



2017 TELECOMMUNICATIONS
RISK FACTOR SURVEY

A SECTOR UNDER PRESSURE DURING A YEAR OF DRAMATIC CHANGE

The last twelve months have heralded dramatic and unexpected changes in the political, business and economic environment. Shocks to global economics and trade flows – from the United Kingdom voting to leave the European Union to the United States of America electing its most unconventional and nationalistic president in living memory – suggest that the tide of popular opinion may be turning away from globalisation. Cyber security and the vulnerability of consumer data held by large corporations have also dominated headlines with several high-profile cyber and malware attacks taking place over the last 12 months.

While these economic and technology trends impact all business sectors in different ways, their impact has been felt especially strongly by the telecoms sector. These short-term, unexpected risks have added further complexity to the long-term pressures faced by the sector such as increased competition, changing customer behaviour and declining demand for traditional voice telephony services.

Over the last year the winners in the telecoms sector have been those companies who have taken strides to proactively and successfully reshape their customer value proposition and innovate their operating model. Telecoms companies with deep pockets have begun making acquisitions in adjacent sectors such as media and technology. Within the last year two leaders of the US telecoms markets, AT&T and Verizon, have made acquisitions designed to establish themselves as leaders in the media sector too.

However, many telecoms companies still find themselves managing a period of sluggish revenue growth and a steady decline in profitability. Industry disruption means they are paying even greater heed today to risks that threaten their business model and future survival. This third edition of BDO's Telecommunications Risk Factor Survey reveals that telecoms companies are on high alert to future risks like never before. Each of the major risks for the telecoms sector that BDO has been measuring for the last three years have noticeably intensified over the last 12 months. To give just one example, risks arising from regulatory changes have nearly doubled, from 42% of telecoms companies who cited this as a significant risk last year to 80% this year.

To understand the risks, opportunities and challenges that are top of the agenda in the telecoms sector, BDO has investigated the risks self-reported by just under 60 of the largest fixed line and mobile telecoms providers, across 18 different global markets in the Americas, EMEA and Asia-Pacific. Our report shows consistent themes emerging, which have been clustered into five risk categories:

- 1 THE DIGITAL TRANSFORMATION AGENDA**
- 2 THE REGULATORY BURDEN**
- 3 THE GROWTH OF CYBER WARFARE**
- 4 THE VOLATILE MACROECONOMIC AND POLITICAL ENVIRONMENT**
- 5 THE INFRASTRUCTURE INVESTMENT CHALLENGE**

UK telecoms provider BT Group plc summarises the challenges facing the market well. In its latest report it highlights that "The market is going to get more difficult – not only because of the moves of our traditional competitors but also from players in neighbouring markets, as the dividing lines between industries keep blurring."¹ This sentiment is shared widely among the global telecoms companies profiled for this report.

For Bezeq, an Israeli-headquartered telecoms company, the impact of increased competition, particularly on the domestic fixed-line market from mobile operators and internet infrastructure providers, is significant. It reports that greater competition, "Has led to the churn of some customers, lowering of prices for part of the company's services, and to a rise in the costs of acquiring new customers and retaining existing ones."²



¹ BT Group plc, Annual Report 2016 - Broadening and deepening our customer relationships: <http://www.btplc.com/Sharesandperformance/Annualreportandreview/pdf/2016-Annual-Report.pdf> (March 2017).

² Bezeq, Periodic report for the year 2016, <http://phx.corporate-ir.net/External.File?item=UGFyZW50SUQ9Mzc0NTYzfENoaWxkSUQ9LTF8VHlwZT0z&t=1&cb=636281974798466053> (March 2017).

GLOBAL RISKS INTENSIFY: REGULATION, COMPETITION AND CYBER SECURITY RISE UP THE AGENDA

Since 2015 BDO has measured the critical risks reported by leading telecoms companies around the globe. Table 1 illustrates the top 25 risks reported in 2017 and how these risks have changed since 2015. All but three of the reported risks have increased in significance over the last three years, and half of these risks have increased by a factor of 10% or more. Among the risks growing most in significance are: increased competition (an increase of 22% on 2015), cyber security (up 32%), unfavourable litigation (up 26%) and regulatory change (up 35%).

2017 RANK	2016 RANK	RISK	2017 PERCENTAGE	2016 PERCENTAGE	2015 PERCENTAGE
1	=1	Interest rate fluctuations	93%	82%	81%
=2	=1	FX/currency fluctuations	87%	82%	82%
=2	4	Access to finance	87%	75%	76%
4	=1	Liquidity and cash flow risks	85%	82%	74%
=5	5	Increased competition	80%	60%	58%
=5	=7	Regulatory change and uncertainty	80%	42%	45%
7	6	Fast arrival of new technologies	72%	55%	48%
8	=7	Cyber security / data hacking	69%	42%	37%
9	12	Service and network interruption	65%	30%	52%
10	18	Unfavourable litigation	61%	20%	35%
11	=7	Macroeconomic uncertainty	59%	42%	52%
12	19	Infrastructure / poor capital investment	52%	17%	31%
13	17	Changing customer demand	46%	22%	42%
14	=20	Failure to meet obligations	43%	15%	26%
15	=13	Over-dependence on suppliers	41%	27%	47%
=16	=15	Reputational risk	39%	23%	37%
=16	=22	Customer Dissatisfaction	39%	13%	24%
=16	=22	Adverse impacts of acquisition or sale	39%	13%	24%
=19	=13	Recruiting and retaining talent	37%	27%	27%
=19	=16	Geopolitical / social risk in regions of operation	37%	23%	n/a
=19	=20	Supplier error	37%	15%	42%
22	=25	IP infringement	22%	12%	26%
23	=25	Union and employee unrest	19%	12%	n/a
=24	=22	Terrorism	15%	13%	n/a
=24	27	Bribery and corruption	15%	10%	n/a

Unsurprisingly finance risks remain top of the agenda as market volatility, pressure on profitability, and capital expenditure projects dominate the minds of telecoms executives. However, this year finance risks do not dominate the risk agenda in the way they did in 2015 and 2016. Instead a number of other risks follow closely behind: competition and regulatory change risks have both crossed the 80% risk threshold for the first time, and technology risk has broken through the 70% risk threshold. Risks that appeared on the telecoms radar for the first time last year – such as terrorism, employee unrest, and bribery and corruption – have all continued to grow in importance.

THE BDO VIEWPOINT

CHRISTIAN GOETZ, LEADER OF BDO'S GLOBAL TELECOMMUNICATIONS TEAM, BDO GERMANY

It is encouraging to see that telecoms companies are paying more attention to their future risks given the level of disruption and change we have witnessed within the sector over the last year. Our research highlights that the operational and strategic risks facing telecoms companies have a tangible and measurable impact on their financial performance. The telecoms companies we investigated paint a picture of an operating environment where underlying performance is challenging, organic growth is sluggish and profitability remains under intense pressure. The growth prospects of telecoms companies will depend on how successfully they can navigate the complex risk landscape ahead and reshape their businesses to take full advantage of future opportunities.

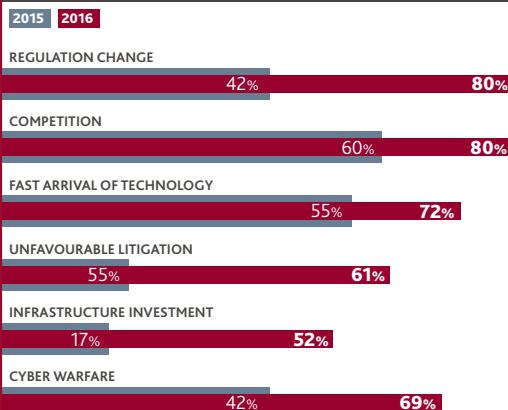
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THE DIGITAL TRANSFORMATION AGENDA

2017 TELECOMMUNICATIONS RISK FACTOR SURVEY

BDO has investigated the risks, opportunities and challenges of around 60 of the largest fixed line and mobile telco providers across 18 different markets.

RISKS WHICH HAVE SIGNIFICANTLY INCREASED FROM 2015



RISK 1 THE DIGITAL TRANSFORMATION AGENDA

Digital transformation represents one of the most significant risks facing the telecoms industry, so it is perhaps unsurprising that risks concerning digital transformation have risen most significantly up the agenda in BDO's research this year. Our analysis shows that four out of five telecoms companies are particularly concerned about the impact of increased competition in their industry (most of which comes from digital competitors), and that just under three-quarters also cite the fast arrival of new technologies as of major strategic concern for their business.

The rapid pace of change in the sector means that traditional telecoms providers who have been slow to react to digital transformation in their sector are at risk of being left behind or overtaken by new competitors. New competitors such as over-the-top (OTT) providers have grown from emerging challengers to established market players within a handful of years. As a result they are taking market share away from traditional providers, particularly for higher margin international voice services.

OTT providers have developed a strong foothold among consumers, many of whom have switched to lower cost providers as their primary means of communication. Microsoft's Chief Executive Satya Nadella, for example, recently confirmed that Skype, its instant messaging and video chat service, has more than 300 million active monthly users. WhatsApp, which launched just eight years ago as an encrypted instant messaging service, now facilitates 100 million voice calls through its voice calling feature every day.³ Not only have these new competitors scaled-up their offering very quickly, they have been quicker to react to new opportunities and technologies to meet the changing customer demands than industry incumbents.

Our research reveals that digital transformation is happening across the telecoms sector worldwide, not just in mature markets. In India, for example, Tata Teleservices reports that customers are switching from voice telephony to data services in large numbers. This represents both a risk and opportunity in markets where consumer spending power continues to rise and where data services are the main engine of growth: "The gap [between Tata Teleservices and the] competition in terms of the spectrum and network infrastructure investments that would be required for the company to be able to compete on a comparable footing is vast and growing."⁴ As Tata makes clear, although clear opportunities lie ahead, without sufficient levels of investment there is a risk that established market players fall quickly behind new competitors.

Although the risks of competition, changing consumer behaviour and new technology have always featured highly in BDO's risk research, the industry is feeling the impact more keenly than ever in 2017. This is because of a range of factors identified in our research:

- The average revenue per customer in the telecoms industry is falling;
- Customer loyalty is decreasing as choice proliferates; and
- Business customers and particularly SMEs, once a captive market, are also moving towards OTT providers and other new technologies.

³ The Next Web, 'WhatsApp users are making 100 million calls every day', https://thenextweb.com/apps/2016/06/23/whatsapp-reaches-100-million-calls-day-little-year/#.tnw_9KnU1H5c (June 2016).

⁴ Tata Teleservices Limited, Annual Report 2015-2016: <https://www.tatateleservices.com/Downloads/Investor/tts/Tata-Teleservices-Limited-Annual-Report-2015-16.pdf> (March 2016).

⁵ Verizon, Annual Report 2016: https://www.verizon.com/about/sites/default/files/annual_reports/2016/letter.html (May 2017), original italics.

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THE DIGITAL TRANSFORMATION AGENDA

So, how are telecoms companies responding to the risks posed by the digital transformation agenda? As Lowell McAdam, Chairman and CEO of US telecoms company Verizon, outlines, the strategic priority for telecoms leaders is to rethink their company's value proposition and to innovate digital offerings: "We are changing not only *what* we deliver to customers, but also *how* we deliver it, as we transform our processes and customer interactions around a digital model."⁵ This means improving product and service offerings, reworking pricing strategies and refocusing on customer experience to provide a compelling alternative to lower cost OTT providers.

For established telecoms companies the most common strategic response to the digital transformation agenda has been to look for acquisition opportunities; in the last year alone, telecoms companies spent \$224 billion on M&A, an increase of 137% on 2015 deals values, according to market intelligence firm Capital IQ. Some of these mergers have been within the telecoms market as a way to consolidate market share (and hence limit the impact of aggressive price competition), but many have been cross-sector mergers with companies in adjacent industries such as technology, media, advertising and data centres.

US telecoms giant Verizon, for example, acquired Yahoo in 2016 for \$4.8 billion, boosting not only its technology offering (which it says it plans to integrate with AOL, which it acquired in 2015) but also giving it a strong foothold in the media and advertising space.⁶ Other recent Verizon acquisitions – such as location-based software developer Telogis and fleet management software provider Fleetmatics – show the company is prepared to invest strategically to widen its value proposition. By undertaking cross-sector mergers, telecoms companies can extend their service offering, broaden their customer base and gather more valuable data about customer preferences, which can then be monetized to offset revenue decline in other parts of their business.

However, any merger needs to be supported by a solid strategic rationale. As merger activity in the sector increases, so too does the risk that acquisitions will fail to pay-off as intended. The risk of adverse impacts of M&A activity has risen from 22nd place in our risk table in 2016 to 16th place this year; 39% of telecoms companies now cite poorly-executed M&A deals as a significant risk to their growth prospects.

THE BDO VIEWPOINT

TOM MANNION, MANAGING DIRECTOR,
BDO USA, VALUATIONS AND BUSINESS ANALYTICS

Telecoms companies shouldn't underestimate the risks posed by digital transformation in their sector. In many geographic markets what used to be referred to as 'disruptive competitors' are now dominant providers of communication services, who are continuing to innovate and improve the service they offer customers.

In response to this challenge we have seen that many telecoms companies have turned to acquisitions to boost their digital offering for customers, with the most strategically interesting mergers taking place between telecoms companies and those in adjacent sectors. Increasingly, companies focused on the Internet of Things – connected devices and applications – will be prime acquisition targets for telecoms companies with deep pockets.

However, we have also seen regulators taking steps to block larger telecoms mergers such as the deal between O₂ and Three proposed in 2016. Even the mergers that do go ahead cannot be guaranteed to succeed. Through planning and implementation, support is needed to integrate the two businesses properly, to deliver the anticipated revenue boosts or cost.

We have seen some telecoms companies successfully set-up innovation incubators and venture capital teams to channel investment in R&D projects. Operating at arm's length to the corporate entity these incubators have a 'start-up' mind-set, generating and prototyping ideas for the company to build into its future planning. While these innovation labs have typically focused their attention on new products and services, their innovation skills and capabilities could be redeployed to consider challenges around designing new models of agile telecoms infrastructure.

⁶ Richard Nieva, 'Verizon to buy Yahoo for \$4.83 billion, merge it with AOL', CNET: <https://www.cnet.com/news/verizon-buying-yahoo-likely-merging-it-with-aol/> (July 2016).

2

THE REGULATORY BURDEN

RISK 2

THE REGULATORY BURDEN

THE BDO VIEWPOINT

NOEL CLEHANE, BDO'S GLOBAL HEAD OF REGULATORY AND PUBLIC POLICY:

Over the last year the impact of regulation and compliance on the telecoms sector has increased significantly. Of particular concern to the telecoms companies we engage with regularly is the dual impact of EU regulations concerning data roaming, and global regulatory frameworks regarding net neutrality and widening access to the internet. Government intervention has undoubtedly made for a more rigorous regulatory regime, and there are early signs that a growing compliance burden is impacting profitability. In a price-sensitive market, for example, it is difficult to recover the impact of loss of data roaming revenues from existing customer subscriptions.

New accounting standards such as IFRS 16 also impose a financial risk to telecoms companies because they are now required to report more debt on their balance sheet. Previously operating leases for power or technical equipment couldn't be seen directly on the balance sheet, but now telecoms companies have to report their full obligations. Many companies we engage with say they have been surprised by the extent of the impact of these changes on their financial statements.

The proportion of telecoms companies citing regulatory change and uncertainty as a critical risk for their business has increased significantly since 2015 from 45% to 80%. This increase in time and attention given over to regulatory issues, such as net neutrality and access to data, reflects the growing burden placed on telecoms companies by government regulators. In the European Union for example, the EU Commission published proposals for a European Electronic Communications Code in September 2016, outlining new regulatory objectives for the telecoms sector to support the EU's Digital Single Market agenda. While these proposals are designed to support consumers and deliver a competitive telecoms market, they will require significant investment in high capacity connectivity.

Other telecoms companies cite examples of market-specific regulations that are holding them back from investing or expanding their activities in specific markets. In Brazil, for example, telecoms provider TIM Brasil mentions that failure to meet service standards and compliance targets may result in "the imposition of fines or other government actions, including, restrictions on our sales and, in an extreme situation, the termination of our authorizations [to operate in the market]".⁷

Coupled with political or economic instability in certain global markets, increasing regulation makes it makes the operating environment increasingly uncertain for telecoms businesses. Russian telecoms provider MTS, for example, cites specific political, regulatory and economic risks around markets such as "the Russian Federation, Armenia, Ukraine, Turkmenistan and other CIS countries".⁸

INCREASE IN RISK OF REGULATION CHANGE

2015

2016

42%

80%

⁷ TIM Brasil, Annual Report: <http://ri.tim.com.br/List/Download.aspx?Arquivo=HCudwwkaEJHUg+99erejQw==&IdCanal=G8zLGzL5uh4OTtaY2f7ALA==> (2016).

⁸ MTS, Consolidated Financial Statements and Annual Report: http://www.mtsgsm.com/upload/contents/294/MTS_IFRS_Cons_FS_15-16.pdf (December 2016).

3

THE GROWTH OF CYBER WARFARE

RISK 3

THE GROWTH OF CYBER WARFARE

The telecoms sector sits at the heart of the connected, digital landscape. It enables people to consume and communicate information, businesses to interact with each other and producers to showcase their goods and services to customers. As a result the sector has become a key target for hackers looking to steal sensitive data, disrupt network services or extort money from ill-protected companies. The extent to which telecoms companies treat cyber security as a major risk has nearly doubled in two years: cyber security and data hacking was cited as a material risk by just 37% of telecoms companies back in 2015, and has now risen to 69%.

Recent experiences suggest telecoms companies are right to be concerned. Coordinated international malware attacks in May 2017, for example, targeted a number of large telecoms companies including Spanish company Telefónica and Portugal Telecom, as well as organisations such as the UK's National Health Service and US delivery firm FedEx. Although the attacks did not disrupt telecoms network operations on that occasion, a previous attack against German telecoms provider Deutsche Telekom in November 2016 resulted in network disruption for nearly a million of its customers.⁹

The consequence of succumbing to an attack can be significant. In the immediate aftermath of the cyber-attack on Telefónica its share price fell by 5%. In addition to the network interruption and the cost of recovering service, companies can be liable to pay significant fines if attackers successfully access sensitive customer data. In October 2016, for example, the UK's Information Commissioner issued telecoms provider TalkTalk with a record fine of more than \$500,000 (£400,000) for security failings that led to a cyber attacker accessing personal information from over 150,000 customers, including nearly 16,000 bank account details.¹⁰

Perhaps more damaging to the long-term health of telecoms companies is the reputational damage done by cyber-attacks and data security breaches. Two in every five (39%) telecoms companies cite reputational risk as a major concern for their business, up from 23% last year. As customers become more security conscious they are more likely to consider the track record of potential providers before choosing which company they sign-up with, and in this context repeated negative press headlines can damage brand value among customers. In a scenario where data security is compromised how quickly a company responds, how effectively it compensates effected customers, and how well it learns lessons to improve future security can help to limit reputational damage.

In response to increased security threats telecoms companies are making additional resources available to maintain the security of their systems and data. Mexican telecoms provider América Móvil, for example, says that the risk of a major cyber-attack could result in "Increased expenditures on cyber security measures, litigation, damage to our reputation, lost revenues from business interruption and the loss of existing customers and business partners."¹¹ Failure to invest in adequate preventative measures could have expensive consequences further down the line. Telecoms companies ahead of the game have undertaken robust cyber risk assessments and contingency planning, have updated protocols for dealing with cyber-attacks, and have given sufficient space on the Board-level agenda to consider the implications of cyber risks.

THE BDO VIEWPOINT

PRASHANT GUPTA, PARTNER, BDO INDIA:

The frequency, scope and potential harm caused by data hacking and cyber security is on the rise, so it is encouraging to see that telecoms companies are continuing to invest in preventative measures designed to reduce the potential impact of any future attacks. As leading telecoms businesses announce they have been successfully targeted by hackers, this will likely embolden new hackers to engage in future cyber-attacks.

In recent years we have seen a number of telecoms companies adapting their business model and diversifying their income stream by making significant investments in data centres. Although this does represent a growth opportunity to telecoms companies, the sidewise move into data storage increases the exposure, and hence the negative business impact, arising from cyber-attacks or data breaches.

⁹ Reuters, Telefonica, other Spanish firms hit in "ransomware" attack, <http://www.reuters.com/article/us-spain-cyber-idUSKBN1881TJ> (May 2017); Deutsche Telekom, 'Information on our current problems', <https://www.telekom.com/en/media/media-information/archive/information-on-current-problems-444862> (November 2016).

¹⁰ Information Commissioner's Office, 'TalkTalk gets record £400,000 fine for failing to prevent October 2015 attack': <https://ico.org.uk/about-the-ico/news-and-events/news-and-blogs/2016/10/talktalk-gets-record-400-000-fine-for-failing-to-prevent-october-2015-attack> (October 2016).

¹¹ América Móvil, Annual Report 2016, <http://www.americamovil.com/sites/default/files/2017-04/2016-annual-report-on-form-20-f.pdf> (April 2017).

RISK 4

THE VOLATILE MACROECONOMIC AND POLITICAL ENVIRONMENT

THE BDO VIEWPOINT

ROBIN BROWN, HEAD OF TECH M&A, BDO UK:

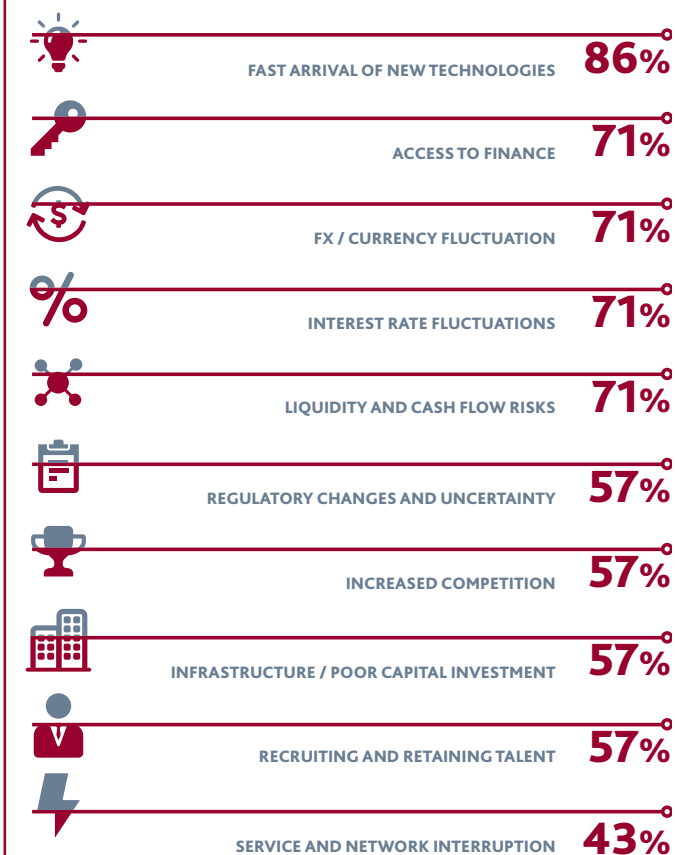
A more volatile economic climate makes it more of a challenge for telecoms companies to plan future investments, model cash flows and manage investor expectations. The full implications of Brexit, for example, for telecoms companies that do business with British and European customers is not yet clear, and may not be fully clear for some time to come. An unfavourable 'lose-lose' deal may restrict trade freedoms and the movement of people, and hence limit the ability of telecoms companies to trade across borders; under a 'win-win' deal, there may be more limited disruption.

Risks concerning company finances and the macroeconomic environment have always topped BDO's Risk Factor research among telecoms companies, and our 2017 research is no different. Volatility foreign exchange has been particularly pronounced in the last year, with US dollar movements against the euro, British pound and other global currencies of up to 20% over a 12 month period. It is little surprise, therefore that 87% of telecoms companies cite currency fluctuations as major financial risk. This has a considerable impact for international companies with global operations who report their profits in US dollars, as well as companies looking to make overseas acquisitions.

Many of these large swings in economic sentiment indicators witnessed over the last year have been as a result of political and economic shocks such as Brexit (Britain's withdrawal from the European Union) or the election of President Trump in the United States that were not built into economic projections. Elsewhere, UAE-headquartered telecoms operator Etisalat cites a number of geopolitical and macroeconomic risks across its markets of operation, including the Middle East and Africa, such as terrorism and the security of local employees.¹² The uncertainty arising from macroeconomic and political validity has led some telecoms companies to review their growth outlook or reassess their investment priorities.

In Europe, Deutsche Telekom comments that as a result of recent political developments including Brexit: "Uncertainties have grown as regards global economic growth, and the economies of our footprint countries. Current forecasts of future economic development vary widely in both bandwidth and volatility. We cannot rule out an increase in protectionism, with potential long-term negative effects on world trade."¹³ Such concerns plant seeds of doubt in the minds of companies about future growth opportunities.

TOP 10 RISKS IN ASIA-PACIFIC



¹² Etisalat, Years of growing together: Annual report 2016: <http://etisalat.com/en/system/docs/2016/Etisalat-AnnualReport2016-English.pdf> (2017).

¹³ Deutsche Telekom, The 2016 Financial Year: http://www.annualreport.telekom.com/site0317/fileadmin/16_AR/PDF_EN/telekom_ar16_complete.pdf (March 2017).

RISK 5

THE INFRASTRUCTURE INVESTMENT CHALLENGE

Keeping pace with competitors and adapting service offerings to meet the changing demands of customers will require telecoms companies to prioritise investment in their infrastructure and operations. However, established telecoms companies report that they often have to shoulder the burden of the infrastructure investment, whereas content providers and new competitors in the industry reap the benefits of this infrastructure without having to make significant investments.

However, the risk of under-investment is sizable: 43% of the leading global telecoms companies BDO profiled cite failure to meet service obligations, and 65% cite service and network interruption as major risks to their future profitability and ability to do business. For some, such as South African company Telkom, this means ensuring that basic infrastructure risks – such as 'uncertainty regarding electrical supply' – do not result in unexpected disruption of service for customers.¹⁴

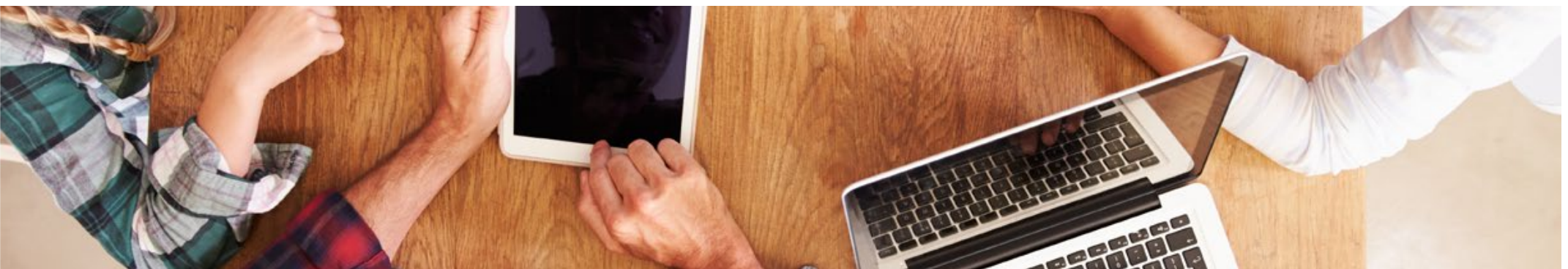
As Peter James, Chairman of Australian Macquarie Telecom Group, argues, achieving the desired levels of investment will require strong growth, sound financial management and high confidence levels: "The Company's EBITDA is expected to continue to grow in fiscal 2017. Confidence that Hosting revenue will continue to grow will drive investment in growth capex for the business."¹⁵ Yet even in volatile macroeconomic conditions it is important to sustain infrastructure investment.

One of the most significant infrastructure opportunities for telecoms companies is 5G (fifth generation mobile networks) spectrum capacity. With 5G widely expected to be commercially available by 2020, countries such as China, South Korea and US have already begun to trial the technology, and many other countries are expected to follow with spectrum sales or auctions over next 12 months. This will require cash reserves for significant investment: for example, in April 2017, T-Mobile US spent \$8 billion of the total \$19 billion spent on acquiring spectrum capacity in the US.¹⁶

THE BDO VIEWPOINT

SEBASTIAN STEVENS, PARTNER, BDO AUSTRALIA:

With so much change and disruption happening across the telecoms industry, companies should not neglect investing in modernising their operations. This may require tough strategic choices about where to prioritise investment, and may require telecoms companies to simplify their service offerings to customers as a result. Telecoms companies can maximise the effectiveness of their infrastructure investments by mining their 'big data' to understand profitable customer segments and services, and which features deliver great customer experience and support customer loyalty. Increasingly this data is also being monetised to drive new revenue generation opportunities.



¹⁴ Telkom, Group Annual Results for the year ended 31st March 2016: http://www.telkom.co.za/ir/apps_static/ir/pdf/financial/pdf/Telkom_Annual_Results_Booklet_WP_2016_Final.pdf (June 2016).

¹⁵ Macquarie Telecom Group, 2016 Annual Report: How it all adds up: <https://macquarietelecomgroup.com/wp-content/uploads/2016/07/MAQ-Annual-Report-2016.pdf> (June 2016).

¹⁶ The Financial Times, T-Mobile spends \$8bn to score big at US airwaves auction: <https://www.ft.com/content/7f3806c1-10ed-3700-a6c3-e95e5a0119fd> (April 2017).

MANAGING THESE RISKS IN YOUR BUSINESS

Operating in a risky, volatile and unpredictable environment is never easy. Telecoms executives are under intense pressure to transform their businesses for the long-term, while maintain strong quarter-by-quarter financial results. The first step to planning an effective strategy for this operating environment is being aware of the multiple risks shaping the telecoms industry over the short and long-term. To help guide thinking about how best to manage the risks ahead – and turn risks in potential opportunities – we have prepared a series of short questions for telecoms executives to consider.

1

THE DIGITAL TRANSFORMATION AGENDA

- **WHAT** changes to your operating model will help you outpace digital competitors and win back market share from OTT providers?
- **WHAT** skills and competencies will be critical for your business to adapt its value proposition to the changing needs of customers?
- **HOW** well positioned is your company to take advantage of cross-sector merger and acquisition opportunities?

2

THE REGULATORY BURDEN

- **HAVE** you assessed the impact of IFRS 16 requirements and prepared your accounting for the challenges of its implementation?
- **WHAT** steps can you take to better manage the different regulatory requirements in the various jurisdictions in which you operate?
- **HOW** well-resourced is your company to monitor changes in regulation and engage in constructive dialogue with regulators?

3

THE GROWTH OF CYBER WARFARE

- **HOW** secure is your IT infrastructure against potential data breaches or cyber-attacks?
- In **WHICH** areas do you require further investment to ensure continued security of confidential customer data?
- **WHAT** executive-level response is required should your company succumb to a data breach, loss of service or ransomware attack?

4

THE VOLATILE MACROECONOMIC ENVIRONMENT

- **WHAT** steps are you taking to minimise the impact of fluctuations in interest rates and in currency markets?
- **HOW** will you offset the risk of growing economic nationalism suggested by events such as Brexit and the recent presidential election in USA?
- **DO** you have adequate cash flow controls to ensure you can make quick investment decisions in a macroeconomic environment that is constantly changing?

5

THE INFRASTRUCTURE INVESTMENT CHALLENGE

- **WHERE** are the opportunities to cut costs or re-prioritise investments to free up cash for long-term strategic investments?
- **HOW** prepared are you to take advantage of the opportunities presented by 5G technology?
- **HOW** confident are you that your company's existing capacity and infrastructure can provide an uninterrupted service to customers in the future?



FOR MORE INFORMATION:

ARMENIA
HRACHYA HOVHANNISYAN
Partner,
Audit

+374 10 52 88 99
h.hovhannisyan@bdoarmenia.am

CANADA
SCOTT RODIE
Partner,
Audit and Assurance

+1 514 931 5796
srodie@bdo.ca

INDIA
PRASHANT GUPTA
Partner,
IT advisory

+ 91 124 281 9000
gprashant@bdo.in

**PANAMA, HONDURAS,
NICARAGUA AND
COSTA RICA**
GASTON FIGUEROA
Director for Central America,
Consulting and Public sector

+507 280 8811
gfigueroa@bdo.com.pa

AUSTRALIA
SEBASTIAN STEVENS
Partner,
Corporate Finance

+61 2 9240 9725
sebastian.stevens@bdo.com.au

EGYPT
MOHANED KHALED
Partner,
Tax

+20 2 3303 0701
m.khaled@bdo.com.eg

ISRAEL
YANIV COHEN
Partner,
Assurance

+972 3 638 0140
yanivc@bdo.co.il

RUSSIA
IRINA SMIRNOVA
Partner,
Audit and Assurance

+7 (495) 797 5665
i.smirnova@bdo.ru

BAHRAIN
ARSHAD GADIT
Partner,
Assurance Partner

+973 3377 7786
arshad.gadit@bdo.bh

FINLAND
JAN KOVERO
Director,
Corporate Finance

+358 50 370 35 36
jan.kovero@bdo.fi

JORDAN
MAZEN JABER
Partner,
Audit

+962 6 5816 033
mjaber@bdo.com.jo

UK
ROBIN BROWN
Head of TMT M&A,
M&A

+44 0207 893 3119
robin.brown@bdo.co.uk

BELGIUM
BERT KEGELS
Partner,
Audit and Assurance

+32 2 775 30 18
bert.kegels@bdo.be

FRANCE
FREDERIC LEGER
Partner,
Audit and Assurance

+33 30 57 73 74
frederic.leger@bdo.fr

KUWAIT
ABDALLAH K. FARHAT
Partner,
Audit and Assurance

+965 22957567
abdallah.farhat@bdo.com.kw

URUGUAY
FERNANDO MUXI
Partner,
Tax

+(598) 29151220
fmuxi@bdo.com.uy

BRAZIL
DARIO LIMA
Partner,
Audit and Assurance

+ 55 11 3848-5880
dario.lima@bdobrazil.com.br

GERMANY
CHRISTIAN GOETZ
Leader of global Telco team,
Corporate Finance

+49 699 594 1514
christian.goetz@bdo.de

NETHERLANDS
RUUD VROLIJK
Partner,
Audit and Assurance

+31 76 57 14 900
ruud.vrolijk@bdo.nl

USA
TOM MANNION
Managing Director,
Valuations and Business
Analytics

+1 404-979-7130
tmannion@bdo.com

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