RESEARCH

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VOLUME III

ENTERPRISE COMMUNICATIONS

Growth opportunities for telecoms operators

Contents

Introduction

Enterprise market opportunities remain for telecoms operators

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The enterprise market is hugely important for telecoms operators. Most incumbents generate between 20% and 40% of their total revenue from the business segment, yet good information on this market is hard to find. Operator reporting is often poor and much of what happens in the enterprise market is simply not as visible as in that in the consumer space.

This set of articles, our third on the enterprise market, aims to rectify this gap by providing high-quality commentary from our analysts and consultants.

This collection covers the following topics.

- **Seven areas of uncertainty in the enterprise communications market.** This extended piece provides an overview exploring the key questions that are facing operators in the enterprise market. It covers 5G, IoT, SD-WAN, the SME opportunity and the threat from Amazon, Facebook and other hyper-scalers.
- **Telefónica's M2M and enterprise security services are performing well, but cloud services are a challenge.** Telefónica is well placed to offer IT services but its financial performance shows how difficult this market can be.
- **Analysys Mason's research shows that business pay TV accounts for a sizeable share of overall pay-TV revenue.** Business pay TV is an important product for enterprise teams, and operators can do more to exploit this opportunity.
- **Customer care is the key opportunity to differentiate fixed services for large enterprises.** Rather than just competing on price, we argue that operators should pay more attention to improving customer satisfaction.
- **Huawei's move to provide enterprises with a one-stop public cloud and network service threatens operators.** Huawei has changed its approach to public cloud and is aiming to become an enterprise cloud provider. Operators should consider what this means for their cloud ambitions.
- **Rackspace's infrastructure-agnostic managed cloud services brings it into competition with many operators.** Rackspace's transition to a provider of cloud services resembles the moves of telecoms operators. It provides lessons for operators but also increases competition.

We hope that you find these pieces useful and welcome your feedback and comments.

We look forward to working with you.

Seven areas of uncertainty in the enterprise communications market

TOM REBBECK
Research Director, Enterprise and IoT

> "The enterprise market is crucial for operators, but general trends in this market are often poorly understood outside of enterprise divisions of operators."

The enterprise communications market is crucial for operators -it generates at least 20% (and in some cases more than 40%) of revenue for most incumbents. However, general trends in the enterprise market are often poorly understood by industry stakeholders who are outside of enterprise divisions of operators, partly because the operators do a bad job of explaining developments. Many vendors have a limited grasp of the opportunity, which leads to (sometimes contradictory) misconceptions. For example, some vendors see enterprise communications as a market that has strong growth potential, while others assume that the legacy services are in persistent decline and that operators are ill-placed to ride new waves of growth.

This white paper, aimed at vendors and other interested observers, explores the various areas of uncertainty in the enterprise communications market and, wherever possible, uses data to provide clarity.

Uncertainty #1: Operator revenue from enterprise services

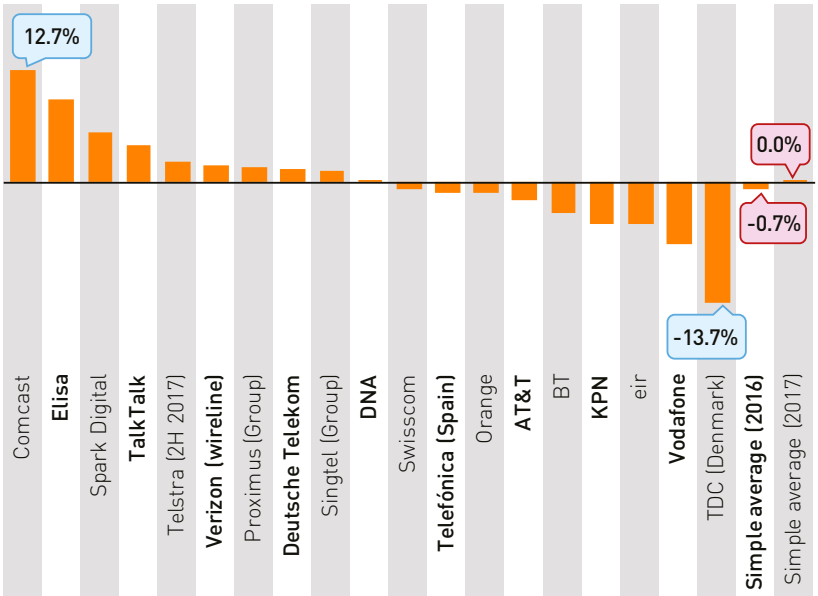

FIGURE 1: ENTERPRISE REVENUE GROWTH RATES BY OPERATOR, 2016-2017
[SOURCE: ANALYSYS MASON, 2018]

Growth in the enterprise market largely depends on operators generating new IT revenue (for example, cloud, security, managed services) more quickly than legacy revenue (for example, fixed voice) declines.

The signs are that the different forces are starting to balance. Operator revenue from the enterprise market is improving - of all operators that report this data, enterprise revenue was flat during 2017 - but this comes after several years of decline for most operators in high-income countries.

The market for basic voice and data services is largely saturated in high-income countries. Businesses that want a broadband Internet connection or mobile phone already have one. Very high-speed connectivity has the potential to provide revenue growth, particularly as enterprises continue to migrate workloads to the cloud, but growth in basic connections is limited, and increases in usage are often offset (or more) by price declines.

To avoid competing purely on price, operators have two related levers to pull.

- **Improve customer satisfaction.** Customer satisfaction scores are low for most operators. Single-figure, or negative, Net Promoter Scores are common. As we have explored in previous articles, enterprises value factors such as customer service, network quality and speed, more than they value price for many services. Improving customer satisfaction will

help to slow declines in revenue from legacy services by reducing churn and price pressure, but it is unlikely to drive growth.

- **Increase their share of the IT market.** Many operators have focused on this and it has driven much of the cquisition activity in the telecoms market. For the operators that report, IT revenue increased by 5% in 2017, with some operators doing better. For example, Telstra increased its IT revenue by 14% and Telia Finland boosted its solutions business by 11%.

The second lever depends on the first. Operators will struggle to sell more IT products to a base that is not satisfied with the core product.

For vendors that want to support the operators in the enterprise market, this has two implications. Firstly, vendors need to demonstrate how they can help operators improve customer satisfaction. Secondly, they need to show how they can support operators in their quest to sell more IT products.

Uncertainty #2: The cloud opportunity

Cloud service providers, such as Alibaba Cloud, Amazon Web Services (AWS) and Microsoft Azure, are reporting staggering rates of growth, exceeding 100% per year in some cases (see Figure 2). Operators that report cloud revenue (and most do not) are recording some growth, but it is typically a modest 10%-20% per year.

Operators may draw two opposing conclusions from this:

- avoid the market because an operator cannot compete with the likes of Amazon
- try to get a share of the market (although most operators do not have the global scale, the developer capabilities or the risk profile required to invest heavily in taking share in this market).

Instead of competing head on, operators need to explore smart ways of working with these big infrastructure providers to offer solutions to existing connectivity customers, most of which do not have the resources or desire to buy and manage hosting directly from the likes of AWS, Google and Microsoft.

Equally, these global Internet players do not have the resources or desire to offer locally managed professional services. The model for AWS, Azure and the others is to sell products, not professional services. Also, many enterprises will want a mix of on-premises, private and public cloud solutions, with public cloud from a range of providers.

This creates an opportunity for operators, but one not without challenges. Helping enterprises define their cloud strategies, migrate and manage applications, and manage multiple cloud providers, is largely a professional services business, an area where operators have historically had a mixed record. It is also difficult to scale down these services to smaller enterprises. KCOM is one of several operators that is grappling with this opportunity.

Also, spend on these cloud services is still small, relative to the core operator business. We estimate that spend on IaaS that is addressable to telecoms operators (rather than IaaS sold directly to ISVs) globally will grow to USD21 billion in 2022, or less than 10% of market for voice and connectivity (which we forecast to be around USD250 billion, also in 2022).

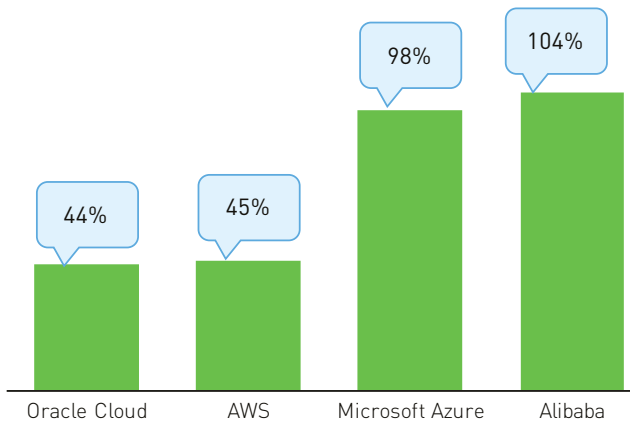

FIGURE 2: YEAR-ON-YEAR REVENUE GROWTH BY CLOUD SERVICE PROVIDER, 4Q 2016-4Q 2017
[SOURCE: ANALYSYS MASON 2018]

For vendors, the opportunity will be to help operators to automate the cloud migration and management process. Vendors should also try to integrate established cloud services (storage, compute) with telecoms-related solutions, such as SD-WAN and unified communications, as Huawei is doing. Finally, for the long list of vendors with their own cloud propositions, (such as Huawei, Oracle, SAP and the better-established players) operators can be attractive partners.

Uncertainty #3: The impact of SD-WAN solutions

Technologies and their value chains are often initially provided by a single company, before this breaks down as competing solutions and standards emerge. In the telecoms market, operators have gone from providing the connectivity, hardware and services to customers to often providing just connectivity.

SD-WAN would appear to be an extension of this trend; with it, elements of connectivity can be 'unbundled'. For a wide-area network, rather than operators being the only possible providers, a service can be provided by another entity or even procured and managed by the enterprise itself. This could cut the telecoms operator out of the value chain and leave it with a smaller share of the connectivity spend. Furthermore, the lower cost of provisioning SD-WAN and the increase in supply options should lead to a reduction in price.

This is possible, but we believe that most enterprises will not want the cost and complexity of managing a service that provides them with no competitive differentiator. Most enterprises will look to third parties to manage connectivity, and telecoms operators will be in prime position.

However, the greater threat to telecoms operators is the reduction in price. While some enterprises may want the new features that SD-WAN enables, more will be interested in lower prices. Telecoms operators, and the vendors that supply them, have two options to maintain revenue.

- **Increase the number of end points.** SD-WAN will be able to expand the potential market by adding more end points to a wide-area network, rather than simply replacing existing MPLS networks with a lower-cost solution. IoT may be an example of this. As part of its contract with Siemens, Orange will connect IoT devices to the same SD-WAN as other end points.[1]
- **Add extra services, such as security to recoup lost revenue.** The hope is that total spend from the enterprise will remain constant, but satisfaction will increase and churn decrease. Vendors need to provide examples of operators that have successfully maintained revenue by taking this approach.

The uncertainty surrounding the impact of SD-WAN means that operators may be reluctant to adopt it, unless forced to do so, for example, by a disruptive competitor. These disruptive competitors will hope to gain some short-term advantage but, as all operators launch similar versions of the same technology, it will be difficult to maintain a sustainable advantage.

For vendors, the threat of competitors winning business from their customers will help support the initial case for adoption, as we have seen in recent years. However, the onus will be on vendors to put forward a more positive investment case for SD-WAN by showing how this increase in potential addressable market can more than offset any decline in price.

Uncertainty #4: Impact of 5G

A central argument for the development of 5G is that network slicing will enable new opportunities in the enterprise market. Network slicing means that part of the network can be dedicated to a given use case, for which higher service levels are offered. For example, a manufacturing use case could be provided with reliable, high-bandwidth, low-latency connectivity. Based on this powerful capability, an operator could position itself to take a greater share of the spend on that use case.

The argument has two weaknesses.

- Operators will be able to charge a premium only if there is scarcity and yet 5G will offer more capabilities to all users. A potential risk of 5G is oversupply, not the opposite. Given the massive amount of capacity that could become available 'as standard' across the network, the number of applications that need a dedicated slice may well be small. For example, the number of highly advanced robots used in manufacturing probably counts in the tens of millions - a tiny proportion of standard connections. The size of the market for applications that need, and are willing to pay for, a service that is better than the standard 5G offer is far from clear.
- The argument depends on telecoms operators moving along the value chain. As discussed above, the history of technology value chains mostly sees them fragmenting rather than unifying. That said, where we do see unified value chains, the impetus for investment is typically driven by parties that will use the technology for their own business, rather than from pure suppliers. Think, for example, of Facebook and Microsoft investing in undersea cables. We may only see the potential of 5G being exploited where the beneficiaries also invest in the telecoms network, something that could happen in China with China Unicom.

When promoting the idea that 5G can support telecoms operators' ambitions in the enterprise market, vendors need to answer questions not just about the technology and what is possible, but what this would mean for the value chain and the operator role. Many operators have a limited understanding of vertical markets. Vendors may be able to deepen that understanding and thereby boost their own market positioning.

Uncertainty #5: The impact of Amazon, Facebook and other 'hyper-scaler' players

Amazon's Chime is an enterprise unified communications solution. Facebook has Workplace. WhatsApp has its Business App. Internet players are already present in the enterprise communications market.

The threat, at least for telecoms operators, is that the Internet players will move from these products to full-scale propositions (possibly through acquisition) and in doing so will compete with telecoms operators directly.

We believe that this threat is easy to exaggerate. As with the consumer market, operators will rebalance tariffs away from services and on to connectivity. Unlike consumers, who are willing to work with many different messaging and communications services, businesses typically want a limited number of options that work together, and often want a provider to package these services, usually with some sort of service-level agreement and support. Operators are well placed to continue providing this, as long as they can offer the most popular features more quickly than these Internet players can gain influence among enterprises.

The key risk from services like Facebook Workspace is that their adoption reduces the space that telecoms operators can enter. Slack, an enterprise collaboration tool, has been highly successful with a certain type of company but is largely a niche product; most companies have not heard of it and do not use it. However, once Slack is adopted, it is difficult for other providers to displace it because it becomes entrenched in an

organisation's way of working.

Embedded in this view, is the misconception - held by some vendors - that unified communications is a single product. While 'unified' may be the ambition, it is really a collection of many different services and solutions, some of which work together. Operators may not need to provide a full suite of features but just a subset that most of their customers want and will use.

The role for vendors in the unified communications space is to help operators provide a simple and coherent communications offer. It does not need to match all the features offered by the Internet players. Most enterprises do not want flashy features. They want simple solutions that work with limited support. Vendors need to promote the simplicity of their solutions and the fact that these solutions have features that enterprises will actually use.

Uncertainty #6: The ICT opportunity in the micro and small business segment

We believe that some operators are ignoring the ICT opportunity with small enterprises. These operators believe either that this segment of the market is too small or that it is too difficult to serve to justify the effort. In consequence, these operators focus their efforts on medium or large enterprises.

However, we believe that the already-significant micro and small enterprise spend on IT services will grow to EUR10 billion in Western Europe alone (an increase of 50% compared with 2017). With their current approach, telecoms operators will win less than 10% of this spend. To provide some perspective, by 2022 we expect IT services provided to micro and small businesses to be worth 40% of the spend on fixed broadband, a market that is forecast to be flat.

Vendors have the opportunity to help operators understand this market and help to deliver packages of solutions that can be sold as simple options on top of basic connectivity packages. For this market, as with unified communications, ease of use will probably be more important than features.

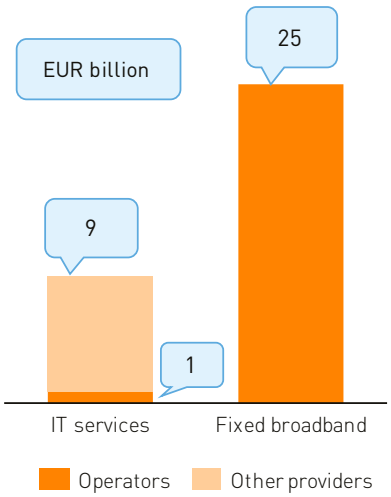

FIGURE 3: MICRO AND SMALL ENTERPRISE SPEND BY SERVICE AND PROVIDER TYPE, 2022 [SOURCE: ANALYSYS MASON, 2018]

Uncertainty #7; The IoT opportunity

Some operators and vendors assume that IoT will be a massive source of new growth for telecoms operators. For example, Huawei has been quoted as saying that by 2025 operators will earn 20% of their revenue from IoT.[2] The GSMA has said that IoT will be a USD1.1 trillion revenue opportunity for telecoms operators by 2025[3], which is around USD200 billion larger than the mobile industry.

However, other telecoms industry stakeholders have largely ignored the IoT opportunity for telecoms operators. For example, equity research analysts are only now starting to consider IoT in their valuation models.

For the operators that report IoT revenue, IoT revenue accounts for between 0.4% and 1.6% of total revenue and is growing at around 15% a year. Our longer-term expectation is that operators can realistically expect 3% of revenue from IoT, and some will achieve 5% or higher. These figures will not transform what an operator is (in the way that the GSMA or Huawei figures would suggest), but it could more than counter any decline in the legacy business. The importance of IoT is a matter of perspective.

The support that vendors can provide to operators will vary significantly by operator, but almost all need assistance that goes beyond technology and includes help understanding the needs of different vertical markets , support with standards, partnership management and to build the business case.

Questions?
Please feel free to contact Tom Rebbeck, Research Director, Enterprise and IoT at tom.rebbeck@analysysmason.com

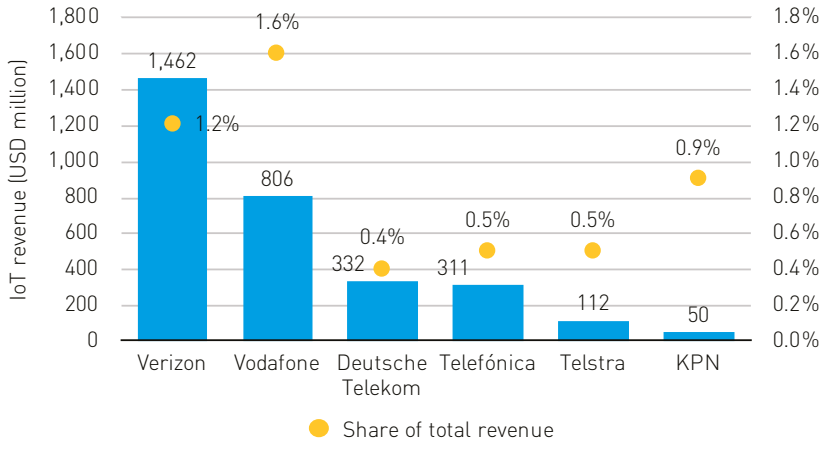

FIGURE 4: IOT REVENUE AND AS A SHARE OF TOTAL REVENUE, BY OPERATOR, 2017 [SOURCE: ANALYSYS MASON 2018]

[1] For more information, see www.orange.com/en/Press-Room/press-releases/press-releases-2018/Siemens-AG-extends-contract-with-Orange-Business-Services-for-global-SD-WAN-infrastructure-to-support-its-digital-transformation.

[2] For more information, see www.capacitymedia.com/Article/3786701/IoT-to-create-20-of-telco-revenue-by-2025-says-Huawei.

[3] For more information, see www.gsmaintelligence.com/research/2018/05/iot-the-1-trillion-revenue-opportunity/670/.

Telefónica's M2M and enterprise security services are performing well, but cloud services are a challenge

IGOR BABIĆ
Research Analyst, Research

"Telefónica is well-positioned to benefit from the growing ICT business requirements of large enterprises and SMEs, but the finanical results from its enterprise digital services show that there are still challenges to be overcome."

IoT, security and cloud are areas of focus for many operators' enterprise divisions. Telefónica, unlike most operators, provides financial results for these segments of its business, which allows us to assess how well it is performing. Telefónica is well-positioned to benefit from the growing ICT business requirements of both large enterprises and SMEs in its target geographies, but the financial results from its enterprise digital services indicate that there are still challenges to be overcome.

M2M and enterprise security revenue grew strongly in 2017, but the cloud services market struggled

Within its digital services portfolio, Telefónica's focus is on four areas – video, cloud, security and M2M, with the latter three being mainly aimed at enterprises. The company's total (enterprise and consumer) revenue from these three service streams in 2015, 2016 and 2017 is shown in Figure 1. These areas accounted for 22% of Telefónica's digital services revenue (EUR5.24 billion) in 2017. The remaining 78% was mostly generated from video services, with a small proportion from advertising, applications and financial services.

Telefónica appears to be performing best in areas most closely related to the core connectivity business. M2M revenue, which is largely formed of connectivity revenue, grew by 31.7% in 2017. In the enterprise security sector, which is an obvious complement for connectivity, revenue grew by 24.3%. Cloud services, which are harder to cross-sell with connectivity, only grew by 2.5%.

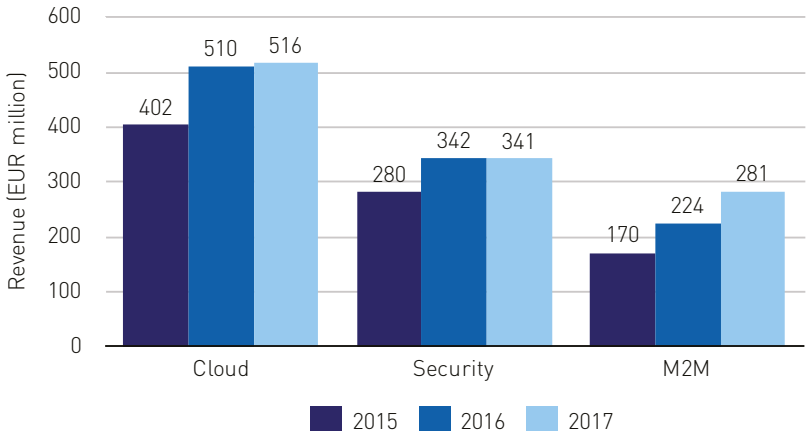

FIGURE 1: TELEFÓNICA'S TOTAL REVENUE (ENTERPRISE AND CONSUMER) FROM CLOUD, SECURITY AND M2M IN 2015, 2016 AND 2017 [SOURCE: ANALYSYS MASON, 2018]

Telefónica's position in the service areas represented in Figure 1 can be detailed as follows.

- **Cloud.** Capacity improvements enabled Telefónica to expand its portfolio of IaaS and SaaS products and achieve a 2.5% year-on-year revenue growth in 2017. The company's intention to target more SMEs with its cloud services was demonstrated by the expansion of its 'Cloud Servers' service to Argentina. This service allows enterprises to deploy a cloud server quickly without much technical knowledge, making it particularly suitable for SMEs that do not have strong technical skills.

  The main determinant of Telefónica's future success in cloud services is how well it differentiates itself from the cloud offerings of global IT market players such as Alphabet, Amazon, IBM and Microsoft. Recent moves by AWS and Google Cloud illustrate how competition is intensifying in Latin America,

threatening Telefónica's position. AWS opened offices in Chile and Colombia in 2017, where it has previously won several big contracts, and now aims to expand its customer base. Argentina and Chile were also reported to be candidates for the home of AWS's first South American data centre outside of Brazil in January 2018, with a possibility that a data centre could ultimately be deployed in both locations. Google Cloud opened a data centre in Brazil in 2017.

- **Security.** Although the total security revenue only increased by 0.7% from 2016 to 2017 (compared to 22.7% from 2015 to 2016), the security revenue from enterprise customers grew at a much higher rate of 24.3%. Security is an integral component of Telefónica's overall enterprise strategy and the company's current focus is on embedding it into its cloud, IoT and big data offerings. The operator is also aiming to make its offering more attractive for SMEs through the development of easy-to-consume security solutions. Security is a differentiator for Telefónica, not just a revenue generator.
- **M2M.** The M2M year-on-year revenue growth rate of 31.7% in 2017 was driven by an accelerated demand from multiple sectors, particularly automotive and retail. The number of Telefónica's M2M connections grew by 15.2% between 4Q 2016 and 4Q 2017, with this growth largely coming from Brazil (Figure 2). Indeed, of the additional 2.14 million connections, 1.31 million were in Brazil.

It is notable that M2M revenue grew faster than the number of M2M connections – usually the opposite is true. This suggests that Telefónica is either selling more high-value connections or more solutions that include more than connectivity, or a combination of both. Whichever is the case, this trend looks positive for Telefónica.

Another component of Telefónica's enterprise strategy is big data. The company's telecoms-data-as-a-service (TDaaS) 'Smart Steps' product uses anonymised and aggregated mobile data to help enterprises to shape their consumer-related strategies and processes across a range of industry sectors. These capabilities are also increasingly used by Telefónica to shape the development of its cloud and security platforms, which could prove to be a differentiator in the future.

Telefónica's other enterprise-focused efforts in big data include offering consultancy services through Synergic Partners, and providing big-data-as-a-service (BDaaS) to enable corporate customers to get the most out of their own data by using Telefónica's cloud infrastructure. However, Telefónica does not provide any indication of its revenue from these big data activities, suggesting that they are still relatively small. It may also be a challenge for Telefónica to develop these services at scale and not as a series of one-off consulting projects.

The main challenges that Telefónica needs to address to sustain and improve its financial performance in enterprise digital services are:

- its ability to differentiate itself from global IT market players in cloud services
- the use of big data capabilities to improve its cloud and security services, and in turn its security capabilities to underpin its cloud and IoT offering.

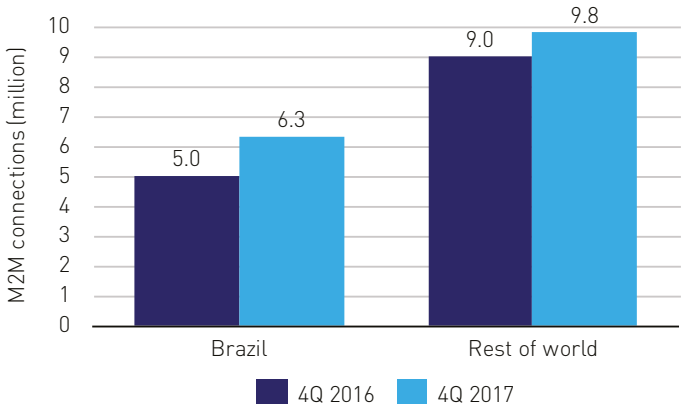

FIGURE 2: NUMBER OF M2M CONNECTIONS BY COUNTRY/REGION, 4Q 2016 AND 4Q 2017
[SOURCE: ANALYSYS MASON, 2018]

Questions?
Please feel free to contact Igor Babic, Research Analyst, at igor.babic@analysysmason.com

Analysys Mason's research shows that business pay TV accounts for a sizeable share of overall pay-TV revenue

> "Business pay-TV services could help operators to grow their enterprise revenue and increase customer loyalty."

IGOR BABIĆ
Research Analyst, Research

The number of business pay-TV connections and the related service revenue remain largely unreported by regulators and operators across Europe.[1] However, research by Analysys Mason suggests that business pay TV forms a sizeable portion of overall pay-TV revenue in many European countries. Operators should therefore consider the opportunities that this service presents, both for growing enterprise revenue and for increasing customer loyalty.

Business pay-TV services are particularly significant in countries with a strong tourism sector and large football viewership

In those countries where cable TV providers do not dominate the market, business pay-TV services present a growth opportunity for operators that have not historically targeted this sector. For example, Russian operator Rostelecom reported that its business pay-TV revenue grew 70% year-on-year in 2017 compared with its overall pay-TV revenue growth of 16% for the same period.[2] The market also has scale: we estimate that direct pay-TV revenue from businesses in Europe reached EUR2.26 billion in 2017, and that it accounted for nearly 6% of the region's overall pay-TV revenue. The proportion of pay-TV revenue derived from business services varies from country to country and is among the highest in Italy and Spain. Figure 1 shows a selection of countries to demonstrate this variation.

Our research suggests that revenue from business pay TV is particularly significant in countries with a strong tourism industry and/or where it is common practice to publicly follow, or bet on, sporting events.

Operators can charge businesses more for pay-TV services than they do residential customers

The premium charged to businesses that use pay-TV services is mainly dependent on the potential audience size and the content. Consequently, the average spend for business pay-TV services across Europe is significantly higher than for residential services. Figure 2 compares spending in these two sectors in selected European countries during 2017. Analysys Mason has examined the approaches taken by Movistar in Spain and Rostelcom in Russia to pricing business pay-TV services in order to highlight how operators address the market for different types of establishments.

Movistar identifies three customer categories for its business pay-TV services: bars, betting shops and hotels.

- It offers a pay-TV football package to bars at a monthly price of EUR275, while the same service is offered to betting shops for EUR472. The operator applies further fees for each additional TV within an establishment's premises that displays the content, and the fees for betting shops are higher than those for bars.
- The operator's pricing for hotels depends on the number of bedrooms and on its location. A detailed price structure is agreed on a case-by-case basis.

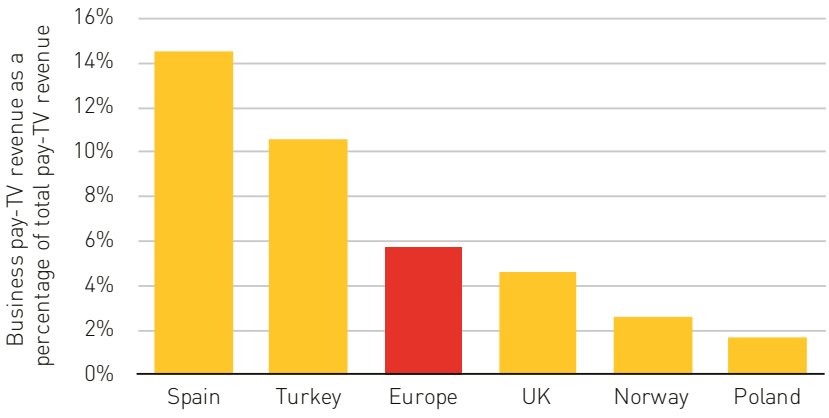

FIGURE 1: BUSINESS PAY TV AS A PERCENTAGE OF TOTAL PAY-TV REVENUE, EUROPEAN AVERAGE AND SELECTED COUNTRIES, 2017 [SOURCE: ANALYSYS MASON, 2018]

Rostelecom segments its business pay-TV customers into the following groups: bars and restaurants, offices, and hotels.

- The operator's suggested pay-TV package for bars and restaurants is offered at RUB949 (EUR13.1) per month. The addition of a football package incurs a further cost of RUB3390 (EUR46.8), bringing the monthly total up to RUB4339 (EUR59.9).
- For offices, the basic pay-TV package costs RUB420 (EUR5.8) per month. The addition of the same football package costs a further RUB339 (EUR4.7), ten times less than in the previous case.
- Rostelecom's standard package for hotel rooms is offered for RUB199 (EUR2.8) per month and adding the same football package costs the same as it does for an office.
- For comparison, the standard residential package (which includes roughly double the number of channels as each of the standard business packages) is offered for a monthly fee of RUB320 (EUR4.4).

These two cases clearly demonstrate that the inclusion of football content represents the main driver of the premium charged for business pay-TV services.

Selling business pay-TV services can improve upsell and churn

Operators can bundle pay TV with other business services to improve customer loyalty and increase enterprise revenue. Such bundles often include one or more of the following: fixed broadband, the installation of Wi-Fi at the establishment, a landline, and several mobile voice and data contracts. Our previous research concluded that the addition of pay-TV services has a positive effect on residential telecoms services churn.[3] For instance, we found that bundling pay TV with fixed broadband reduced the intention to churn by 37% in 2017 in Europe and the USA. Proximus in Belgium, for example, takes a bundling approach to selling business pay TV by including this service in all of its enterprise bundles. The operator's addition of 14 000 TV customers in the first quarter of 2018 was partially attributed to good traction for these bundles.

Although business pay-TV revenue is small in comparison with that of other telecoms enterprise services, pay-TV business solutions play an important role in serving the needs of many enterprises, particularly those operating in the hospitality sector. Operators should be alert to the opportunities presented by business pay TV and should consider using their bundling capabilities in this context to enhance customer satisfaction, sell more of these services, and consequently increase enterprise revenue.

Questions?
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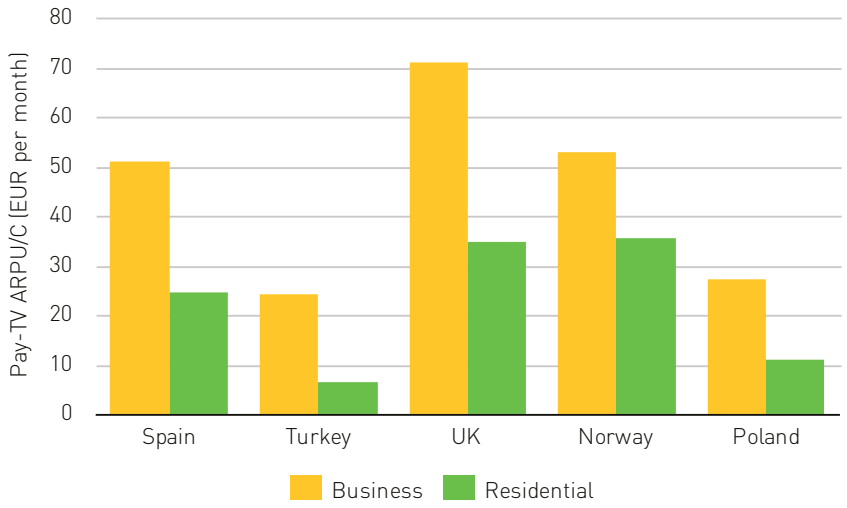

FIGURE 2: COMPARISON OF BUSINESS AND RESIDENTIAL PAY-TV ARPU/C FOR SELECTED EUROPEAN COUNTRIES, IN EUR PER MONTH, 2017 [SOURCE: ANALYSYS MASON, 2018]

[1] Analysys Mason calculates its numbers for business pay-TV services (that is, those pay-TV services subscribed to by businesses/enterprises) and residential pay-TV services separately.

[2] Rostelcom (March 2018), Financial and operational results for 4Q 2017 and FY 2017. Available at: www.rostelecom.ru/upload/protected/iblock/0a1/4Q2017%20Presentation%20for%20conf%20call_eng.pdf.

[3] For more information, please see Analysys Mason's Connected Consumer Survey 2017: TV and video in Europe and the USA.

Customer care is the key opportunity to differentiate fixed services for large enterprises

“Operators have various, sustainable means of differentiating their fixed services, even if connectivity is viewed as a commodity.

TERRY VAN STADEN
Research Analyst, Research

Fixed connectivity demand is saturated in high-income markets, forcing operators to compete on price, thereby reducing value and putting pressure on revenue streams. Connectivity consists of many different elements, some of which are hard to differentiate (such as the fibre itself). However, "even if the physical product is a commodity, other activities can often lead to substantial differentiation".[1] Operators should focus on areas where differentiation is possible, such as service and support – these are elements that we know enterprises value beyond value-added features or technology.

This article is based on our strategy report, *High-speed fixed connectivity for large enterprises: operator approaches to differentiation*, which outlines three different approaches for operators to differentiate their fixed services. This article summarises the first and most important approach to differentiation – customer service.

Operators should seek to differentiate at all stages of the service value chain

There are three main stages in the delivery of a connectivity service and operators should look to refine their processes by targeting several KPIs at each stage (Figure 1). In many ways, the most important step that operators can take is to simply track these KPIs: you get what you measure. Having the means with which to track progress is critical to providing better customer service.

Operators have considerable scope to stand out from the earliest stages of the contract in order to drive interest from customers

Enterprises often receive poor service from the very beginning of a sale. Inaccurate quotes or excessive quote iterations can lead to dissatisfaction. Operators should make use of tools and cloud communication platforms to streamline and enhance sales communication and quotation methods. There is also a clear financial incentive for operators to refine sales processes; better sales initiatives can lead to an increase in the number and speed of sales.

For example, Verizon has implemented tools for network design and for the generation of quotations, contracts and proposals, which integrate with each other to automate much of the sales and quotation process. These tools can help both network engineers and sales staff. Verizon reports a reduction in the cycle times of these processes of 50% once using these tools.

Poor service delivery is a common problem in the industry and can be improved through simple measures

Excessive lead times and backlogged orders can harm customer satisfaction; operators should continually review their service delivery processes to find ways to refine and improve service delivery.

For every scenario, such as if the premise is currently on-net or off-net, operators should have standardised guidelines on lead times and should look to continually refine these. Colt aims to constantly improve its service delivery processes to reduce lead times, placing more work in parallel (such as internal and external fibre works) than in sequence. Its Net Promoter Score (NPS) for service delivery has improved by almost 20 points, from 27 in 2015 to 45 in 2017.

Communication is a fundamental driver of satisfaction and a core facet of service assurance

High customer satisfaction is a strong differentiator, particularly in saturated markets.

Communication is perhaps the most important part of service assurance, and operators should be proactive in communicating both successes and failures to customers. Operators should inform customers of faults, highlight the steps that will be taken to address the problem and provide an estimated resolution time. For incident management, the initial response time and the management of customer expectations may be the most important ways to keep customers satisfied.

Conversely, when operators' networks have performed above SLA standards they should communicate this to customers to drive awareness and boost satisfaction. This can be done via monthly network performance reports or through a portal that allows customers to track KPIs in real time.

Operators should regularly survey their clients regarding satisfaction with their services for the following two fundamental purposes.

- To enhance communication between operators and enterprise customers.
- To gain visibility and insight into the main drivers of satisfaction and how services can be improved.

Operators should focus on the basics of customer service to improve satisfaction

Operators should work hard to show that connectivity is not a commodity and that their fixed services are differentiated. There are numerous, sustainable bases for differentiation around aspects of customer care, integration with ICT services and making use of technological developments; however, enterprises value the basics of customer service far beyond value-added services and features, and there is considerable room for operators to improve their customer service and use this as a strong differentiator.

Analysys Mason is helping a number of clients to develop their enterprise strategies, both through our published research and through consulting projects.

Questions?
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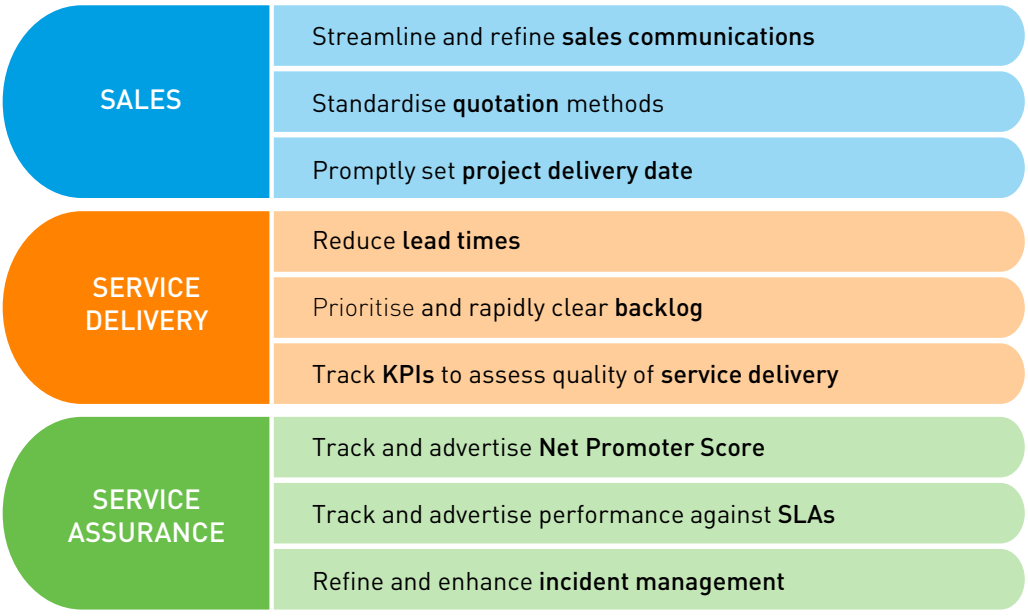

FIGURE 1: KPIs ASSOCIATED WITH EACH STAGE OF SERVICE DELIVERY [SOURCE: ANALYSYS MASON, 2018]

[1] Quote from Michael Porter's "Competitive Advantage", 1985.

Huawei's move to provide enterprises with a one-stop public cloud and network service threatens operators

CAROLINE CHAPPELL
Research Director, Research

"Huawei is promising to become a heavyweight in the global public cloud market with the potential to compete against operators for cloud connectivity services."

Huawei announced a major shift in its public cloud strategy at its analyst summit in April 2018. Huawei aspires to become a 'top five' global public cloud provider alongside Alibaba, AWS, Azure and Google, without relying on the cloud infrastructure that it had hoped to build with operator partners. Huawei expects to embed a host of smart services into its public cloud, including advanced SDN capabilities, to appeal to enterprises looking for a single ICT infrastructure provider. Huawei's cloud networking capabilities could differentiate it from other public cloud providers and could allow Huawei to usurp operators' roles in providing cloud connectivity.

Huawei will add networking capabilities to its public cloud

During 2017, Huawei failed to grow the community of operators choosing to base their public cloud solutions on its digital infrastructure beyond the four companies that had already signed up: China Telecom, Orange Business Services (OBS), Telefónica and T-Systems. Cisco, HPE and IBM have similarly targeted operators as resellers for their cloud stacks. HPE has had reasonable success in attracting operators to its Cloud 28+ ecosystem, but Huawei entered the market later and has found operators resistant to the siren call of public cloud.

Meanwhile, Huawei's success at selling directly to enterprises is increasing. Huawei's Enterprise business unit (BU) reported revenue growth of 35%, bringing the total revenue to CNY54.9 billion (USD8.4 billion). In contrast, the Carrier BU (with a total revenue of CNY298 billion (USD 45.7 billion)) grew by only 2.5%. The exodus of experienced and ambitious Huawei staff from the Carrier BU to the Enterprise BU over the past months is a further sign that the Enterprise BU is gaining importance.

Huawei's leadership has lost patience with a go-to-market strategy that depends on operators building out cloud infrastructure, and has decided to target enterprise customers directly with a Huawei-branded public cloud. Eric Xu, Huawei's rotating CEO, suggested that Huawei's revenue target for external customers 'is not a small number' and that its Enterprise BU would play a large part in recruiting said customers.

Scale matters in the public cloud. Huawei is taking a leaf out of Amazon's book, and in 2017, consolidated all of its internal operations (ecommerce, mobile services and internal IT systems) on its public cloud. When the company launched its new P20 phones through its vMall ecommerce system, orders reached CNY100 million (USD16 million) in 10 seconds. Huawei also claims that its cloud stores and processes 10 trillion records on behalf of over 1000 customers.

Huawei is banking on the fact that few companies have deep enough R&D pockets to invest in cloud technologies at the same rate as the top four global leaders in its bid to become the fifth public cloud provider worldwide. Huawei's overall R&D bill came to nearly 15% of its revenue in 2017, at around CNY90 billion (USD14 billion). This spend will increase in line with future revenue growth: Huawei's revenue has had a CAGR of 26% over the past 5 years. Huawei has 70 000 developers and 400+ cloud solution partners contributing to its public cloud platform, and has a growing reseller community beyond its four 'strategic' operator partners.

Huawei says that it has already developed innovative orchestration and server and storage technology, which together underpin the cost economics of a public cloud. Blockchain and AI, two cloud-based technologies that its web-scale rivals are racing to develop, featured heavily in Huawei's presentations at the summit.

But where Huawei intends to differentiate from the 'big four' cloud providers – and where it could threaten operators – is through its cloud networking capabilities. Huawei promises to add SD-WAN with one-click VPN provisioning, as well as campus networking support to its public cloud portfolio, based on products it is developing for carrier customers. It could do more, such as host its cloud-native mobile packet core for enterprises that want to run private IoT networks, for example. If operators fail to invest in virtualised networks, Huawei can and will increase the ease of use and attraction of its cloud to enterprise customers.

Operators' options to contain Huawei's threat

It will take time for Huawei to ramp up its enterprise cloud strategy outside China where it owns five cloud data centres and where it has a massive market opportunity to exploit. So far, its enterprise references outside China have largely been made by its strategic operator partners, such as Orange Business Services' deal with Groupe PSA. The global service platform for Groupe PSA's car sharing, rental, resale and fleet management businesses will

reside on Huawei cloud infrastructure, managed by OBS. Some country markets, such as the USA and potentially Australia, given its government's concerns with Huawei, will remain immune to Huawei's threat. Operators should nevertheless monitor Huawei's cloud plans, or they may risk losing enterprise customer relationships to the newest public cloud provider on the block.

Operators should consider the following points.

- **Becoming a strategic operator partner.** Huawei is not abandoning this strategy and its Carrier BU would welcome the business. Vincent Guesdon, VP Strategy and Development at OBS, pointed out that OBS's cloud revenue grew by 21% in 2017, and Huawei offers a convincing set of cloud technologies and a ready-made partner footprint in China, Europe, Latin America and Singapore.
- **Adding Huawei to the list of public cloud providers** that they connect to on behalf of enterprise customers. Operators have an excellent opportunity to become cloud brokers given that 81% of businesses have a multi-cloud strategy, according to OBS. Huawei is likely to gain a chunk of enterprise cloud business at least in Africa, Asia–Pacific and central Asia.
- **Improving their network-based services** through automation and virtualisation to provide a compelling customer experience for enterprise customers. This will make it less likely that customers will be tempted by one-stop cloud and connectivity solutions such as those that Huawei intends to provide.

As Huawei has shown in the carrier business, it persists and invests to gain market share. That the cloud market is already crowded with strong players is unlikely to deter Huawei. Huawei is better placed than Alibaba, AWS et al to offer telecoms services, such as SD-WAN, as part of its cloud solution. Operators should consider what Huawei as an enterprise cloud provider could mean for their own cloud ambitions.

Questions?
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Rackspace's infrastructure-agnostic managed cloud services brings it into competition with many operators

CATHERINE HAMMOND
Principal Analyst, Research

"Rackspace's shift towards offering infrastructure-agnostic managed cloud services brings it into direct competition with many telecoms operators."

Rackspace provided an update regarding its delivery and management of hyper-scale public clouds (including AWS and MS Azure) at its recent analyst day for Europe and the Middle East (EMEA).

The revenue generated by hyper-scale public cloud platforms continues to grow at a rapid rate, and enterprises are increasingly adopting a multi-cloud strategy. It is therefore becoming more difficult for smaller providers such as Rackspace to provide a complete solution to customers based on their own infrastructure. Rackspace is increasingly turning its attention to driving growth by acting as a service provider for hyper-scale cloud providers such as AWS. Alongside this, it offers cloud management, managed security and end-user applications, underpinned by a growing professional services capability. As such, it is competing directly with telecoms operators that are following the same strategy.

Rackspace aims "to be recognised as 'the world's IT-as-a-service leader' for the world's leading clouds"

Rackspace has long been recognised for the quality of its managed cloud services based on its VMware and OpenStack offerings. It already serves more than half of the FTSE 100, boasts a Net Promoter Score (NPS) of 55 and claims industry-leading levels of low churn. However, the performance of Rackspace's traditional markets of co-location, private cloud and OpenStack-based public cloud is slowing, relative to that of the hyper-scale public-cloud market. Rackspace is therefore expanding its portfolio to address higher growth areas including support for hyper-scale infrastructure platforms, managed security and end-user applications. It states that its mission is "to be recognised as 'the world's IT-as-a-service leader' for the world's leading clouds".

Rackspace will benefit from enterprises' rapid adoption of hyper-scale platforms by forming strong partnerships with hyper-scale providers

Over the last few years, the public-cloud market has become increasingly dominated by a small number of hyper-scale providers (such as AWS). The revenue of these hyper-scale providers has grown rapidly. These providers rely on partners to deliver management and technical support for their solutions, and partners have been able to piggy-back onto the rapid growth in popularity of the platforms. Figure 1 highlights the recent revenue

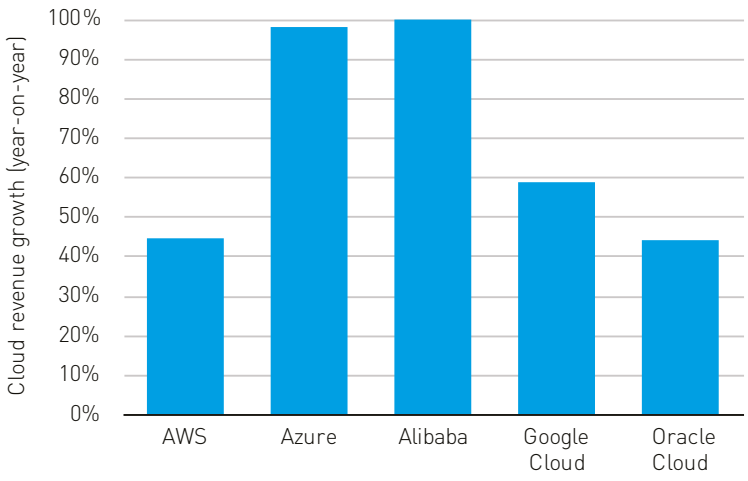

FIGURE 1: CLOUD REVENUE GROWTH (YEAR-ON-YEAR), BY MAJOR CLOUD PLATFORM PROVIDER, 4Q 2017[1] [SOURCE: COMPANY REPORTS, PRESS RELEASES AND ANALYSYS MASON ESTIMATES, 2018]

growth for the major cloud platforms.

While Rackspace has continued to experience revenue growth, it is hard for the company to match the growth rates of the hyper-scale players by building and selling its own infrastructure. Rackspace can accelerate its net revenue growth by developing stronger partnerships and selling third-party infrastructure platforms alongside its own. Rackspace also sees significant growth potential in delivering managed security and applications over these infrastructure platforms.

Several telecoms operators are pivoting their cloud strategy in a similar way. For example, in 2018, Telefónica entered into strategic partnerships with AWS and Microsoft to deliver their cloud services within a managed multi-cloud environment.

Professional services are becoming a more important part of Rackspace's proposition

A degree of professional services support has been an important differentiator for Rackspace's managed cloud services for many years, but in April 2017, Rackspace launched a separate Global Services and Solutions division providing professional services as a standalone service that is separate from its infrastructure services.

As multi-cloud deployments become more complex, there is a greater need for professional services at an earlier stage of cloud migration, and many enterprises now issue RFPs that require professional services as part of a managed cloud services bid. Other enterprises may procure professional services initially in order to evaluate potential options for cloud migration, and the suppliers of these services often go on to become the preferred choice for the cloud management solutions themselves. For Rackspace, the provision of professional services therefore expands its potential customer base for its more established services.

Again, this is a trend that is repeated by telecoms operators in the cloud space; a couple of major operators have recently mentioned that they are seeking to build up their own professional services capabilities as a route to market for managed cloud, rather than relying on partnerships.

Rackspace will need to carefully manage the transition from delivering services based on its own infrastructure to relying on third-party public-cloud infrastructure

The majority of Rackspace's revenue in EMEA is delivered by its managed hosting and private-cloud services, along with its managed OpenStack public-cloud offering. As enterprises migrate from these services to hyper-scale public-cloud offerings, which are typically cheaper in terms of unit price, the challenge for Rackspace will be to preserve its revenue and margins. Migrating additional customer workloads to the cloud will address this to some extent, but upselling security and professional services is more likely to preserve margins. By pursuing a strategy of actively marketing its hyper-scale cloud offers, Rackspace is accepting the transition as inevitable and is making use of its current position to build market share in adjacent services.

Rackspace is better positioned in this respect than systems integrators that are reliant on legacy IT services for much of their ongoing revenue streams and must be cautious about cannibalising these by accelerating cloud migration. T-Systems's recent announcement of job cuts highlights these struggles, and its revenue growth in new services (including cloud security and managed cloud services) is currently insufficient to offset the revenue decline in 'classic IT' services. Other telecoms operators have more limited exposure to legacy IT services, although many have experienced pressure on datacentre revenue as enterprises shift from purchasing co-location and hosting to buying IaaS services delivered from hyper-scale datacentres.

Much of Rackspace's new business in EMEA has, to date, been focused in the UK, but it is aiming to extend its reach into other European markets. Telecoms operators that are pursuing a similar strategy to that of Rackspace have a clear advantage in terms of local market presence and ownership of the network connectivity that forms a fundamental component of the cloud ecosystem. However, Rackspace is on familiar territory when selling managed cloud services and is less likely to suffer from a customer perception problem. Rackspace's growing expertise in the domains of managed security and professional services also places it ahead of telecoms operators that have tended to rely on acquisitions and partnerships to deliver these services.

Questions?
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[1] Information taken from the companies' financial reports and press releases. The revenue growth for Google Cloud is estimated based on third-party reports.

Analysys Mason's Enterprise Research

The SME and enterprise communication programmes have a common structure with forecasts, surveys and strategic analysis

	SME Strategies	Large enterprise voice and data connectivity	Large enterprise emerging service opportunities
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Survey	• Survey of 8 countries with over 1000 SMEs interviewed • Questions on current services, satisfaction and future purchase intentions	• Survey of 8 countries with over 500 large enterprises interviewed • Questions on current services, satisfaction and future purchase intentions for voice and connectivity	• Survey of 8 countries with over 500 large enterprises interviewed • Questions on current services, satisfaction and future purchase intentions for new services
Strategy reports & commentary	Reports such as: • Strategies for bundling cloud services with voice and data connectivity • Operator best practice for selling to SMEs	Reports such as: • Approaches to enterprise fixed and mobile bundling • Strategies for differentiating enterprise connectivity	Reports such as: • Strategies for combining IT services and the traditional telecoms portfolio • Best practises of operators selling SaaS to large enterprises

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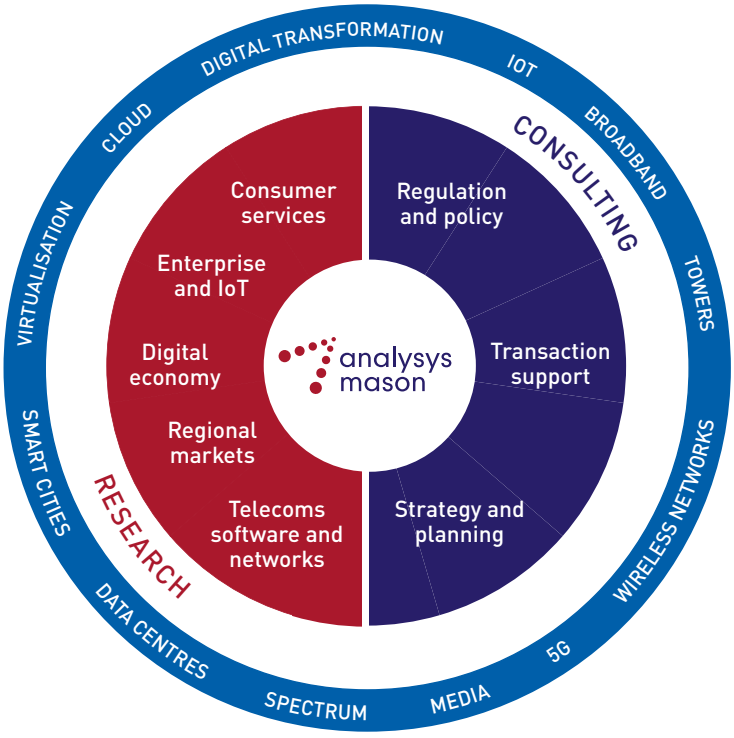

"Analysys Mason is a global consulting and research firm, specialising in telecoms, media and technology (TMT). Since 1985, Analysys Mason has played an influential role in key industry milestones and has helped clients through major shifts in the market. We continue to be at the forefront of developments in the digital economy and are advising clients on new business strategies to address disruptive technologies."

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