agree on the importance of interdepartmental collaboration, only a handful believe that the marketing function should be involved in formulating the technology strategy. This suggests that many executives' existing commitment to increased collaboration within their organizations fails to focus on the more granular aspects of teaming across business functions.

Figure 12. Operators' views on collaboration within the organization

% EMEA operator respondents



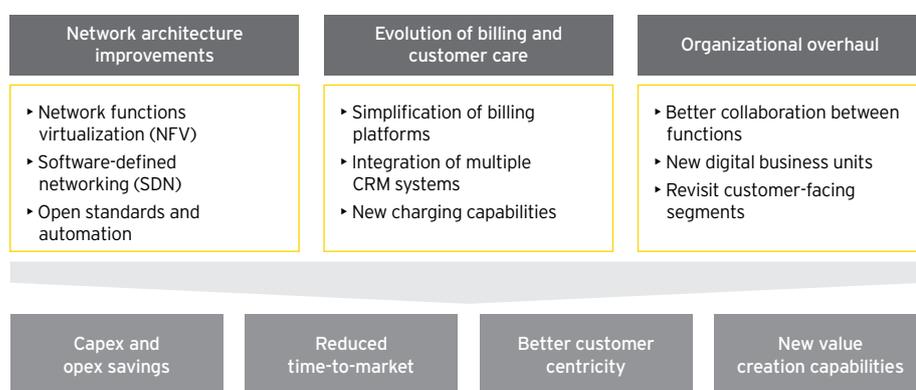
Source: "What Telco CMOs and CTOs/CIOs Are Thinking in 2014," Comptel, January/February 2014.

Fostering flexibility and innovation from within

Effective and committed leadership will be vital in overcoming such entrenched, siloed attitudes. As such, matrix structures can be adapted to enable collaboration at various levels, whether in terms of customer segments, business functions, geography or products. For example, greater collaboration between enterprise and wholesale sales teams can help operators become more nimble as delineations between different customer types start to blur. At the same time, a “launch and learn” mindset may help operators expand their product mixes at a time when the pace of service innovation across ICT is quickening.

It is also important for operators to take a flexible approach to “how” and “where” innovation is housed in the organization. While a range of options is available, including the carving-out of new digital business units, issues such as governance and oversight require attention. Rather than sudden reinvention of the organization, for example, incremental overhaul may bring greater long-term benefits, ensuring that agility permeates all parts of the business.

Figure 13. Opportunities for transformation of people and processes



Source: EY analysis.

While changes to organizational structures and cultural mindsets form the basis for operators aiming to boost responsiveness, the evolution of systems and processes is no less important as telcos look to strike a balance in generating efficiencies and creating value, as shown in Figure 13.

Improvements to network architecture in the form of virtualized functions can help reduce vendor lock-in and speed the development of new services, while the simplification of billing platforms and integration of multiple customer relationship management (CRM) systems can pave the way for a better, more personalized customer experience. In this light, a holistic approach to organizational transformation that considers both people and processes is vital if agility in the widest sense is to be achieved.

Lack of data integrity to drive growth and efficiency

Data integrity requires organizational overhaul ...

Operators are widely perceived as having a natural competitive advantage in the big-data arena compared to other industries due to their legacy of strong customer, network and product information assets. However, the volume and diversity of such information creates additional challenges for telcos as they look to create value within and beyond their organizations through big data.

Big-data strategies are gaining traction at many leading telcos. However, early forays into the repurposing of various data sets reveal a number of challenges, with a lack of cooperation within the organization, lack of leadership understanding and commitment around the importance of data, and fragmentation of data sources all impeding progress. Figure 14 highlights the issues facing operators as they seek to monetize their information assets.

Figure 14. Challenges facing operator big-data projects

% industry participants citing challenge as very important



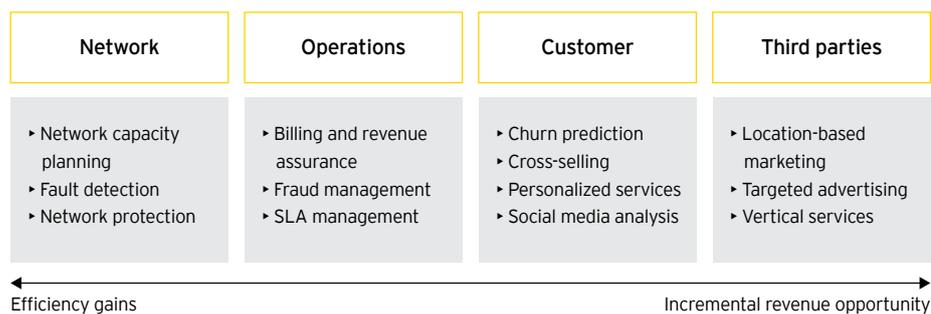
Source: "Industry survey 2014," Telecoms.com, February 2014 (2,100 respondents).

... and moving from big data to better data

Given these challenges it is perhaps unsurprising that the proportion of IT budgets projected to be devoted to big-data solutions is set to expand significantly in the coming years. Yet this alone is no guarantee that operators will generate value from big data: long-term benefits will require carefully delineated strategic visions to be balanced with operational excellence.

With this goal in mind, value opportunities from big data must be defined and prioritized. Many internal use cases for big data are inherently interrelated, such as customer retention, up-sell and customer experience improvements. For example, successful early initiatives in customer retention can inform later projects where data is repurposed for third parties. As Figure 15 shows, big-data use cases can range from network via operations and customers to third parties, providing a spectrum of prospective benefits ranging from efficiency gains to incremental revenues.

Figure 15. Sample big-data use cases for telcos



Source: EY analysis.

To make the most of big-data assets in a collaborative environment, operators need to build higher trust levels with third parties, including overhauling traditional partnering frameworks, particularly for use cases where confidentiality is paramount, such as the sharing of patient health care information. This shift needs to include more consultative engagement with vendors, who can add big-data functionalities to existing competencies in CRM and educate operators on the advantages of cloud-based business intelligence solutions. At the same time, increased data privacy commitments will help consumers feel comfortable with propositions that repurpose customer information for third parties.

Finally, operators will need to develop competencies within their organizations in order to maximize their big-data strategies. Other industries have created chief data officer roles in recent years – and telcos could benefit from similar moves given the already stretched responsibilities of CIOs and the need for leadership and effective resourcing of analytics capabilities. In addition, explicit pain points may exist in terms of machine-learning specialists and data scientists, which can be addressed through external hires.

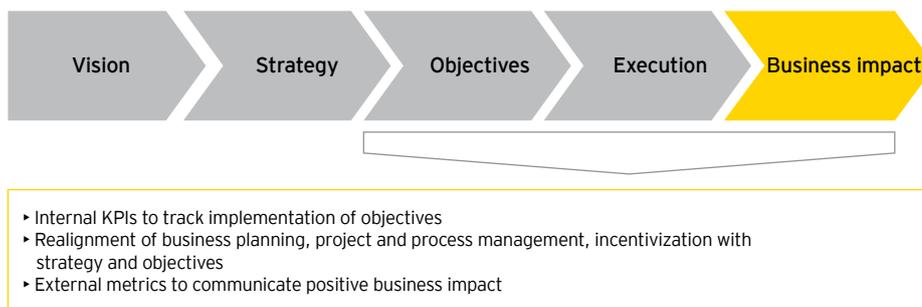
Turning digital strategy into business reality ...

Many – if not most – of today's leading operators worldwide have clear and well-articulated strategies in place that define their transformation initiatives and map out routes toward digital growth. However, as in any fast-moving industry, formulating the strategy is the easy part. Execution is much harder.

For operators, translating the strategy into actionable steps that deliver genuine business impact is especially challenging for several reasons, as summarized in Figure 16. These include a lack of established internal metrics to measure progress against new digital objectives and targets, and of external metrics that can communicate financial and operational performance in new ways. Meanwhile, short-term business planning processes are often out of step with the long-term strategic visions.

Both of these factors can combine to create an absence of accountability and of appropriate incentives to reach targets. Meanwhile, existing project and process management frameworks can remain detached from wider strategic principles, making it more difficult to set achievable objectives in the first instance, let alone assess their positive business impact. In this light, such shortcomings can undermine execution and render the strategy largely ineffective.

Figure 16. Relationship between strategic vision and business impact



Source: Redknee Survey.

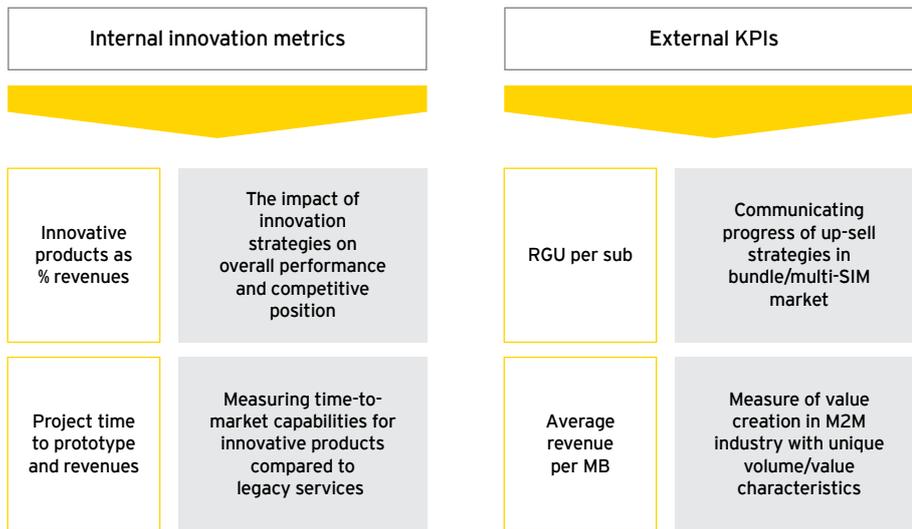
... requires new metrics to unlock measurable progress

In order to prioritize effective execution, operators must overhaul their business planning and metrics – enabling them both to drive and also demonstrate measurable progress against their strategic targets. Business planning is often annual, while guiding strategies consider a five-year timeframe. These cycles need to become much more closely aligned.

Lack of performance measurement to drive execution

Metrics transformation is equally vital. This involves the creation of new internal metrics to track implementation of objectives within the organization, and new external metrics to communicate the positive business impact of transformation and innovation initiatives. The case for revisions to external metrics is even stronger given that legacy KPIs – such as minutes of use (MOU) or average revenue per user (ARPU) – fail to reflect pronounced changes in the revenue mix, tariff structures and multi-device ownership. Figure 17 showcases examples of both internal and external metrics that are now being tracked by forward-looking operators to support their strategy execution.

Figure 17. New internal and external metrics for telcos



Source: Forrester Consulting.

Once the new metrics have been defined, they will need to be updated and enhanced over time to reflect changing customer definitions and use cases. They can also be used to provide greater insight on issues in the wider business environment, such as corporate sustainability initiatives, or to provide greater detail to regulators on service availability, for example.

Failure to understand what customers value

Customer confusion limits appeal of new services

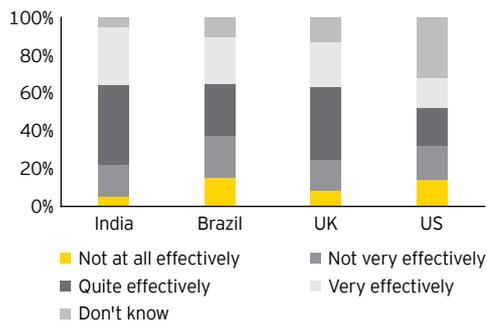
A significant risk facing telecoms operators today is failing to understand and address evolving customer needs and expectations. As operators widen their service portfolios, care must be taken to ensure that customers' real needs are being met. Operators seeking profitable growth must understand what customers want and then provide a better and more relevant end-user experience.

If telcos fail to do this, it is not only the immediate adoption rate for new services that is at stake. Operators' long-term brand affinity with customers is also under threat, with large technology companies now consistently outscoring telcos in global brand surveys while fleet-footed OTT players continue to redefine customer expectations in new ways.

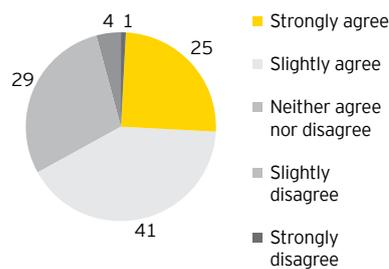
Worryingly, research by EY suggests that many telcos may be focusing on the wrong areas. As Figure 18 shows, a significant proportion of consumers don't understand their mobile data tariffs. Such concerns are likely to increase as tariff options multiply in a tiered data pricing environment and there is a positive correlation between tariff understanding and willingness to try new services. And while many operators emphasize higher speed as the main selling point of their broadband offerings in fiber markets, our research shows that households are actually more concerned with service reliability.

Figure 18. Consumers' views on mobile data tariffs and broadband speeds

Q. How well do you understand the mobile data tariffs offered by your service provider?



Q. Do you agree that the reliability of your broadband connection is more important than speed? (UK households)



Source: *The mobile maze*, EY, October 2012 (online survey of 6,000 mobile users in 12 countries); *The Bundle Jungle*, EY, December 2013 (online survey of 2,500 UK households).

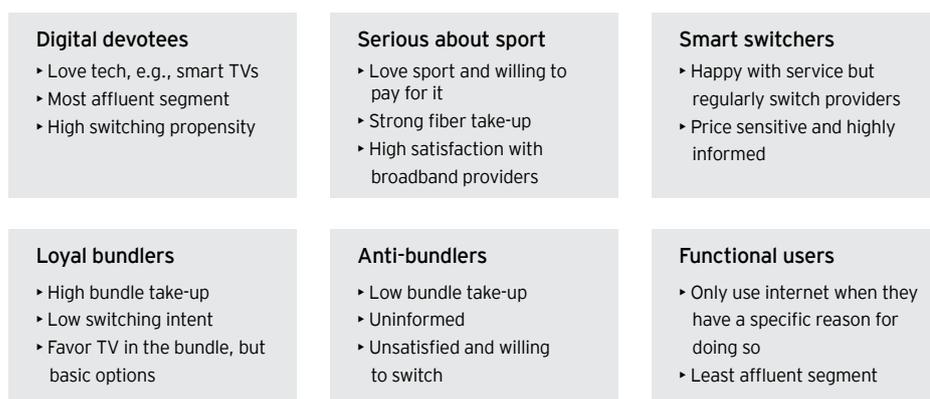
Balancing simplicity with flexibility in the proposition

To close the gaps between what customers want and what telcos provide, operators need to focus their attention on those elements of the offering that are pivotal to successful customer engagement – including the regular bill. While consumers want more choice, they also want to understand what they are buying – and with today's telecoms services these two objectives are often at odds.

To bring them back into alignment and drive service take-up, operators need to balance simplicity and flexibility of tariff options as a gateway to new user experiences and assess customers' propensity to aggregate different services from a single provider to maximize up-sell. Sensitivity to local market factors remains vital due to differences in data consumption and pricing models and exposure to competing brand affinities from market to market.

These demands are making improved segmentation of customers increasingly important, as the boundaries blur between previously distinct segments such as SMEs and corporates. In some cases, even relatively small SMEs now require sophisticated international wireless services, making data-roaming packages and differentiated service levels much more important.

Figure 19. Segmentation of UK residential broadband households



Source: *The Bundle Jungle*, EY, December 2013 (online survey of 2,500 UK households).

As the residential bundle market enters a new phase of evolution, with an increase in quad-play and smart home service options, operators can also leverage attitudinal insights to bring out further nuances that define customer groups. As highlighted in Figure 19, the most affluent and technology-centric customers may also be the least loyal, while sensitivity to customer service differs markedly between different segments.

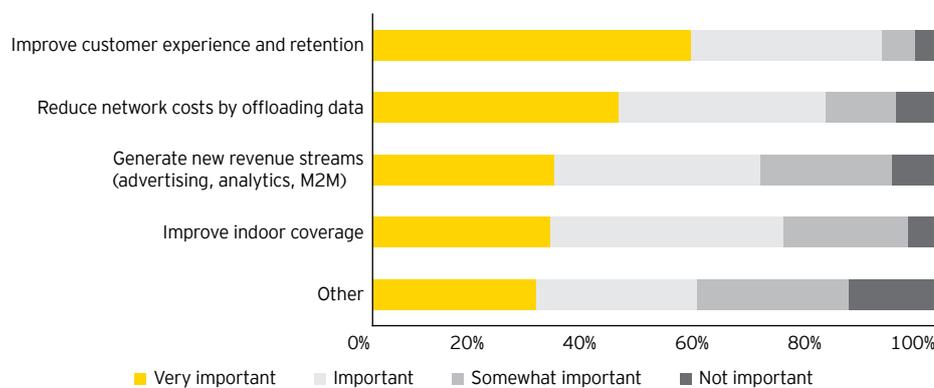
Inability to extract value from network assets

Addressing a wider mix of network technologies – and of potential rivals

Despite operators' ongoing moves to share mobile network assets or jointly construct fiber networks, differentiation through network quality remains vital. While rollout of LTE technology has been aggressive in most regions, outpacing the advent of 3G a decade ago, the network landscape is increasingly heterogeneous, featuring a wider range of complementary and competing technologies.

Wi-Fi technology is becoming an increasingly important part of the network technology mix for mobile players, fixed-line telcos and cablecos, stimulating increased competition in the process. While mobile data offload using Wi-Fi is well established among mobile operators, a range of industry actors now see Wi-Fi opening up a range of benefits, from improved customer loyalty to the creation of new revenue streams via analytics and advertising.

Figure 20. Wi-Fi use cases for operators



Source: "Global Trends in Public Wi-Fi," Wireless Broadband Alliance, November 2013.

At the same time, disruptive new entrants are using innovative business models to target gains in telcos' traditional heartland of access infrastructure. Web giants are sizing up manufacturers of high-altitude drones as acquisition targets, with an eventual aim of leveraging atmospheric satellites to provide wireless connectivity to communities, typically in developing markets, that lie out of reach of traditional cellular networks. Meanwhile, some players are considering the use of ultra-narrow-band (UNB) radio technology to offer M2M services, again in a way that sidesteps use of established technologies.

Driving more value from a heterogeneous network landscape

In an increasingly heterogeneous network landscape where disruptive competitors are shifting their focus from services to infrastructure itself, operators are under greater pressure to provide a reliable and seamless customer experience – a challenge that is growing as operators roll out and manage a wider mix of technologies.

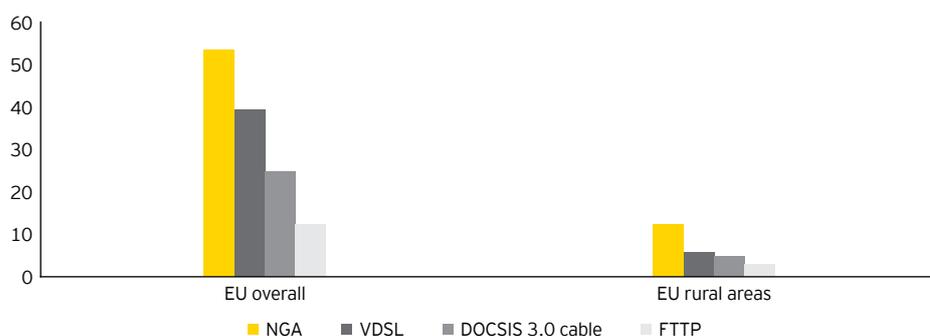
Greater focus is required to provide a seamless customer experience in a Wi-Fi environment. Integrating Wi-Fi with mobile networks in a way that allows control over the network control and selection process is vital, and operators can take advantage of industry standardization and certification efforts.

Operators should also focus on extending use cases for LTE beyond high-speed mobile data per se: premium data roaming and LTE broadcast are just two areas where more can be made of differential network capabilities. Small cells also have a more important role to play to support reliable mobile data connectivity in both an indoor and outdoor environment, particularly for enterprises. While issues such as interference have historically held back adoption, operators can work more closely with vendors to tackle new challenges such as site adoption.

Meanwhile, supporting technologies have an important role to play in the fiber market. Given the capex burden involved in meeting ambitious fiber coverage targets, technologies such as vectoring and bonding allow operators to extend the life of their copper assets, providing improved performance at a lower cost. At the same time, newer developments such as G.Fast and fiber-to-the-distribution point can also speed fiber deployments. This is vital if next-generation access infrastructure is to grow in line with regulatory demands – current coverage levels remain low, as illustrated in Figure 21.

Figure 21. EU super-fast broadband population coverage by technology

EU-27 Population coverage at YE 2012



Source: "EU NGA Scorecard," European Commission, November 2013.

Looking ahead, operators must ensure that they keep track of innovations from disruptive competitors seeking to bypass traditional telecoms infrastructure, while also monitoring emerging technologies such as Li-Fi. Given the importance of spectrum as the lifeblood of the mobile sector, operators must ensure they align their network roadmaps to long-term spectrum release frameworks that will see attractive sub-1GHz frequencies made available and public sector spectrum holdings repurposed for wireless use.

Poorly defined inorganic growth agenda

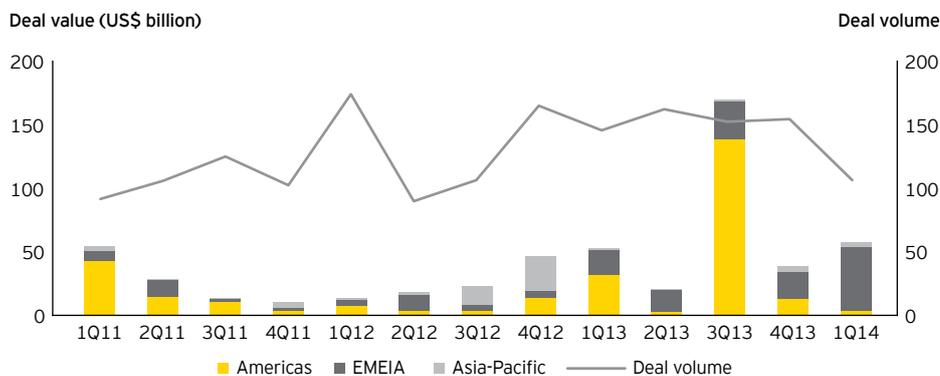
M&A needs are evolving in new directions ...

The rapid evolution of the telecoms landscape is having a profound impact on companies' M&A strategies, as they evaluate existing and new ways to build scale in the right areas, acquire capability and boost credibility.

The current environment is seeing in-market consolidation progress in both developed and emerging markets, coupled with acquisitions and disposals in adjacent market segments as operators look to improve their positioning in the value chain. However, operators face growing challenges in managing their portfolios, as the legacy concepts of scale advantages – and of what constitutes “core” and “non-core” aspects of their businesses – continue to change.

One impact of these shifts is that more M&A deals are being struck globally in the industry – 625 in 2013, compared to 544 in 2012 and 432 in 2011. As Figure 22 shows, deal values are also trending upward, reflecting a number of M&A themes, from more ambitious consolidation scenarios to a new round of footprint growth strategies, whether in core or adjacent market segments.

Figure 22. Global telecoms M&A – quarterly deal value and volume



Source: Capital IQ, EY analysis.

... as operators seek to make the most of a wider partnering landscape

Despite the return of transformational M&A, partnerships are more important than ever as operators seek low-cost routes into new market segments or build scalability into existing service propositions.

In this regard, partnering needs are becoming more diverse. On the one hand, horizontal partnerships are becoming increasingly vital to support emerging mobile technology use cases, whether mobile payment platforms at a national level or M2M connectivity at a global level. In such scenarios, operators must consider how such alliances can spur the development of differentiated service propositions, and how far local market tie-ups can

be replicated in other parts of operator footprints. Greater agility is needed in horizontal partnerships, so that strong coverage credentials in areas like mobile payments and identity are matched by speed to market, while partnering frameworks should also build in the ability to welcome new partners to existing initiatives. Such considerations are vital if operator alliances are to compete effectively with disruptive technology specialists.

Figure 23. Sample partnering opportunities for telcos

Horizontal partnerships	Vertical partnerships
M2M services	Systems integrators
Mobile payments and marketing	SaaS providers
Mobile identity services	Financial institutions
Network infrastructure	Device/module manufacturers
Procurement	OTTs and startups

Source: EY analysis.

Vertical partnerships, as illustrated in Figure 23, are also evolving in a range of ways, triggered by the need to combine competencies and create new customer experiences. In this light, cross-sector alliances and joint ventures are increasing, making robust partner screening and selection processes all the more important as innovation becomes a shared responsibility.

As such partnerships grow more diverse, operators must ensure that governance and decision-making processes are also clear and flexible. Regular reviews of partners' aims and ambitions are vital if tactical tie-ups with financial institutions and vehicle manufacturers are to mature into long-term strategic alliances that provide mutual benefits. Meanwhile, areas of long-standing cooperation – between telcos and systems integrators, for example – should also be revisited as technology cycles shorten and customer needs become more complex.

Failure to adopt new routes to innovation

Sourcing innovation at an earlier stage

As the telco ecosystem evolves and reshapes, getting to market first with new service propositions is a primary route to value. Operators need to ensure that they stand at the cutting edge of innovation rather than act as fast followers – and that they respond by engaging and interacting with the world of technology startups in new ways, while also looking to attract the best in new talent

Innovation funds can play a valuable role in allowing telcos to source, support and ultimately acquire new capabilities at an earlier stage – and also far more cost-effectively than would be the case once those technologies were mature. Target market segments are diverse, stretching well beyond the world of innovative applications toward virtualization and ultra-low-power technologies. Figure 24 shows a selection of recent telecoms innovation fund announcements, underlining the opportunities they can present for telcos to work not just with startups but also a public sector that increasingly views entrepreneurship as a source of improved national competitiveness.

Figure 24. Sample telecoms innovation fund announcements in 2014

Date	Entity	Innovation fund details	Fund value
Mar-14	Indian Government	Indian Government plans to set up a VC fund to identify sourcing of raw materials, R&D support and innovation required for manufacturing telecoms equipment	US\$1b
Feb-14	Telecom Italia	1.5m a year seed investments in a range of start-ups including digital and green ICT - part of WCAP project and four Italian business accelerators	€4.5m
Feb-14	SK Telecom Americas	VC arm of SK Telecom launches Innovation Accelerator to support early-stage start-ups in data center, telecom and IT technologies	US\$750k per start-up
Jan-14	Telefonica/Orange	TEF and FT are founding partners of EC's Startup Europe Partnership, designed to build bridges between Europe's start-up, corporate and investment communities	N/A

Source: Company announcements, EY analysis.

Operator innovation funds can also play an important part as broader digital initiatives that leverage existing venture capital arms and innovation facilities. As telcos focus on an enabling role for new technologies, startups can leverage telcos' strengths in networks and distribution, while the operators involved can both drive and also benefit from demand for startup-driven innovation in new geographies.

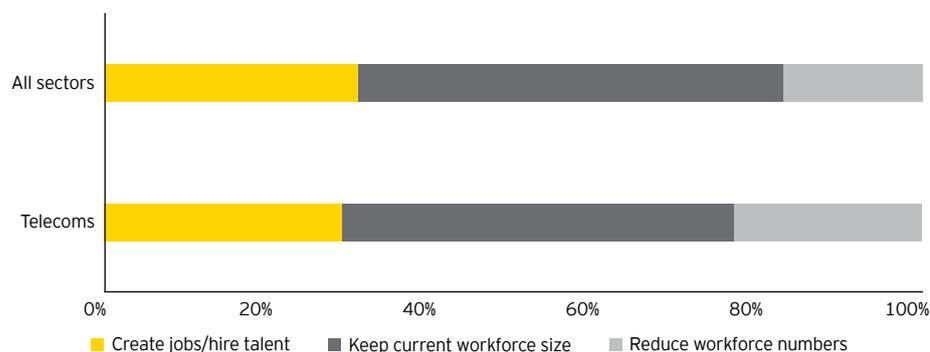
Attracting and sustaining a wider range of talent

As telcos seek new forms of growth, a key differentiator alongside access to innovation will be the ability to attract and sustain new types of talent.

To achieve this, operators must draw a distinction between the need for external hires versus up-skilling of the existing workforce, in the light of three imperatives: firstly, the need to align competencies and capabilities with future talent pools and ICT economies; secondly, the need to align talent with the strategic vision, such as the extent to which the business is looking to move into adjacent market spaces; and thirdly, the requirement for creative collaboration with suppliers and partners.

Figure 25. Operator attitudes to job creation

Q. With regard to employment, which of the following does your organization expect to do in the next 12 months?



Source: *Capital Confidence Barometer*, EY, April 2014 (survey of 1,600 senior executives including 56 telcos).

At present, operators underperform other sectors when it comes to creating new jobs and hiring talent, as highlighted in Figure 25. Looking ahead, this could become a pain point given their ambitions to enter new market segments. In this light, external hires can provide invaluable understanding of other industry verticals and market structures.

Ultimately, an organizational culture that recognizes, encourages and rewards talent and innovation across the enterprise is critical. New tools and metrics are needed to help build a cultural mindset where innovation is prized, while leadership buy-in is a must. The creation of new roles within the organization also has a strong role to play. The financial services sector has already benefited from the creation of chief data officer positions, for example, and telcos should take care to identify capability gaps in their leadership structure and new areas for empowerment within their organizations.

Below-the-radar risks for telecommunications operators

What's below the radar?

11. Failure to price effectively for value

Operators have already made significant strides in overhauling their pricing models for data. However, consumer and enterprise demands for shared data, sachet pricing and M2M bundles are growing, putting operators under continual pressure to refine their approaches

12. Failure to connect industry growth with socioeconomic gains

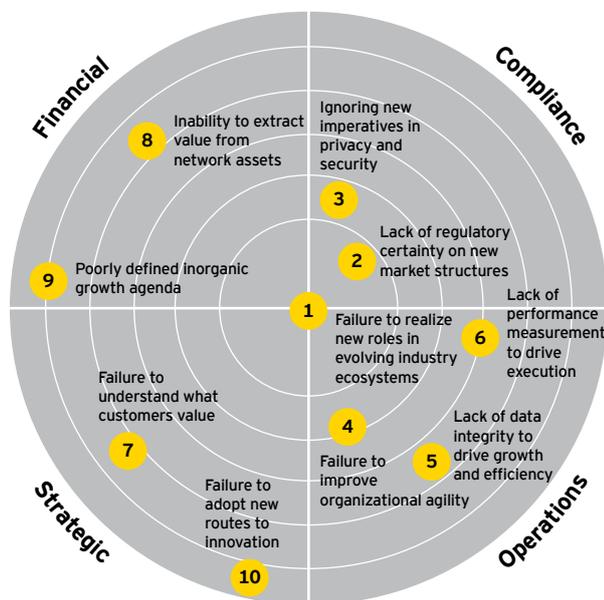
The interplay between the telecommunications sector and overall productivity growth has never been more important. Improved engagement with the public sector can build maturity into new use cases – while operators must articulate clear positions on tax and spectrum policies.

13. Poor engagement with suppliers

Relationships with suppliers have to evolve in new ways, based on a more consultative dialogue, as operators look to enhance their capabilities in network infrastructure and IT systems and processes. Supplier concentration is likely to vary significantly across different parts of the telecoms supply chain.

14. Falling short of robust investor relations

The way operators communicate growth and efficiency has to keep pace with a rapidly evolving industry landscape, where concepts of the customer and the profitability of new services require considered articulation.



Below the radar

- Failure to price effectively for value
- Failure to connect industry growth with socioeconomic gains
- Poor engagement with suppliers
- Falling short of robust investor relations



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