



# Large enterprises' demand for communications and IT services: survey results 2021



Analysys Mason





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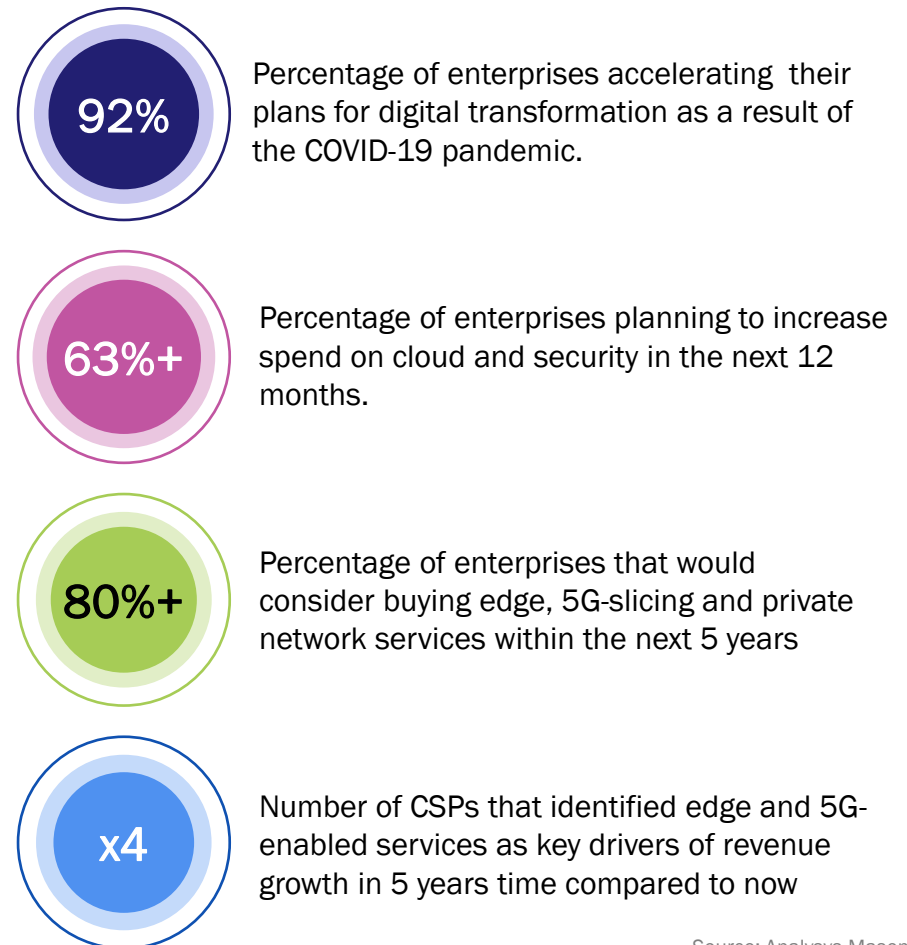
# Our survey results show that there is an accelerated and sustainable demand from enterprises for digital services in response to the COVID-19 pandemic

Analysys Mason conducted a survey of 16 communications service providers (CSPs) and more than 200 multinational corporations (MNCs) between February and May 2021.

The aim of the research was to explore how well-positioned CSPs are to meet future enterprise demand for communications and IT services. It highlighted that:

- enterprise adoption of IT services has accelerated in response to the COVID-19 pandemic.
- enterprise spend on IT services is expected to increase further in the next 12 months
- for many CSPs, revenue from connectivity services is stagnating or in decline
- cloud, security and IoT services are already key drivers of revenue growth for many CSPs.
- the combination of edge, 5G and private networks will create new opportunities for CSP revenue growth in the next 5 years.

Figure 1: Key metrics highlighting growth in digital services



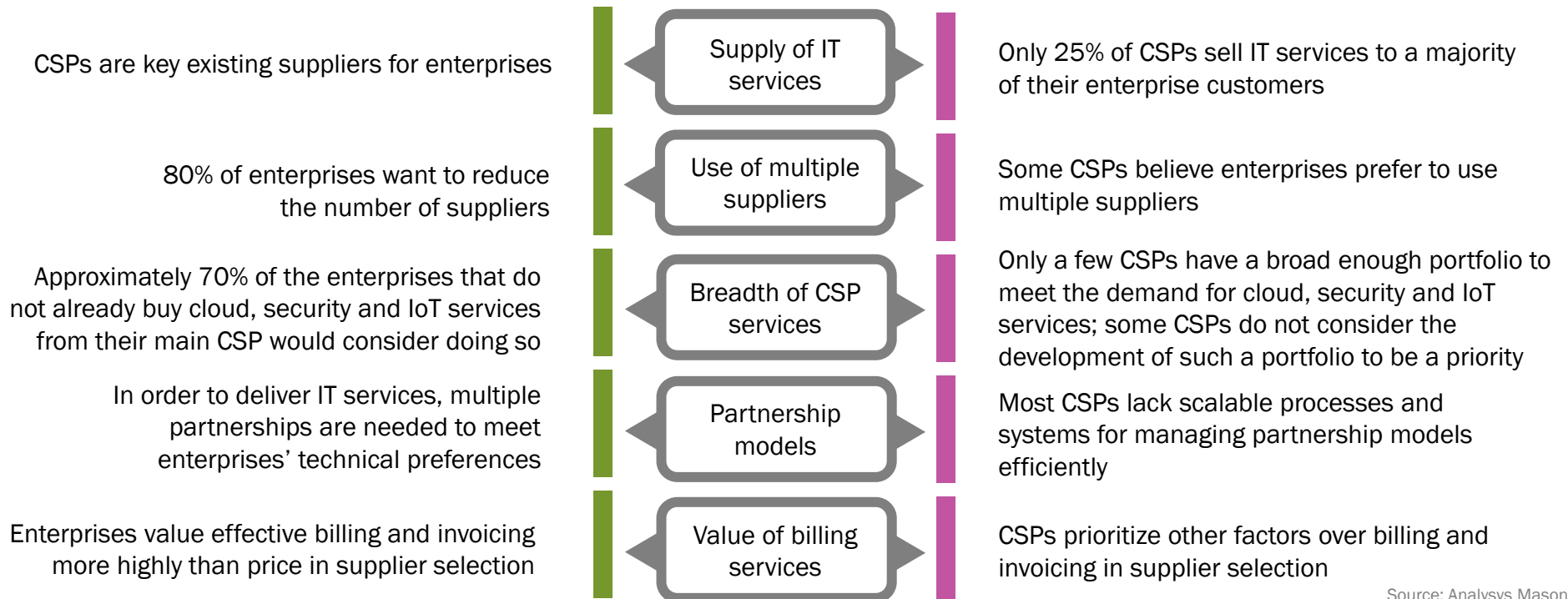
Source: Analysys Mason

# Disparities in the views of CSPs and enterprises mean that CSPs may fail to benefit fully from the opportunities available



## Enterprise views

## CSP views



Source: Analysys Mason

## Many CSPs' current billing systems do not adequately support the delivery of complex enterprise services at scale

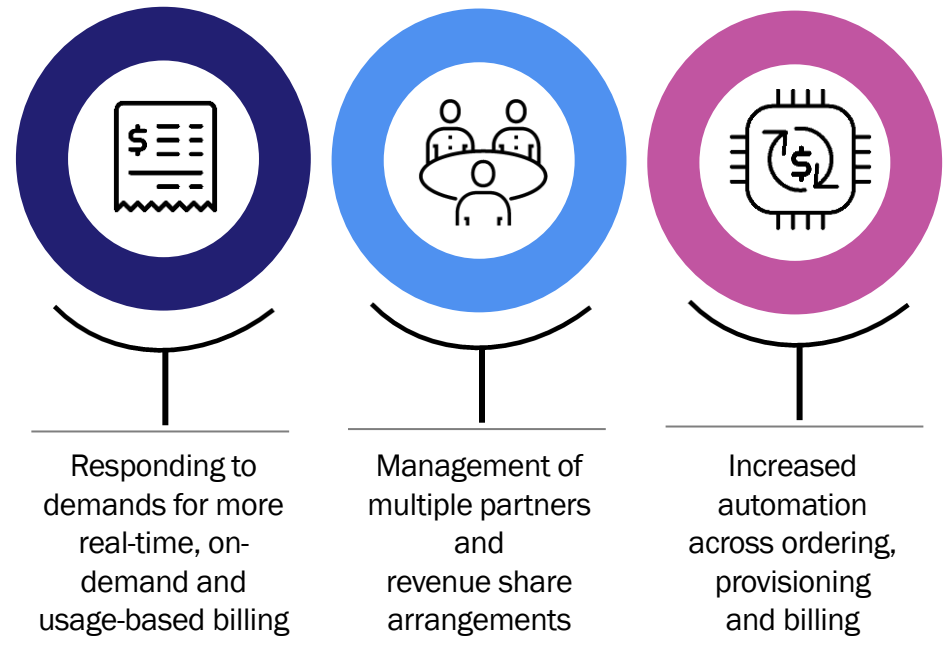
CSPs are meeting the current enterprise demand for billing and invoicing services but it will be more challenging for them to meet future demand as more products are delivered 'as-a-service'.

Our research highlighted that:

- many CSPs rely on manual and ad hoc systems to meet current enterprise demand for billing and invoicing, especially for multi-country invoicing and for emerging services such as cloud
- the failure to provide accurate and timely invoicing rapidly leads to customer dissatisfaction and late payments; this is also an important contributor to customer churn.
- the delivery of good invoicing services will become increasingly complex as CSPs launch new services
- a proliferation of partnerships between CSPs and IT specialists will add further complexity to billing and cost reconciliation for CSPs

Some CSPs have billing processes that seem inadequate for supporting future revenue growth driven from new IT services.

Figure 2: Key billing challenges that CSPs face



Source: Analysys Mason



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## Introduction: this report presents our research findings on enterprises' future demand for communications and IT services

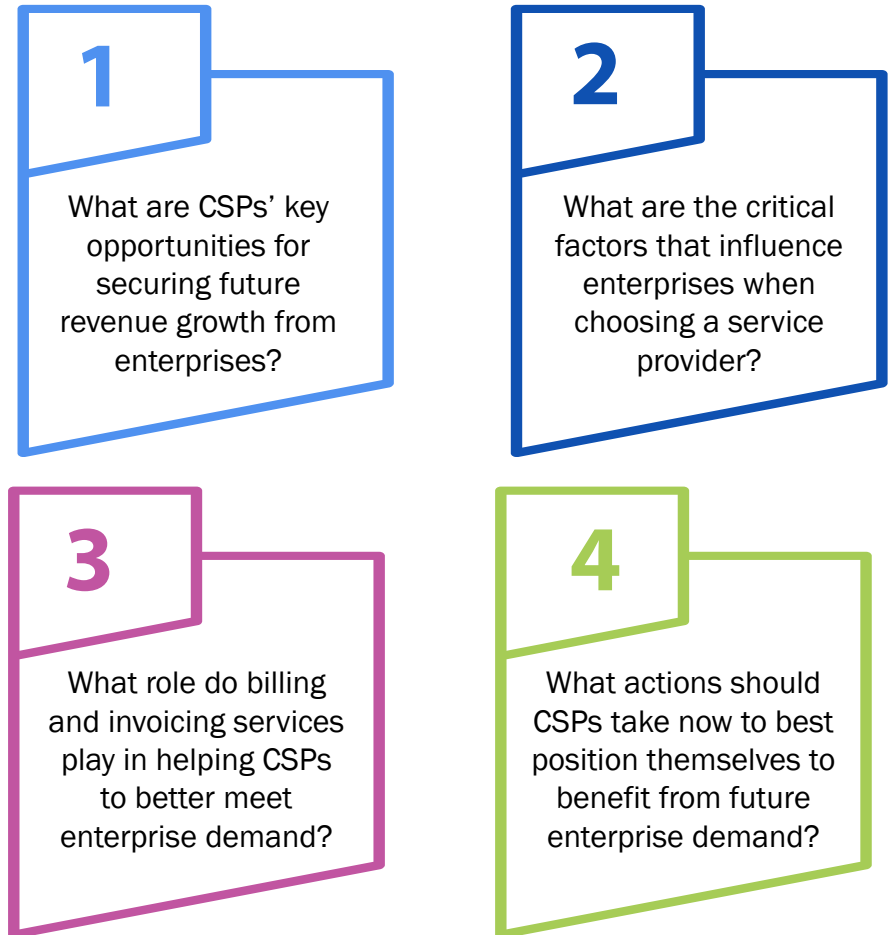
CSG commissioned Analysys Mason to explore how well positioned CSPs are to meet future enterprise demand for communications and IT services.<sup>1</sup>

Two parallel surveys were conducted between February and May 2021:

- a survey of 209 large global enterprises with at least USD2 billion in annual revenue (hereafter 'Enterprise survey')<sup>2</sup>
- a survey of 16 CSPs, each with a significant enterprise unit (hereafter 'CSP survey')<sup>2</sup>

This report was commissioned by CSG. Analysys Mason does not endorse any of the vendor's products or services.

Figure 3: Key questions addressed in our research



Source: Analysys Mason

<sup>1</sup> See the appendix of this report for further information about CSG and Analysys Mason.

<sup>2</sup> Further details about the breakdown of respondents in both surveys, and the questions asked, are provided in the appendix.

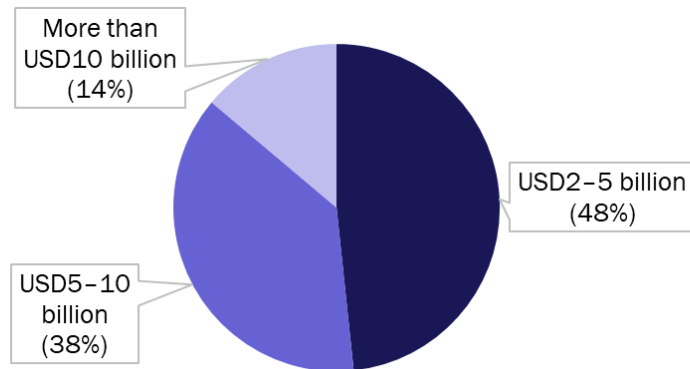
## Survey overview: the two surveys focused on large enterprises and CSPs with a strong enterprise unit

The **Enterprise survey** asked respondents about their current and planned use of communications and IT services, their approach to supplier selection and their experiences of billing and invoicing services from suppliers.

All the enterprises surveyed have at least USD2 billion annual turnover and more than 2500 employees. 85% of the enterprises surveyed operate in multiple countries and 83% have at least 10 physical sites.

Respondents included IT managers and other senior managers.

Figure 4: **Enterprise survey:** What was the annual revenue of your business in your last full financial year?



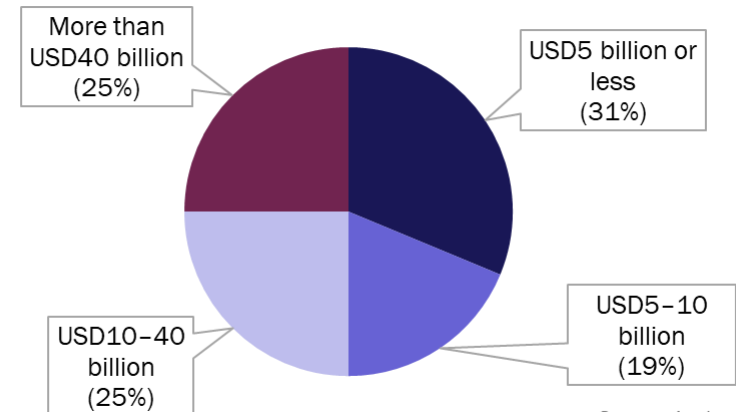
Source: Analysys Mason

The **CSP survey** asked respondents about areas of current and future revenue growth for enterprise services, factors influencing supplier selection and CSPs' experiences of delivering billing and invoicing services.

Half of the CSPs surveyed have annual revenue in excess of USD10 billion and all have a strong focus on the enterprise market.

Respondents included heads of business services, sales, strategic engagements, product management, marketing and billing.

Figure 5: **CSP survey:** Respondents by total revenue in 2020



Source: Analysys Mason



## Survey overview: both surveys included a broad cross section of respondents

Figure 6: Enterprise survey and CSP survey: Share of respondents by region (based on location of headquarters)

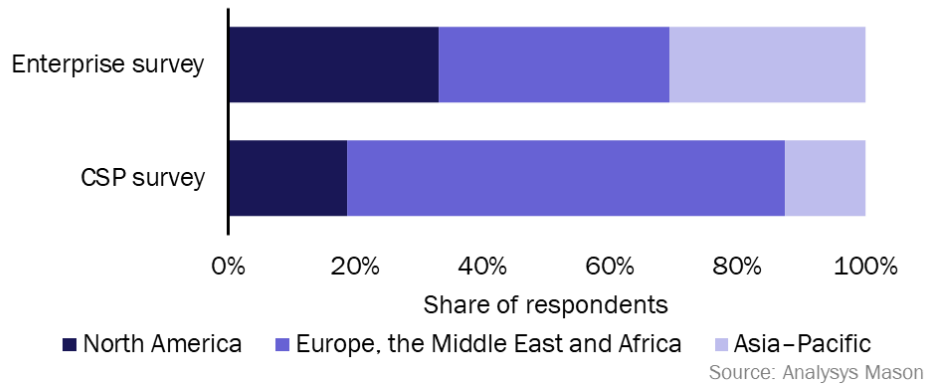


Figure 8: Enterprise survey: Share of respondents by industry vertical

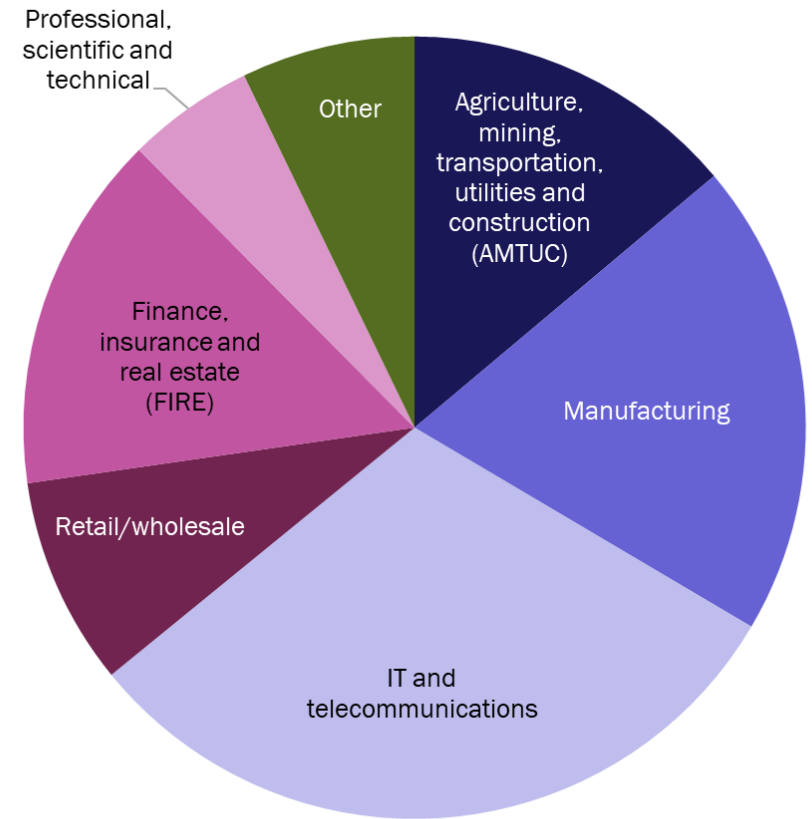
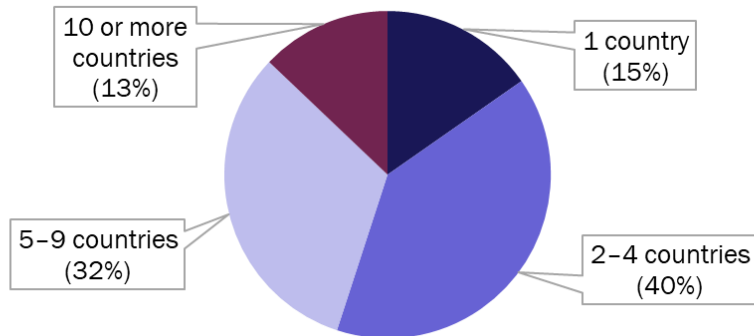


Figure 7: Enterprise survey: Share of respondents by the number of countries that the enterprise operates in



Source: Analysys Mason

Source: Analysys Mason

## Report overview

The remainder of this report is organised in three main sections.

- **Changing patterns of enterprise demand for communications and IT services.** This section explores the impact of the COVID-19 pandemic on enterprises' current demand for these services and their future spending plans. It also examines CSP expectations about which enterprise services are most likely to drive future revenue growth.
- **The opportunity for CSPs.** This section identifies the critical factors that influence enterprises' choice of service provider. It also explores the use of multiple suppliers and assesses the opportunity for CSPs to deliver a broader range of services than those that they currently supply to enterprises.
- **The role of billing and invoicing.** This section explores how CSPs are currently meeting enterprise demand for billing and invoicing services, and how this is affecting customer satisfaction. It also identifies the key challenges that CSPs are facing with their billing systems at a time when services are evolving to meet changing enterprise demand.

In the **Conclusions** section, we recommend actions that CSPs can take to benefit from future enterprise demand for communications and IT services.

The **Appendix** section provides further details of both surveys, a breakdown of respondents and a list of the questions that respondents were asked.

Results from the enterprise survey are broken down by:

- key industry verticals
- geographic region
- size of business in terms of revenue and number of countries that the enterprise is active in.

The Appendix section also provides information about CSG and Analysys Mason.



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## Key findings: new IT delivered via partnerships will represent a growing source of CSP revenue from large enterprises

Enterprise spend on communications and IT services is expected to increase and to diversify

- Very large enterprises already purchase a complex range of communications and IT services from multiple providers
- Almost all enterprises have accelerated their plans for digital transformation in response to the impact of COVID-19
- Most enterprises anticipate increased spending on communications and IT services in the next 12 months, especially for cloud and security services.

Revenue growth opportunities for CSPs are focused on IT services delivered over current and next-generation networks

- Connectivity accounts for most of CSPs' current revenue from large enterprises, but cloud, security and IoT services are the main drivers of revenue growth
- Over the next 5 years, the combination of edge, 5G and private networks will generate new revenue opportunities for CSPs
- Partnerships are an essential part of IT service delivery for CSPs. This has implications for the processes, sales approach and margins associated with new services.

Source: Analysys Mason

## Impact of the COVID-19 pandemic: enterprises have accelerated their digital transformation plans

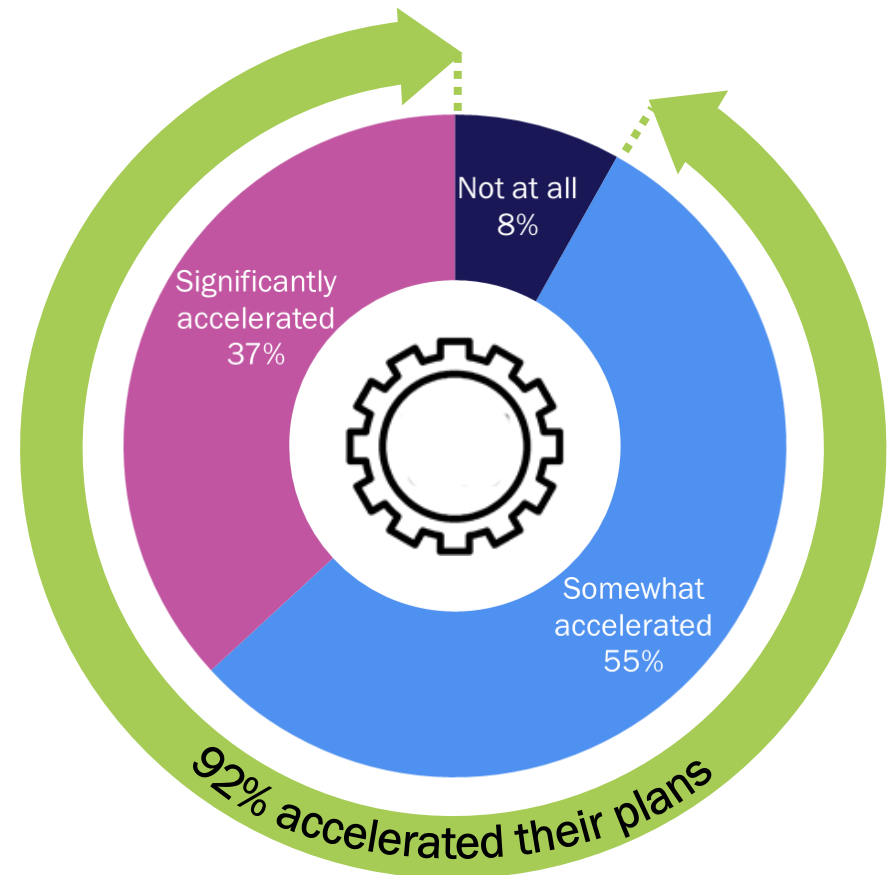
More than 90% of enterprises report that they have accelerated plans to adopt or increase usage of IT services as a result of COVID-19.

Most CSPs experienced a huge growth in demand for services, including VPNs and secure remote access, to support home working in 2020. Others also noted increased demand for contact center, unified communications, e-commerce and network-as-a-service. Some IT projects had been delayed but are now resuming.

Most CSPs felt that enterprise demand for IT services is likely to remain strong. However, one noted that businesses are under revenue pressure and are investing less and another mentioned that branch closures are impacting spend. In general, a decline in spending was seen only among smaller domestic businesses.

- “
- “Lots of companies are expediting digital transformation. Focusing more on IoT, analytics, cloud.”
  - “Within the IT domain spending increased, especially from large enterprise and government.”
  - “There was a slowdown in larger ICT projects in the initial phases but [this] recovered by end 2020.”
- ”

Figure 9: Enterprise survey: Impact of COVID-19 on plans to use services such as IoT, security, cloud and unified communications<sup>1</sup>



Source: Analysis Mason

<sup>1</sup> Has the impact of COVID-19 accelerated your plans to adopt or increase usage of additional services such as IoT, security, cloud and unified communications?

# Enterprise spend: more enterprises will increase spending on ICT services than on communications services in the next 12 months

Most enterprises expect to increase their spending on IT and communications services in the next 12 months; less than 10% of enterprises expect to decrease spending on any service other than fixed voice, data and IoT.

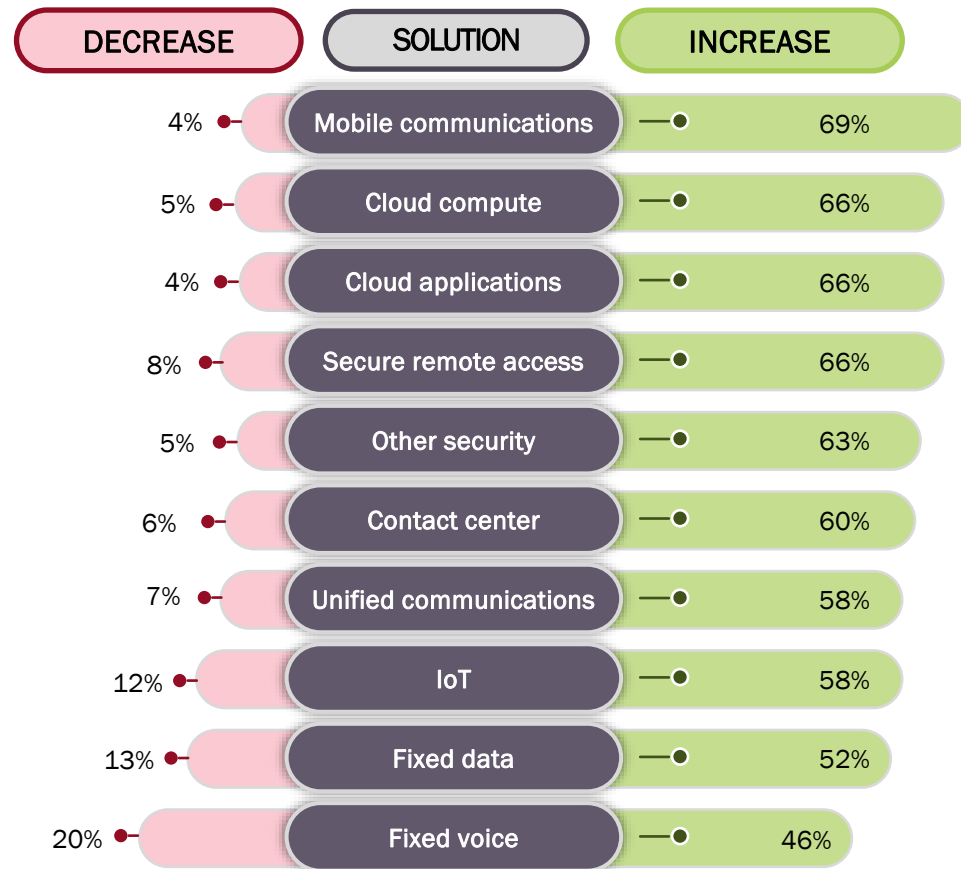
Many enterprises expect to continue to increase their spending on services such as unified communications, contact center and security solutions, all of which have benefitted from rapid adoption in 2020.

The proportion of enterprises reporting an expected increase in spending on cloud services is particularly high, at 66%, which reflects the growing importance of these services for business continuity.

The percentage of enterprises that plan to increase their spending on mobile communications is also high, which likely reflects a return to pre-pandemic usage levels that before business travel was impacted in 2020.

Among those enterprises expecting to increase spend on services, 30–40% expect to increase their spend by more than 10%.

Figure 10: Enterprise survey: Do you expect to change levels of spend on these services in the next 12 months?<sup>1</sup>



Source: Analysys Mason

<sup>1</sup>For each service, figures are presented as a share of those enterprises already buying this services or with plans to start buying it within the next 12 months. Those enterprises not planning to increase or decrease spend plan to maintain current levels of spend.

## CSP revenue: CSPs' share of enterprise IT spending may be decreasing

CSPs' revenue from IT is increasing, but not as rapidly as enterprises are increasing their IT spending, which suggests that CSPs' share of this spend is falling.

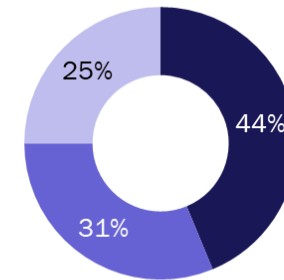
Many of the CSPs that we surveyed reported selling IT services to a growing share of enterprise customers, though some have made more advances in this area than others. Only a quarter of CSPs report selling services other than voice and data connectivity to a majority of enterprise customers (see Figure 11).

“

- *“Most customers have multiple products. IT is growing.”*
- *“Most [take IT services]. We have some pure play security and advanced comms customers.”*
- *“[60%] take some services. [15%] take a lot.”*
- *“IT services account for 15–18% revenue. Perhaps 30% for large enterprise.”*
- *“Less than 10% of customers [take cloud, data ar security].”*

”

Figure 11: CSP survey: Split of CSPs by share of enterprise customers taking services other than connectivity



■ Minority of customers ■ Around half of customers ■ Majority of customers

Source: Analysys Mason

The anticipated growth in spend on communications and IT services reported by enterprises does not align with CSPs' experience.

Several CSPs noted a decline in connectivity revenue, but some highlighted revenue growth in services such as dedicated internet access and SD-WAN. Some reported that increased spend on IT services may offset losses in connectivity revenue but rarely deliver overall revenue growth.

“

*“New services compensate for the spend reduction in old – traditional MPLS is moving to SD-WAN and Internet [leading to a revenue] decline, but we're seeing compensation from other services.”*

”

## CSP revenue: cloud and security services are driving CSPs' current revenue growth

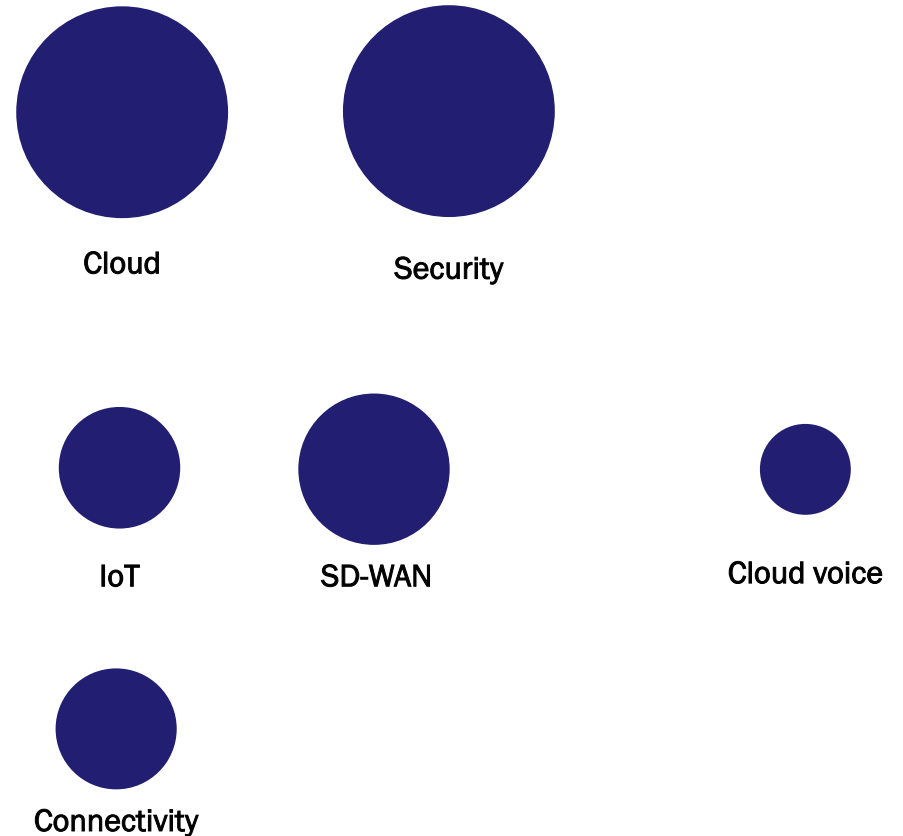
A range of different services were highlighted by CSPs as important for current enterprise revenue growth, with six of these mentioned by at least three different CSPs.

Cloud and security services were most likely to deliver good revenue growth rates for CSPs. IoT services also were a significant driver of CSPs' enterprise revenue growth, and cloud voice services were mentioned by some as growing strongly in the wake of the COVID-19 pandemic.

Connectivity services account for the majority of current CSP enterprise revenue and some CSPs mentioned that these services (especially SD-WAN) were also a major contributor to overall revenue growth. This was most common among CSPs with only limited exposure to legacy MPLS services or those with an emphasis on software-defined networks and cloud connectivity; several other CSPs (both fixed- and mobile-oriented) noted that connectivity revenue is in decline.

A range of other services were highlighted by one or two CSPs, which reflect either the different market characteristics in which they operate or a strength in a particular aspect of their portfolio.

Figure 12: CSP survey: Which services are currently the main drivers of enterprise revenue growth?<sup>1</sup>



<sup>1</sup> Size of bubble indicates number of CSPs mentioning each service. Only services mentioned by at least 3 CSPs are shown here. Positioning reflects order of importance for future revenue growth as shown on the next slide.



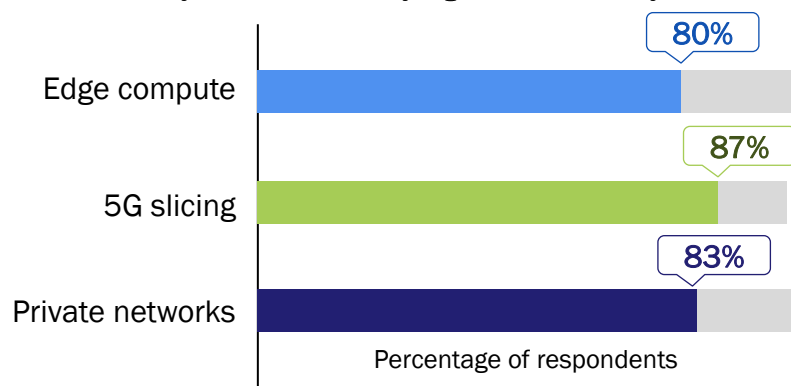
## CSP revenue: CSPs and enterprises share a common view that edge and 5G-enabled services will become significant contributors to revenue growth

Many CSPs expect that edge and 5G-enabled services will become important contributors to revenue growth over the next 5 years. Cloud, security, IoT and SD-WAN services will also continue to make a significant revenue contribution for many CSPs.

These findings are consistent with the high levels of interest reported by enterprises in 5G slicing and edge compute, as well as private networks (see Figure 13)

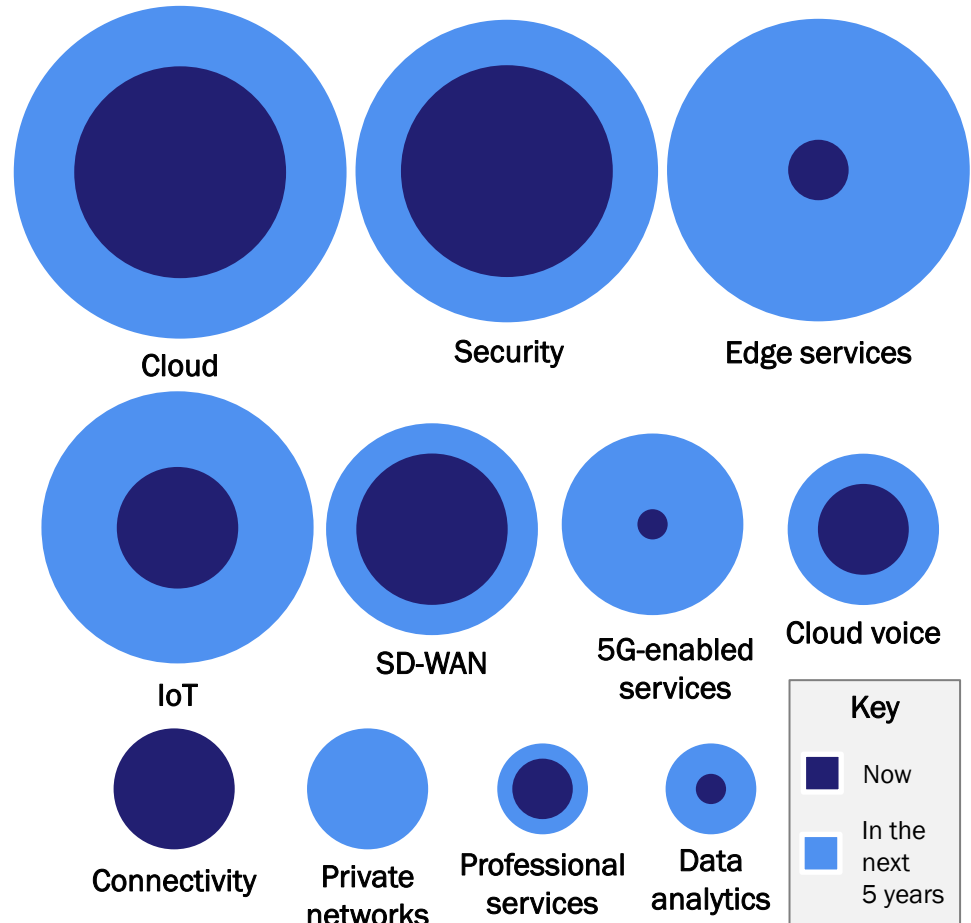
Some CSPs also mentioned other emerging services including private networks, professional services and data analytics. These do not yet make a significant contribution to revenue for many CSPs but some are investing in enhancing their capabilities in these areas.

Figure 13: Enterprise survey: Which of the following new services would you consider buying in the next 5 years?



Source: Analysys Mason

Figure 14: CSP survey: Which services are now, and will be in future, most important for enterprise revenue growth?<sup>1</sup>



<sup>1</sup> Size of bubble indicates number of CSPs mentioning each service. Only services mentioned by at least 3 CSPs are shown here.

## CSP service delivery: CSPs recognise that partnerships will be required to meet enterprises' demand for IT services and to develop vertical propositions

### CSPs increasingly consider partnerships to be essential for meeting the enterprise demand for IT services.

CSPs need to make significant investments in their capabilities to deliver new IT services. Even the largest CSPs lack the scale to compete directly with major global IT providers and many have moved towards a partnership model, which delivers choice for enterprises and limits the required investment.

“

- *“It’s clear we can’t do it alone.”*
- *“In the past, we tried to build more our own [20% partner, 80% us]; it’s now 50–50 and we expect to continue like that.”*
- *“We are going to use more partners.”*
- *“Partners will be absolutely key... There’s only going to be more [co-development].”*
- *“We like to work with a large ecosystem and recognise we can’t do everything in-house, even service management.”*

”

Some CSPs are developing vertical propositions to enhance their offering and to upsell more IT services to enterprises.

Manufacturing, retail, finance, public sector, gaming and transportation were all mentioned as verticals for which CSPs are developing propositions. Partnerships have an important role to play in this too.

“

*“We also have tactical partnerships, working on specific segments and services”*

”

Although our enterprise survey did not identify significant differences in overall levels of demand by vertical,<sup>1</sup> the specific applications and services required to support each vertical do vary considerably.

<sup>1</sup> See the Appendix section for a vertical breakdown of responses to the enterprise survey,

## CSP service delivery: CSPs must find ways to differentiate their partnership models from other market players

**The need for partnerships has implications for the processes, sales approach and margins associated with new services.**

Many CSPs have been able to enjoy high margins for legacy voice and connectivity services because of their network assets. However, margins are typically much lower for IT services. Some CSPs are looking to professional and managed services to increase the value of their IT proposition, while others continue to seek value in the underlying connectivity or in retaining as much technical expertise as possible.

“

- *“The natural role for service providers is around professional and managed services for third-party services.”*
- *“IT sales support connectivity services (which have bigger margins).”*
- *“Mostly we’ll provide [IT services] in partnership, but the long view is that we want to own the IP.”*

”

CSPs that are active in the enterprise market must address many large enterprises' preference for a particular technology vendor. This will require CSPs to partner with multiple players to meet demand. As the number of partnerships increases, it will be increasingly important for CSPs to have systems and processes in place to limit the cost of engagement.

CSPs must also compete against the direct sales channels of technology vendors and against systems integrators (SIs). Finding ways to differentiate services will be essential to their long-term success, though few CSPs have identified an effective approach. One solution may involve bundling their own network connectivity services and delivery processes with additional IT services in order to reduce incremental costs.



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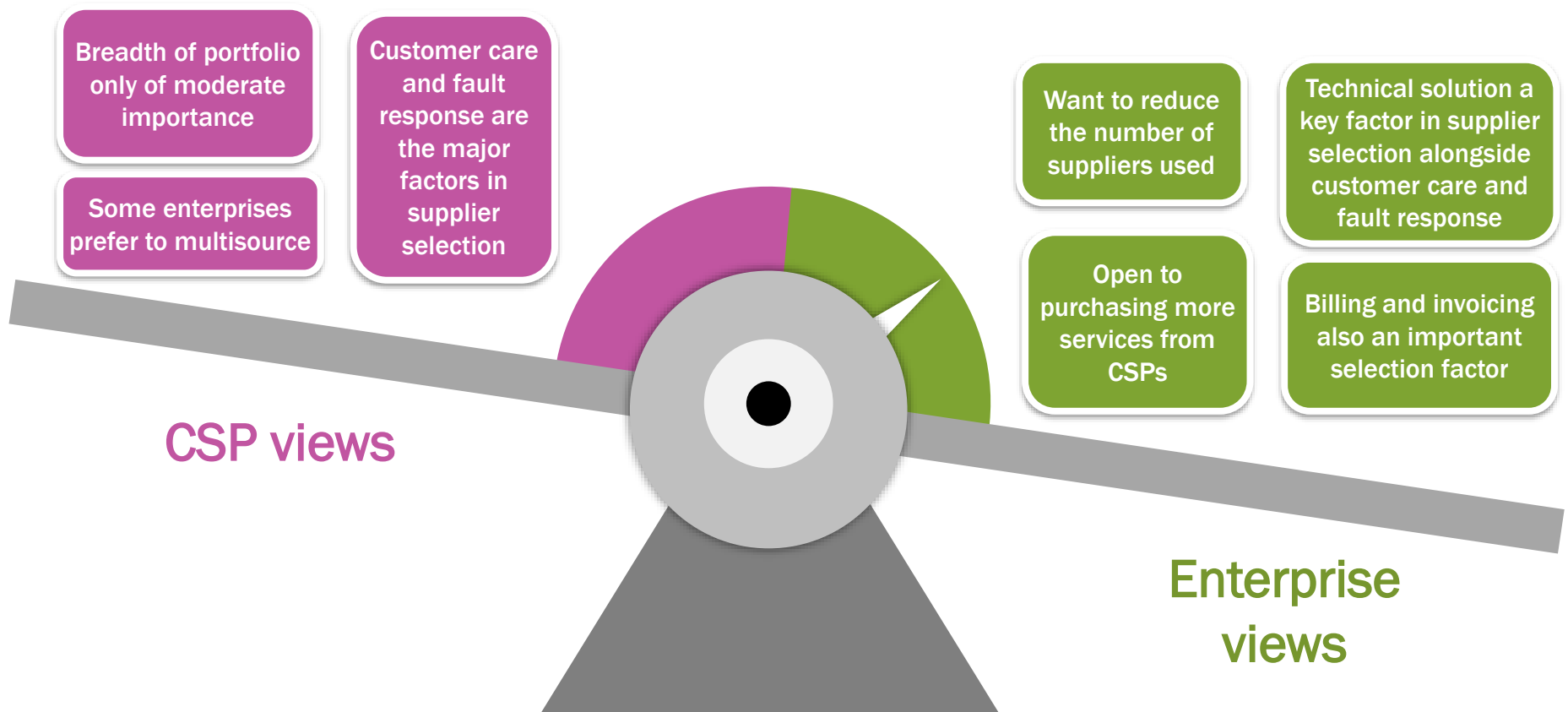
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## Key findings: disparities in the views of CSPs and enterprises mean that CSPs may underestimate the opportunities for upselling to their large enterprise customers

Enterprises are more willing than some CSPs think they are to consider purchasing additional services from their main communications provider. Enterprises also rate a greater number of factors as of high importance for supplier selection than CSPs do. This may limit the number of enterprises that choose to buy IT services from CSPs.



## Supplier selection: CSPs underestimate the importance that enterprises place on technical solutions and billing and invoicing

We asked CSPs and enterprises about the factors that they consider to be important in supplier selection. They have similar views about the relative importance of most factors but enterprises rate technical solutions and billing and invoicing more importantly than CSPs do.

CSPs and enterprises agree that customer care and fault response times are among the most important factors in supplier selection; price is perceived by both as only moderately important. Enterprises rate the technical solution as very important, more so than CSPs do. This difference of opinion may reflect comments made by some CSPs that some enterprises request technical solutions in an RFP without a clear business need for this.

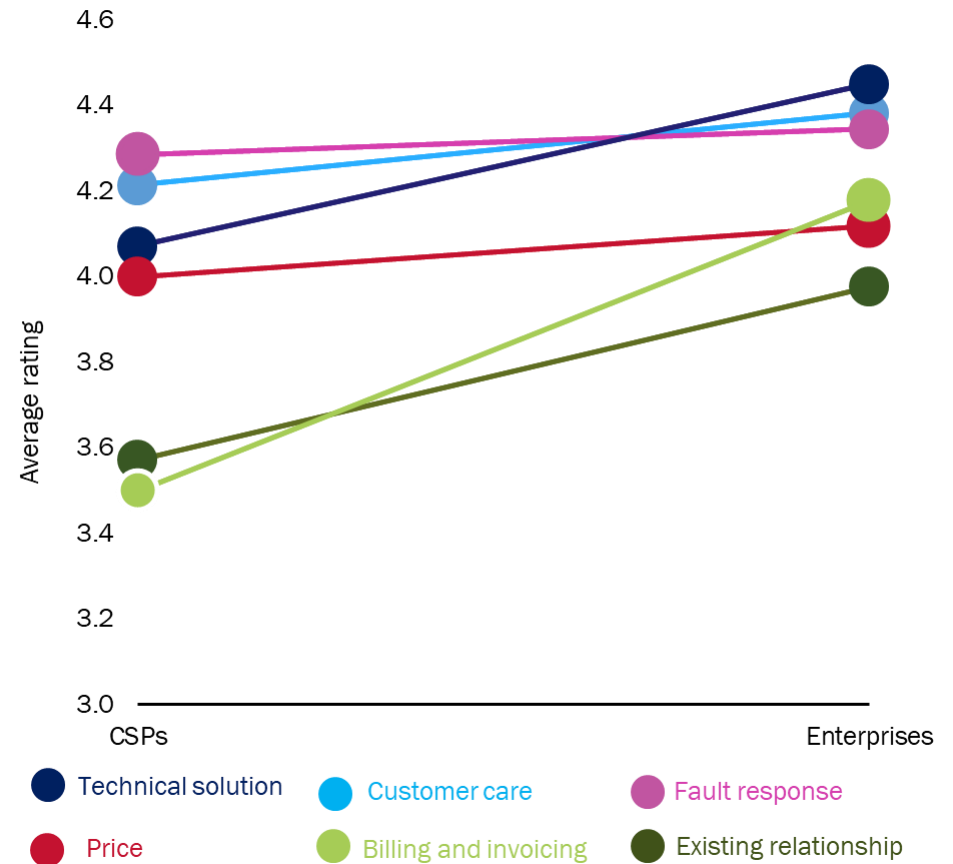
“RFPs often request a technology without understanding why they want it. Part of our job is to challenge customers.”

Enterprises rate billing and invoicing as more important than CSPs do, with CSPs tending to view billing as more of a given.

“Billing is not the main factor that is driving growth in business. It is one of the hygiene factors for better customer experience.”

The existing relationship with a CSP was rated as the factor of least importance by both enterprises and CSPs.

Figure 15: Enterprise survey and CSP survey: Average rating for the importance of each of the following factors when selecting a communications provider (on a 1 to 5 scale)<sup>1</sup>



Source: Analysys Mason

<sup>1</sup> 1 is 'not at all important' and 5 is 'very important'. See the appendix for further details of how this breaks down.

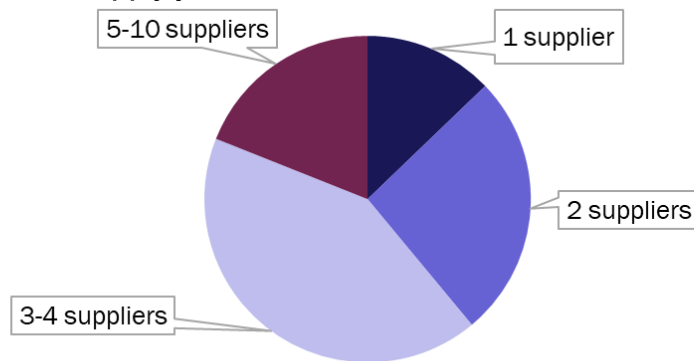
## Use of multiple suppliers: nearly all enterprises want to reduce the number of suppliers that they use

More than 60% of enterprises reported using at least three different suppliers for their core communications services.

Even among enterprises with only two core suppliers, most respondents would like to reduce the number of suppliers that they use. For those with at least five suppliers, more than 40% of enterprises rated this as very important.

This points to an opportunity for existing CSP suppliers to deliver more services. However, one CSP explained that while smaller MNCs prefer a single provider, very large customers limit the share of spend with any supplier in order to reduce risks. Another argued that since customers will want to multi-source, it is not a deal breaker if that CSP does not offer a certain product.

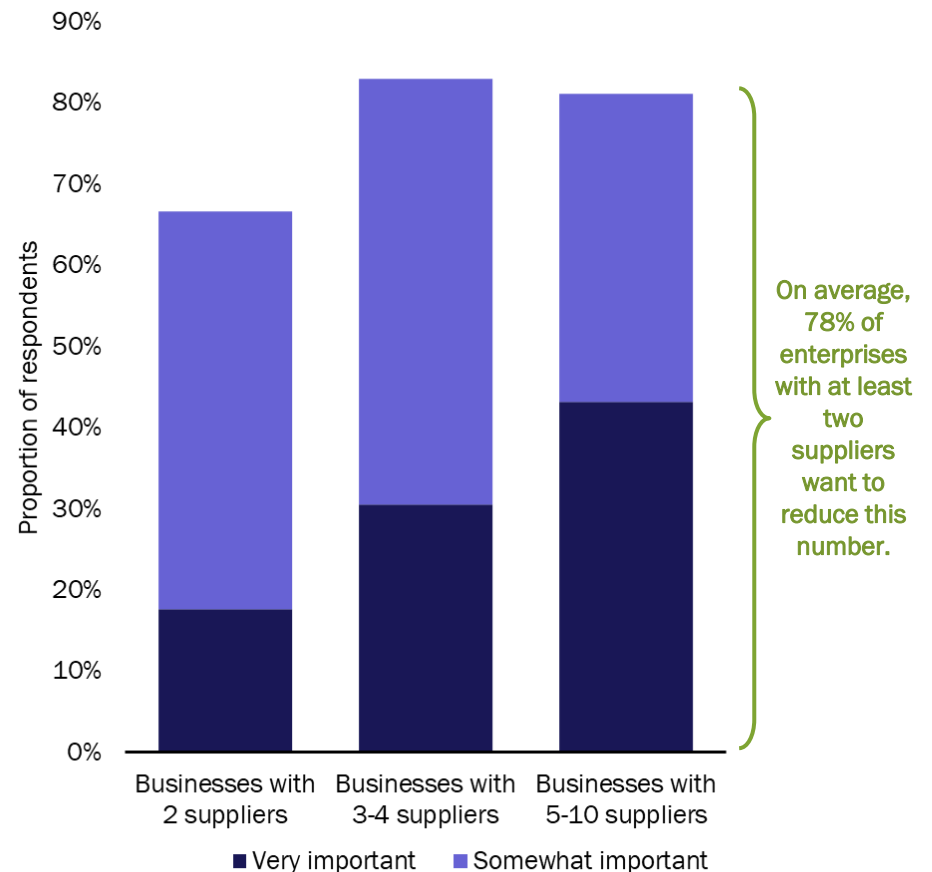
Figure 16: Enterprise survey: How many different providers do you use to supply your core communications services?<sup>1</sup>



Source: Analysys Mason

<sup>1</sup>See the appendix for details of how this varies by enterprise size.

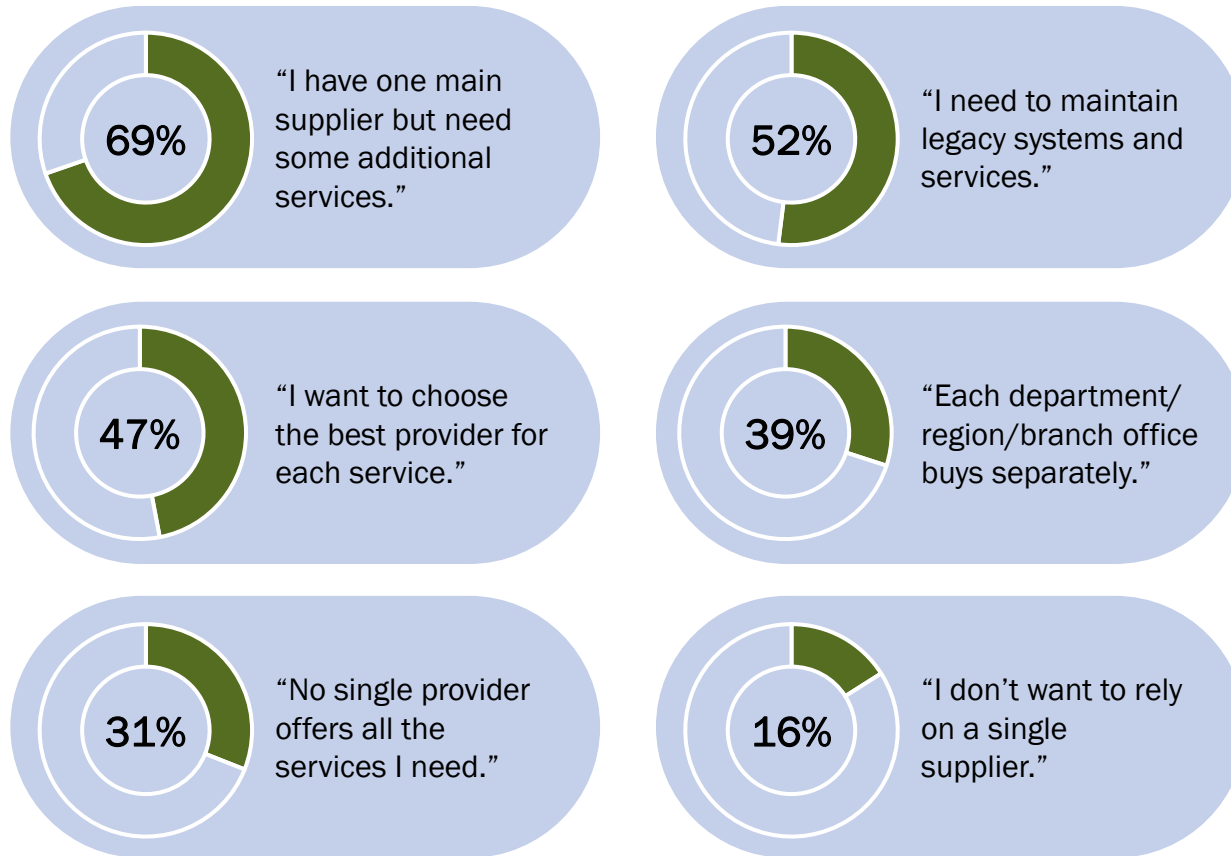
Figure 17: Enterprise survey: How important to you is reducing the number of suppliers?



Source: Analysys Mason

## Use of multiple suppliers: enterprises' reasons for using multiple suppliers point to an opportunity for existing suppliers to sell additional services

Figure 18: Enterprise survey: What reasons do you have for using multiple suppliers?<sup>1</sup>



Most enterprises with multiple suppliers cited more than one reason for using multiple suppliers, with the most common reason being the need for additional services. This suggests a possible opportunity for suppliers with a wide portfolio to upsell additional services. Only 16% of enterprises reported that they do not want to rely on a single supplier.

More than half of the surveyed enterprises reported that the need to maintain legacy systems and services contributed to the use of multiple suppliers. This indicates a possible revenue risk for those CSPs that are not able to migrate their legacy customers to new services.

Source: Analysys Mason

<sup>1</sup> Figures are shown as the percentage of respondents using more than one supplier.



# CSPs as suppliers: most enterprises would consider purchasing additional services from their CSP

There is significant appetite among enterprises to buy additional IT services from their main communications provider.

Up to 50% of enterprises report that they already buy cloud, security and IoT services from their main communications provider (see Figure 19). A further 30% of enterprises would consider buying each service from their CSP in future; this rises to more than 40% for some security services.

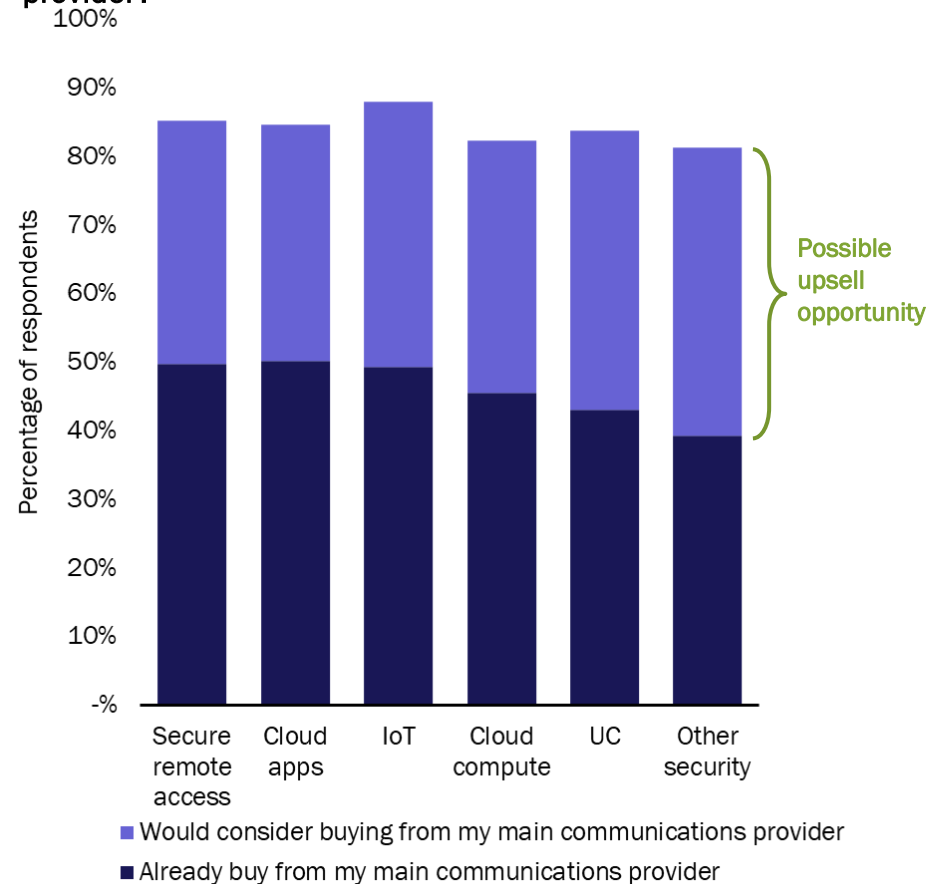
Some CSPs' comments validate this finding, which indicates an opportunity for growth in the number of services that each enterprise purchases.

“

- “We’re trying to sell more services to MNCs; we closely track this metric... [our sales priority is] mostly about selling more services into existing customers.”
- “Defending existing customers and upselling other capabilities is the basis [of our sales strategy].”
- “Cloud is accelerating but less than 10% [of network customers take it at the moment].”
- “[We have a] 10% attach rate for security, which is growing.”

”

Figure 19: Enterprise survey: Which of the following services would you consider buying from your main communications provider?



Source: Analysys Mason

## CSPs as suppliers: some CSPs appear to underestimate the value of a broad portfolio to their enterprise customers

Many CSPs rated the breadth of their portfolio as only somewhat important to customers when selecting a communications provider. However, this may be a mistake given that many enterprises want to reduce the number of suppliers that they use.

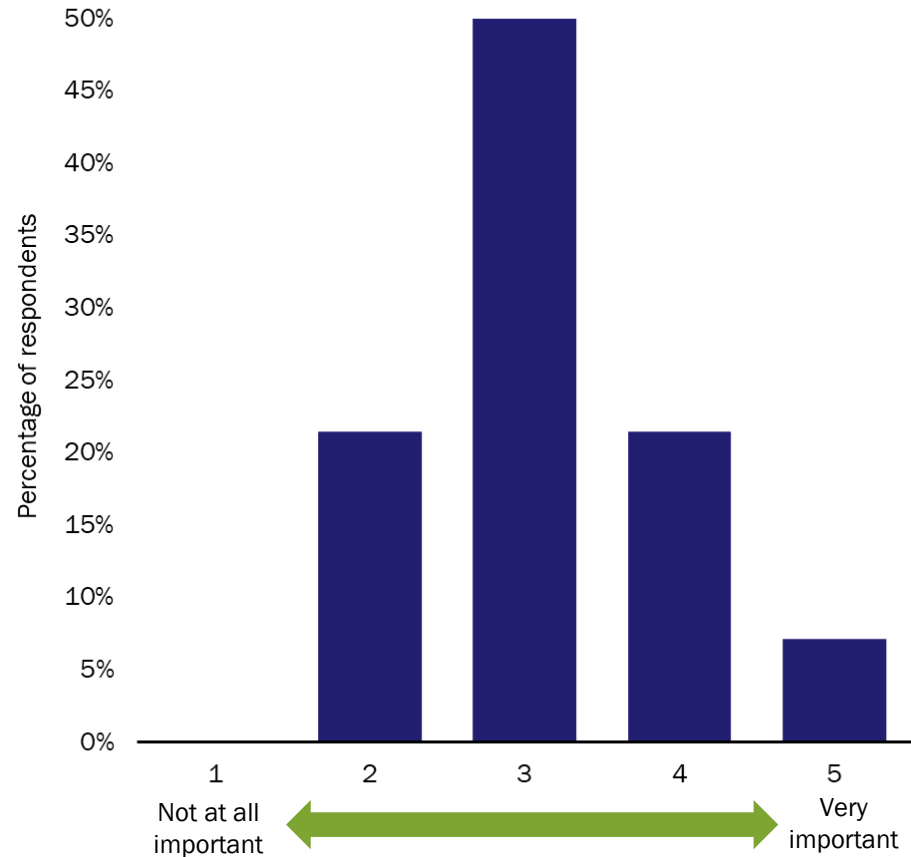
The average rating that CSPs gave to the importance of breadth of portfolio in supplier selection was 3.1, which is lower than for any of the other factors considered (including customer care, price, and billing and invoicing). Only one CSP rated it as very important. Typical comments from CSPs include the following.

“  
 ▪ “It’s more important to have the right products than lots of products.”  
 ▪ “Customers will want to multisource so it won’t be a deal breaker if we don’t offer a certain product.”  
 ”

Breadth of portfolio may not yet be a major factor in the choice of supplier but some CSPs recognize its importance for meeting customer demand. Other CSPs may need to adapt to benefit from the opportunities associated with selling additional services.

“  
 ▪ “[Customers want] an ecosystem; they are not looking for point solutions.”  
 ▪ “Breadth of portfolio will become more important over time.”  
 ”

Figure 20: CSP survey: In your view, how important is breadth of portfolio to your enterprise customers, when they are selecting a communications provider?



Source: Analysys Mason



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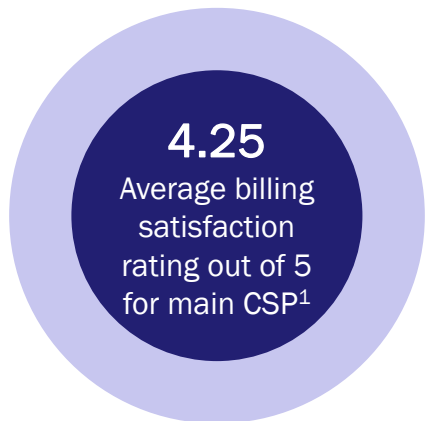
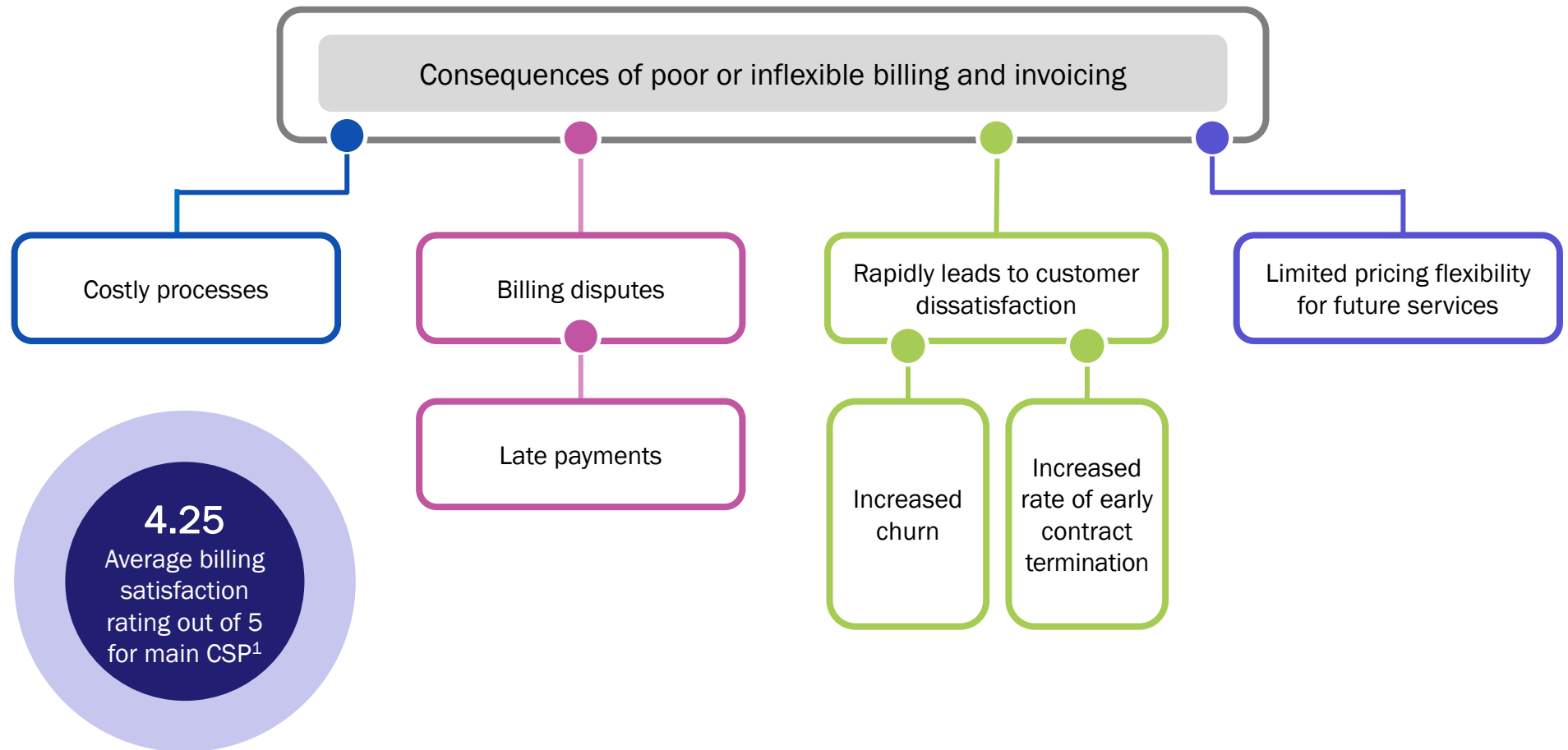
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## Key findings: CSPs are meeting current enterprise demand for billing and invoicing but may struggle to sustain this as emerging services introduce new requirements



<sup>1</sup>Rating given by enterprises where 1 is 'not at all satisfied' and 5 is 'extremely satisfied'

## Customer satisfaction: enterprises report high levels of satisfaction with billing and invoicing services but when it goes wrong, it quickly leads to negative experiences

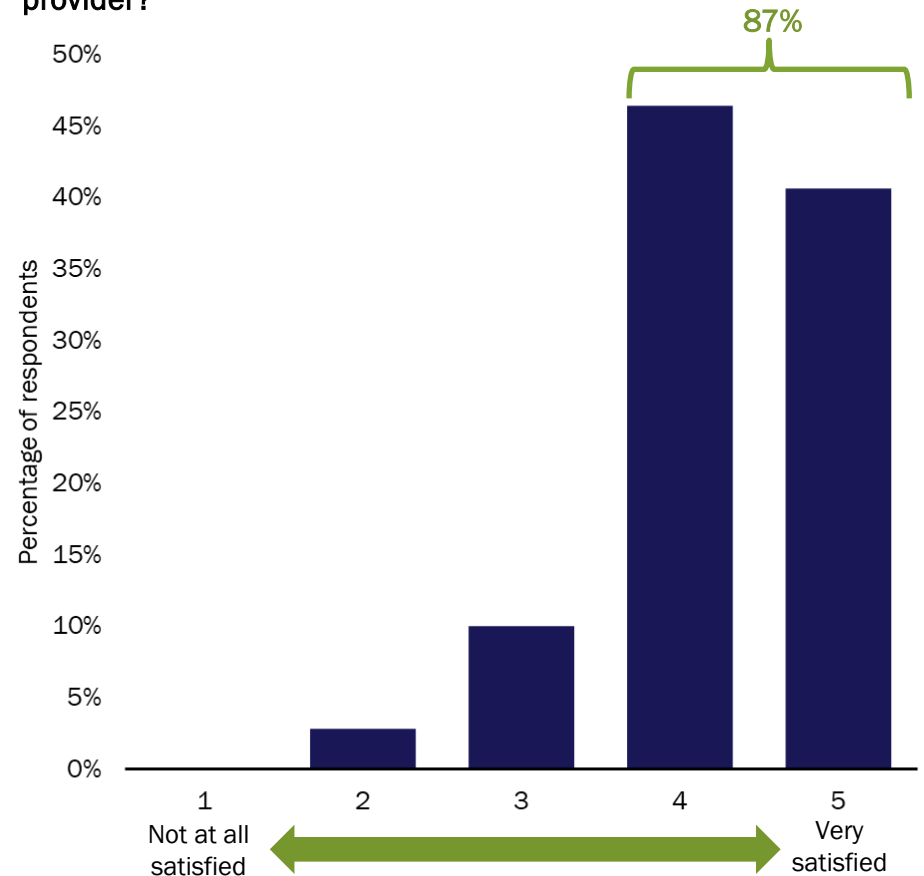
87% of enterprises rated their satisfaction with billing and invoicing highly (see Figure 21).

Several CSPs felt that a positive billing and invoicing experience led to improved overall customer satisfaction, though some (mainly those without significant problems with their billing systems) felt that it had little impact. However, most agreed that a negative billing experience led to high levels of dissatisfaction.

“*“Billing is most important. It has to be error free, transparent and simple. A key area of business experience.”*

- *“It’s very, very important.”*
- *“Billing used to comprise 20% of value for customer satisfaction many years ago. Then it went down to less than 2% weighting [following system improvements] and has been travelling around there for many years. It’s just expected to work...[enterprises] expect it to be accurate and expect to pay it quickly and easily.”*
- *“One of the key items with customer touchpoint is the invoice. It’s not a differentiator, but it’s a large dissatisfier if not correct.”*
- *“We have seen instances where customer satisfaction is impacted due to billing issues.”*

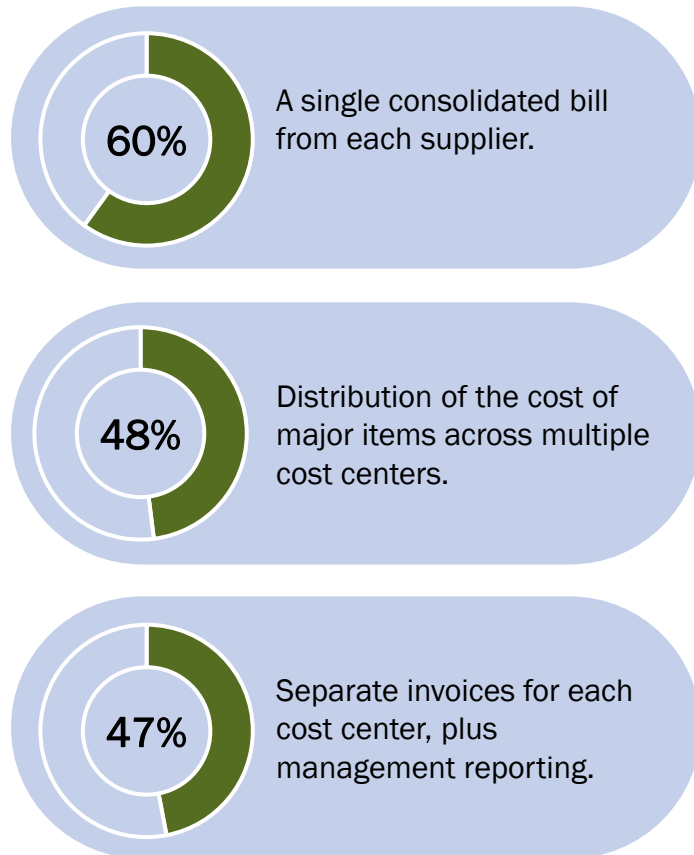
Figure 21: Enterprise survey: How satisfied are you with the billing and invoicing provided by your main communications provider?



Source: Analysys Mason

## Meeting billing requirements: enterprises' demand for consolidated and customized billing is significant and growing

Figure 22: **Enterprise survey:** Which of the following invoicing services do you already have?



Source: Analysys Mason

Many enterprises already receive consolidated and customized billing from their suppliers and many other enterprises report that they would be interested in receiving these in future.

Around half of the enterprises that we surveyed already have each of the three specific billing and invoicing services asked about in the survey (see figure 22). An additional one in four enterprises are interested in having each of the three services in future.

CSPs also reported a range of other billing requirements that are frequently included in RFPs. Those mentioned most often included the following.

- **In-country billing in local currency.** This was mentioned by several CSPs including a Tier-1 global carrier that noted an increasing share of its customers want to be billed locally.
- **Integration with customer systems.** This includes both API integration and uploading bills into enterprise portals.
- **Local regulatory requirements.** This includes country-specific requirements based on local regulations and data sovereignty requirements.

## Meeting billing requirements: many CSPs resort to manual interventions that are costly and time consuming

### Many CSPs report using ad hoc or manual interventions to meet demand from enterprises for customized and tailored billing.

It is common for CSPs' customer care teams to accommodate particular enterprise requirements outside of the main billing systems. This satisfies the stipulations of RFPs but has significant associated costs and also risks introducing errors and inconsistencies.

- “We are quite strict with customers about what billing and invoicing can be accommodated in order to keep processes scale-able. We try to accommodate additional requests outside of billing systems as far as possible. In some cases, a CRM manager on our side accommodates this.”
- “We have two kinds of billing system. One is automatic for standard pricing and services. One is customized and that is managed manually from our customer care. Every time we sign a contract the billing procedure is defined and inserted manually.”
- “Manual interventions are sometimes needed.”

Delivering cross-country billing for MNCs is a particular challenge for CSPs that rely on different billing systems in different countries.

- “It took years to be able to meet the needs of MNCs; [we had] lots of billing systems through acquisitions....For enterprise [now we have one billing system] per country. MNCs have an overarching billing system that talks to different countries.”
- “Each subsidiary has a different system...For MNCs, there's no overlay system; we just have solutions that combine the bill.”
- “Getting cross-country visibility is manual.”

## Supplier selection: billing and invoicing capabilities are identified as more important by enterprises than by CSPs for supplier selection

Billing and invoicing is not the most important factor for supplier selection and renewal but are considered to be very important by many enterprises – more so than by CSPs.

Despite the inclusion of specific requirements for billing and invoicing in RFPs, several CSPs did not consider it to be particularly important for supplier selection. A commonly expressed view was that good billing and invoicing is a basic expectation of enterprises rather than something that can make the difference in selection.

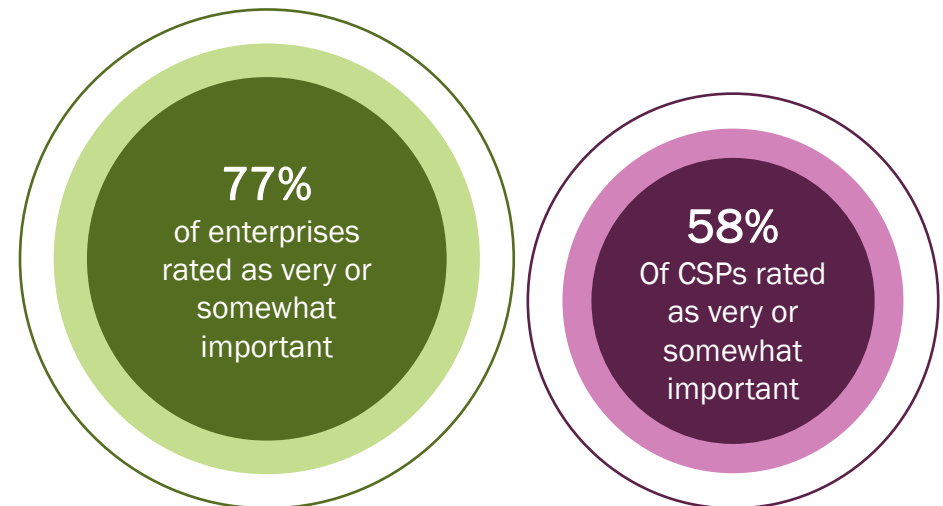
None of the CSPs that we surveyed felt that they had lost contracts due to limitations in their billing capabilities, but some identified such capabilities as easing the sales process or supporting the upsell of other services.

“

- *“You have to build other pieces of billing system to answer to their requirements sometimes. This is not a lose/win approach but could be more that we don't have it and have to struggle to move customers to a different model [to close the sale].”*
- *“Its an emotional part of the customer journey. If correct, customers pay more quickly and we can upsell more to them.”*

”

Figure 23: Enterprise survey and CSP survey: Importance of billing and invoicing when selecting a communications provider<sup>1</sup>



Source: Analysys Mason

<sup>1</sup> Rated on a 1 to 5 scale where 1 is 'not at all important' and 5 is 'very important'. Figures shown are the cumulative share of respondents rating billing and invoicing at a 4 or 5.



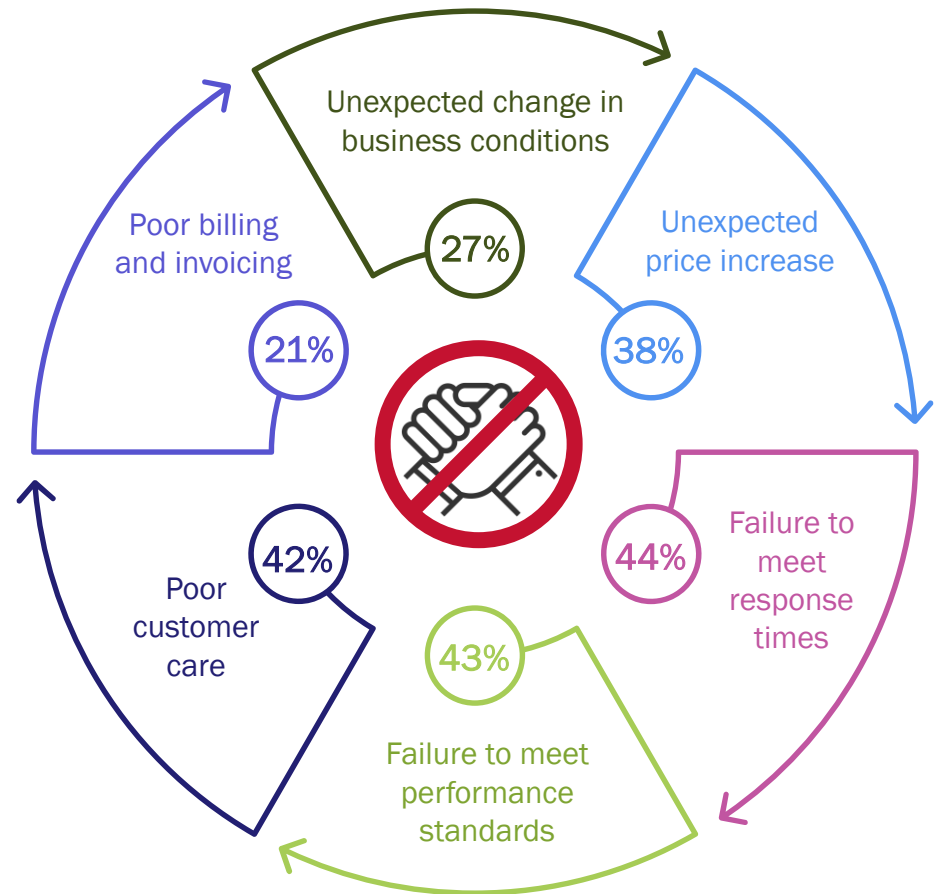
## Impact of poor billing: poor billing and invoicing services are a contributor to customer churn

Enterprises that have failed to renew contracts or terminated contracts early typically report several contributing factors. Poor billing and invoicing is mentioned by a significant number of enterprises.

More than half of the enterprises that we surveyed reported choosing not to renew a contract with their supplier within the last 5 years. Poor billing and invoicing services were identified as a contributing factor by more than 20% of these enterprises.

In addition, 40% of enterprises reported having executed a break clause in a contract or terminating it early within the last 5 years. Of these, almost 30% of enterprises cited poor billing and invoicing as a contributing factor to this.

Figure 24: Enterprise survey: What reasons did you have for not renewing a contract?



Source: Analysys Mason

## Impact of poor billing: poor billing and invoicing services contribute to late payments being made by enterprises

Only a few enterprises reported frequent issues with billing and invoicing, but occasional issues are very common and often lead to late payment.

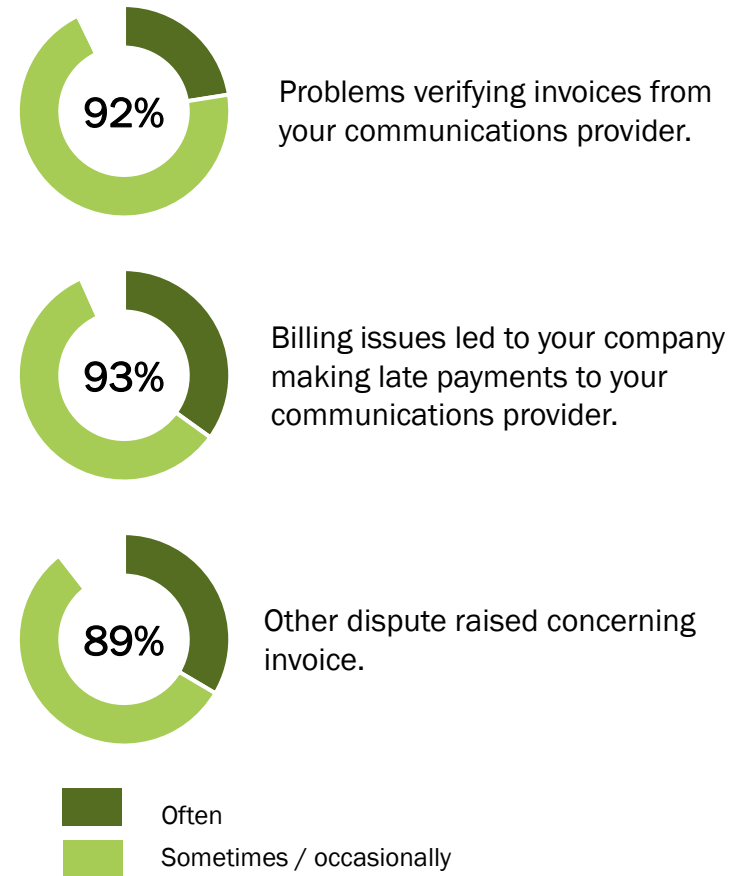
Several CSPs also report that billing issues have led to customers making late payments.

“

- *“The payment cycle only begins once approval of the invoice is complete.”*
- *“Billing wasn’t ready sometimes, for example if the billing system doesn't receive information...A very tough part in the customer relationship is to understand the bill.”*
- *“Better billing and invoicing systems would provide revenue security.”*

”

Figure 25: Enterprise survey: How frequently have the following issues occurred with your communications provider?



Source: Analysys Mason

## Billing system capabilities: billing and invoicing systems will need to be adapted as customers adopt new services and demand more flexible payment models

Most CSP billing models have historically operated on a monthly cycle, with billing on fixed dates. However, the proliferation of cloud and 'as-a-service' models is creating demand for more flexible billing, and this is only likely to increase in future.

CSPs highlight a growing need for real-time, on-demand and usage-based billing. Some already have systems in place to deliver this, but others cite it as a key challenge.

““

- *“As we evolve into cloud services, we need real-time billing. We don't yet have that.”*
- *“a lot of customers [that rely on cloud services a lot] would like to have close to live billing to manage costs.”*
- *“[One of the biggest challenges is to have] the ability to support multiple usage-based billing, tiered pricing, product platforms etc..”*
- *“On-demand changes quite a lot the billing requirements.”*
- *“We're seeing more and more services around usage-based billing rather than recurring monthly charges.”*

””

Many CSPs are currently using work-around solutions for new services. This is manageable while take-up is low, but will not scale well in future.

““

- *“For cloud services] we typically use the fixed service [billing] platform. But this can cause problems ... for example for services where the number of licenses can change month by month... These can all be managed, but it is hassle, cost and time.”*
- *“We found this kind of [manual] adjustment but in the long term we need something with more performance and more transparent for customers.”*
- *“[Improved billing] helps to reduce costs and time to market.”*

””

## Billing system capabilities: limitations in billing and invoicing systems may hinder the launch of new CSP services in future

Billing systems are rarely a barrier to launching new services but some CSPs note that limitations can result in additional costs and compromises being made.

CSPs typically report that it can take 8–12 weeks to update billing systems for new products and services. Accommodating new pricing structures is significantly more complex than a change in ratings or existing tariff parameters.

““

- *“When we talk of new services – a key question is always ‘what are the billing parameters?’ But we haven’t abandoned anything because billing is too complex.”*
- *“New rate plans are fine. New services are not easy to implement... It’s cheaper to spawn other systems on the side rather than integrate.”*
- *“It’s a bit of work. The current system isn’t very flexible. There is cost involved, so development can get pushed back. It depends on the importance of each change.”*

””

Some CSPs anticipate further problems for future service launches, especially cloud services.

““

- *“If the service is similar to what we do normally it’s not an issue. If we are moving to a pay per use model this could be a show-stopper; we’re not ready at all. That’s more true on cloud.”*
- *“It’s not the easiest. It’s another of the pain points, especially for the new services. [At the moment] it’s not impacting [time to launch] too much, as these services are relatively new; we’re still in a phase of planning. But it will.”*
- *“B2B [billing] is getting more complicated. Billing systems have a new life in the past couple of years because of the B2B market. But it needs operators to take it seriously.”*

””

## Billing system capabilities: partner payments are currently dealt with by CSPs in separate systems; it is not clear how sustainable this approach will be

Currently, partner payments are typically dealt with in separate billing systems, and either fed through into the main enterprise billing engine or separately reconciled with customer payments.

Only a couple of CSPs reported that partner payments were sometimes handled within the main customer billing system. This was partly due to the small numbers of partners that many CSPs are currently dealing with, but even among those with multiple partners, closer integration of billing systems did not appear to have been considered.

One CSP highlighted issues with timing for supplier payments and customer payments being out of sync; another CSP mentioned concerns about reconciliation of customer invoices with supplier payments.

A couple of CSPs mentioned the complexity of dealing with AWS product lines. One commented that it generated hundreds of rows of granularity, which was difficult to consolidate in the right manner to suit the invoicing requirements of different customers.

Partner services are expected to increase over time, so it is perhaps surprising that more CSPs have not yet considered a more integrated approach to handling partner payments.

### Case study: one CSP's approach to partner payments

One CSP told us that it aims to triple its revenue from B2B services, partly by working with third parties to deliver new services. It recognizes that these parties need to be connected to its billing system in the right way; bringing in third-party systems is only semi-automated at best currently. This is manageable while volumes are low but is expected to become a problem in the future.

The CSP highlighted some current issues with partner payments for its API marketplace, which has a separate system for partner billing. It noted that settlement can become very complex when there are multiple partners; it has some services for which revenue is shared with AWS as well as two separate developers.

The CSP currently allows the complexity of AWS billing to be managed by AWS, simply feeding a total into its own CSP billing system as a single figure. However, it is not clear how this approach will work for customers that want to see a detailed breakdown of costs.

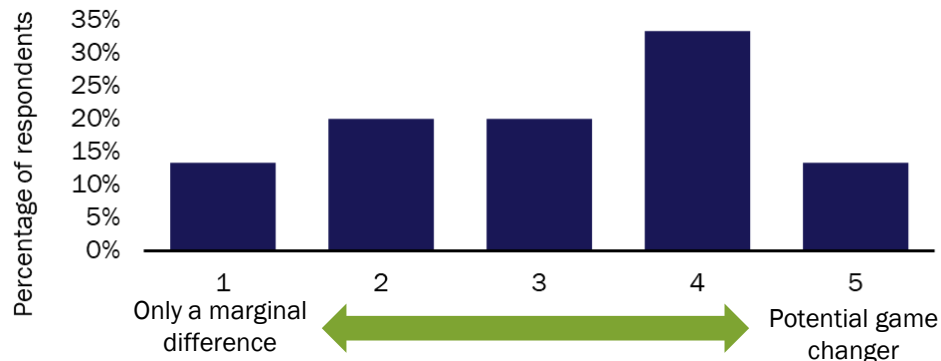
The CSP is currently defining a B2B architecture for BSS and billing, with an initial blueprint already devised.

## Billing system capabilities: some CSPs need to catch up with their peers in terms of billing and invoicing capabilities

Billing systems capabilities vary significantly across the CSPs that we surveyed. Some currently face significant challenges, while others believe that major issues with billing systems are largely behind them.

It is clear that while some CSPs have already adapted billing systems for on-demand services and usage-based billing, others have yet to begin this process. Some struggle to manage a proliferation of billing systems used in different countries and for different services, while others have access to one or two widely used systems. Some frequently resort to manual processes, especially to provide consolidated bills for MNCs, while other CSPs have systems that are largely automated and error-free.

**Figure 26: CSP survey: What impact do you think improved billing systems might have on your business overall?**



Source: Analysys Mason

The differences between CSPs' current billing systems capabilities are reflected in the wide range of views about the impact that improved billing systems may have on their businesses overall. Those CSPs that are currently facing challenges with late payments, manual processes and inflexible pricing models are more likely to believe that improved systems will have a significant impact on their businesses. Other CSPs doubt that further improvements would make a difference.

- “We have quite a robust billing system. Some pockets still to improve.”
- “If we could standardize into one billing system it would make a tremendous difference.”
- “We have a spaghetti bowl of systems... we are merging three [platforms] into 1 at the moment...Licensing support costs are geared around scale, so licensing costs will be down...operationally we should get a benefit of scale... [for billing enquiries] we can go to a single place and run single report.”
- “[Improved billing] would provide revenue security and customer service would be a competitive advantage.”



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## Recommendations for CSPs: CSPs should develop their portfolios, partnerships and processes

	Recommendation	Rationale
1	Continue to invest in security, cloud and IoT propositions to drive further adoption	Most enterprises plan to increase spend in these areas.
2	Invest in new propositions based on edge, 5G and private networks	Enterprises will consider adopting these kind of propositions within the next 5 years.
3	Offer a broader portfolio of communications and IT services	Enterprises want to reduce the number of suppliers and are open to buying new services from CSPs.
4	Form partnerships with technology specialists to meet the technical preferences of enterprises	Enterprises place strong importance on the technology solution when selecting a supplier.
5	Develop scalable processes to manage partner relationships.	It may be hard to differentiate services from competitors; a low cost base and integration with network services will help.



## Recommendations for CSPs: CSPs should ensure that their billing capabilities are able to support more complex and flexible services

	Recommendation	Rationale
6	Build capability to meet billing and invoicing requests from enterprises	Enterprises highly value billing and invoicing capabilities in supplier selection
7	Reduce the number of different billing systems used	Multiple systems make it hard to deliver consolidated and customized billing
8	Reduce reliance on manual and ad hoc processes in billing	These may lead to increased costs and billing errors and are not scalable in the long-run.
9	Prioritise the provision of reliable billing and invoicing systems	Poor billing results in customer dissatisfaction and contributes to churn and late payments.
10	Invest to ensure that billing systems can deliver real-time, on-demand and usage-based billing in future	These capabilities take time to develop and will be necessary to deliver cloud services and other 'as-a-service' pricing models
11	Consider a more integrated approach to handling partner payments within billing systems	As the volume of partnerships increases, handling these separately may cause difficulties in management of payments



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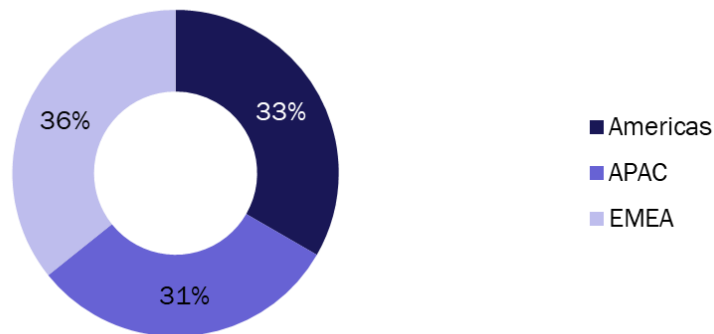
**Appendix**

## Enterprise survey: distribution by size, geographical region and industry vertical

Annual revenue	Sample size	Number of employees	Sample size
USD2-5 billion	101	2500-4999 employees	48
USD5-10 billion	79	5000-9999 employees	73
More than USD10 billion	29	10 000 or more employees	88
<b>Total</b>	<b>209</b>	<b>Total</b>	<b>209</b>

The survey was conducted between February and March 2021.

Figure A1: Enterprise survey: Split of survey sample by region



Source: Analysys Mason

Vertical	Sample size
Agriculture, mining, transportation, utilities and construction (AMTUC)	29
Manufacturing	41
IT and telecommunications	64
Retail/wholesale	18
Finance, insurance and real estate (FIRE)	31
Professional, scientific and technical	11
Other <sup>1</sup>	15
<b>Total</b>	<b>209</b>

Countries of operation	Sample size	Physical sites (locations)	Sample size
1 country	32	1-9 sites	36
2-4 countries	83	10-49 sites	86
5-9 countries	67	50-500 sites	67
10 or more countries	27	More than 500 sites	20
<b>Total</b>	<b>209</b>	<b>Total</b>	<b>209</b>

<sup>1</sup> Includes accommodation and food services, admin/support services, arts/entertainment and recreation, information and media.

## Enterprise survey: questions asked<sup>1</sup>

### Questions about changing patterns of enterprise demand

Which services does your business currently buy?

Do you expect to increase, decrease or maintain current levels of spend on these services in the next 12 months?

Has the impact of COVID-19 accelerated your plans to adopt or increase usage of IT services?

Which new services would you consider buying in the next 5 years?

### Questions about supplier selection and renewal

How many different providers do you use to supply your core communications services?

- What reasons do you have for using multiple suppliers?
- How important to you is reducing the number of suppliers?

What are the most-important factors when selecting a communications provider?

Which services would you consider buying from your main communications provider?

Have you executed a break clause in a contract, terminated a contract early or failed to renew a contract within the last 5 years?

- What reasons did you have for this?

### Questions about the role of billing and invoicing

How frequently have specific invoicing or billing issues occurred with your communications provider?

Have poor billing and invoicing contributed to early break of contract or failure to renew contract?

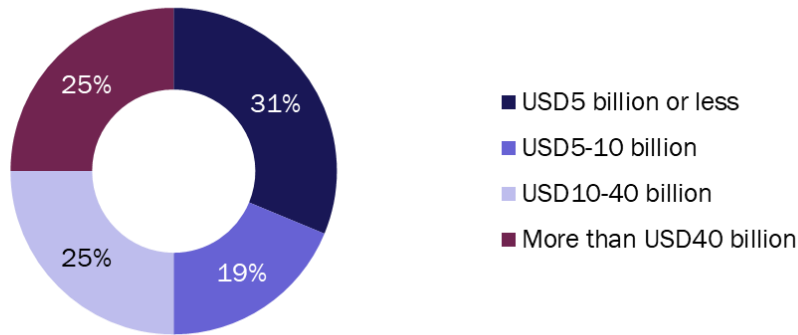
Would you be interested in receiving specific customized invoicing services?

How satisfied are you with the billing and invoicing provided by your main communications provider?

<sup>1</sup> List of questions included here is not exhaustive, but represents the main themes explored.

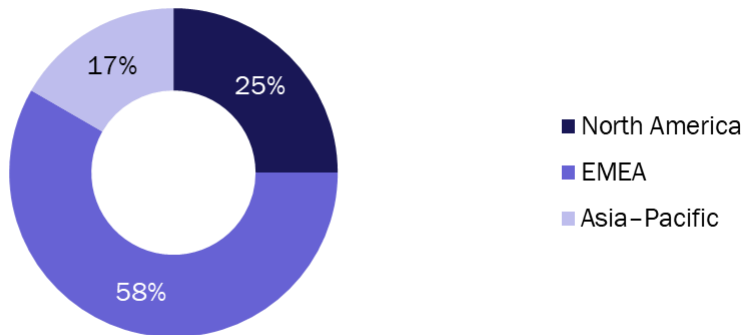
## CSP survey: distribution by revenue, geographical region and type of operator

Figure A2: CSP survey: Split of survey sample by annual revenue of CSP



Source: Analysys Mason

Figure A3: CSP survey: Split of survey sample by region



Source: Analysys Mason

Type of operator (international)	Sample size
Significant international focus for enterprise services	10
Mainly domestic focus for enterprise services	6
<b>Total</b>	<b>16</b>

Type of operator (consumer/enterprise)	Sample size
Offers both consumer and enterprise services	12
Main focus is enterprise services	4
<b>Total</b>	<b>16</b>

Type of operator (fixed/mobile networks)	Sample size
Integrated fixed-mobile operator	11
Mainly mobile services	1
Mainly fixed services	4
<b>Total</b>	<b>16</b>

The survey was conducted between March and May 2021

## CSP survey: questions asked<sup>1</sup>

### Questions about changing patterns of enterprise demand

Which services are currently the major drivers of enterprise revenue growth?

What proportion of customers just take core voice and data connectivity services from you?

Is your main sales priority to upsell additional ICT services or to win a larger share of accounts with basic communications services?

Which services do you think will be most important for enterprise revenue growth in the next 5 years?

What role do you expect third-party services to play in terms of customer acquisition and revenue growth?

What role will vertical propositions play?

### Questions about supplier selection and renewal

In your view, what are the most important factors, to your enterprise customers, when they are selecting communications providers?

Do enterprises typically include specific invoicing requirements as part of their RFP?

Have limitations in your billing capabilities ever caused you to lose a contract?

### Questions about the role of billing and invoicing

How many billing systems do you operate within your enterprise services division?

What are the biggest challenges with the current systems?

Are you aware of billing issues ever having been a factor in enterprises making late payments?

Do you measure the impact of billing on customer satisfaction?

Do you manage partner payments within your billing systems?

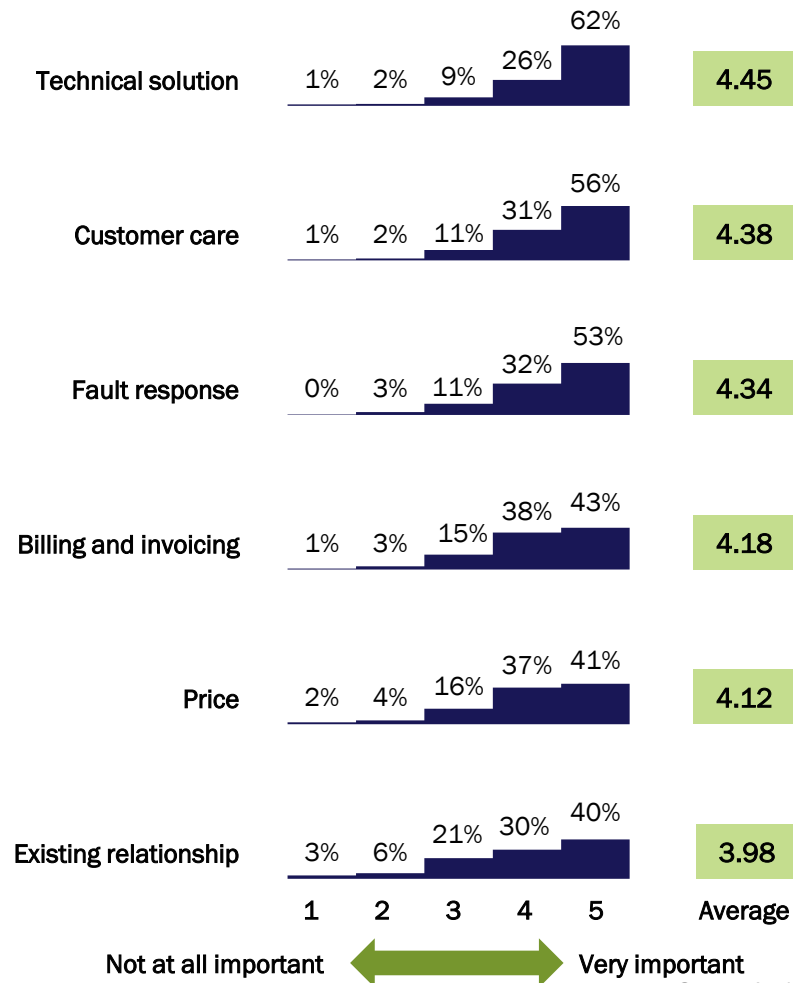
When launching new services, how easy is it to adapt your billing systems?

What impact do you think improved billing systems might have on your business overall?

<sup>1</sup> List of questions included here is not exhaustive, but represents the main themes explored.

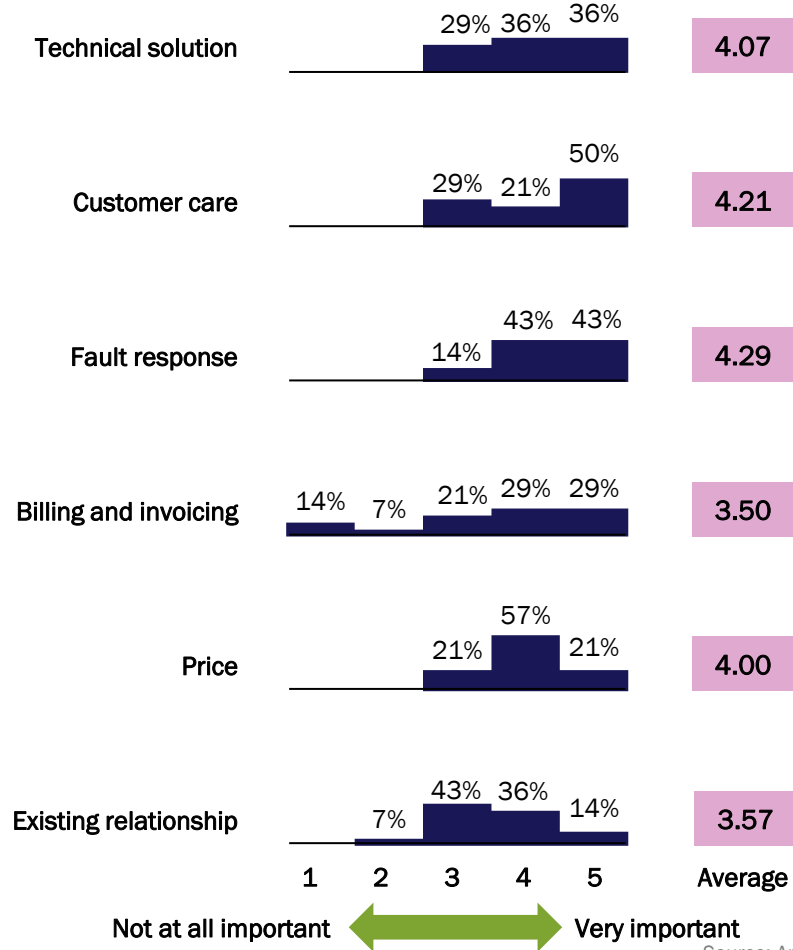
## Supplier selection factors: breakdown of ratings

Figure A4: **Enterprise survey:** Please rate the importance of each of the following factors when selecting a communications provider



Source: Analysys Mason

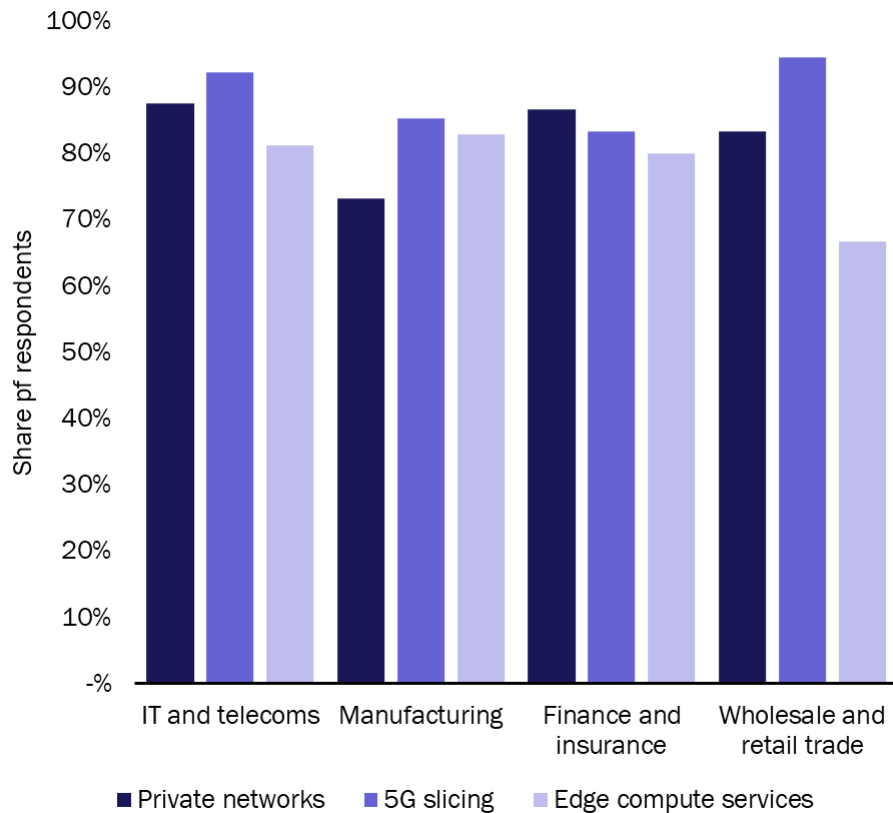
Figure A5: **CSP survey:** In your view, what are the most important factors, to your enterprise customers, when selecting a communications providers?



Source: Analysys Mason

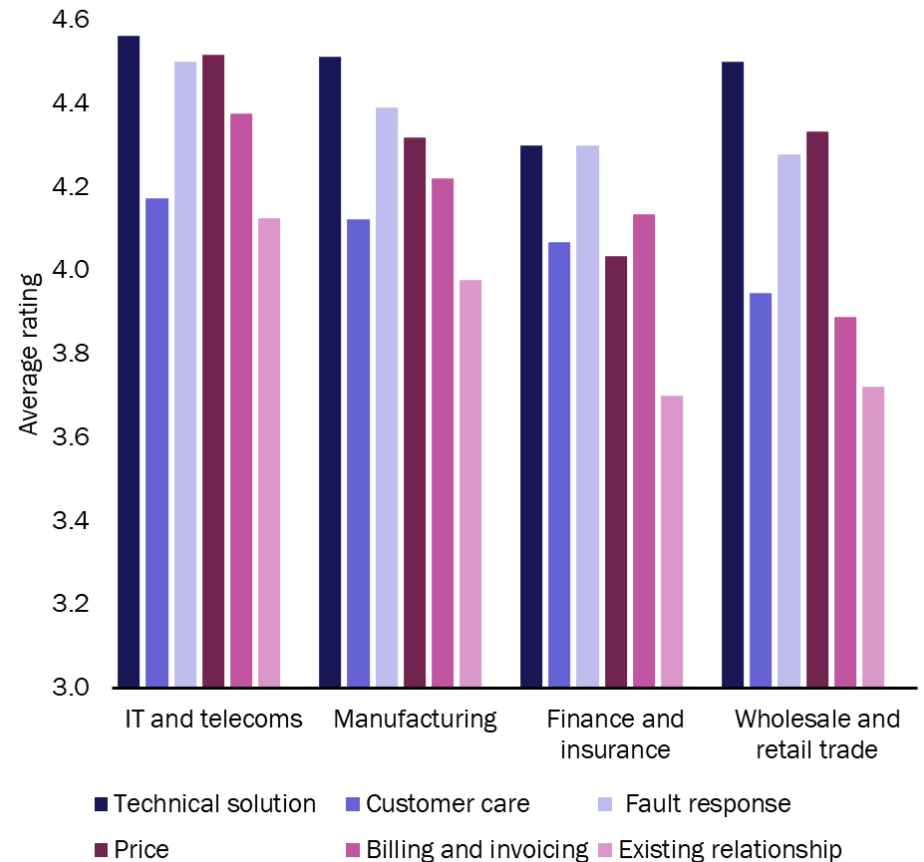
## Selected results by vertical: demand for new services and factors in supplier selection

Figure A6: Enterprise survey: Which of the following new services would you consider buying in the next 5 years? (for selected verticals)



Source: Analysys Mason

Figure A7: Enterprise survey: Please rate the importance of each of the following factors when selecting a communications provider<sup>1</sup> (by vertical)



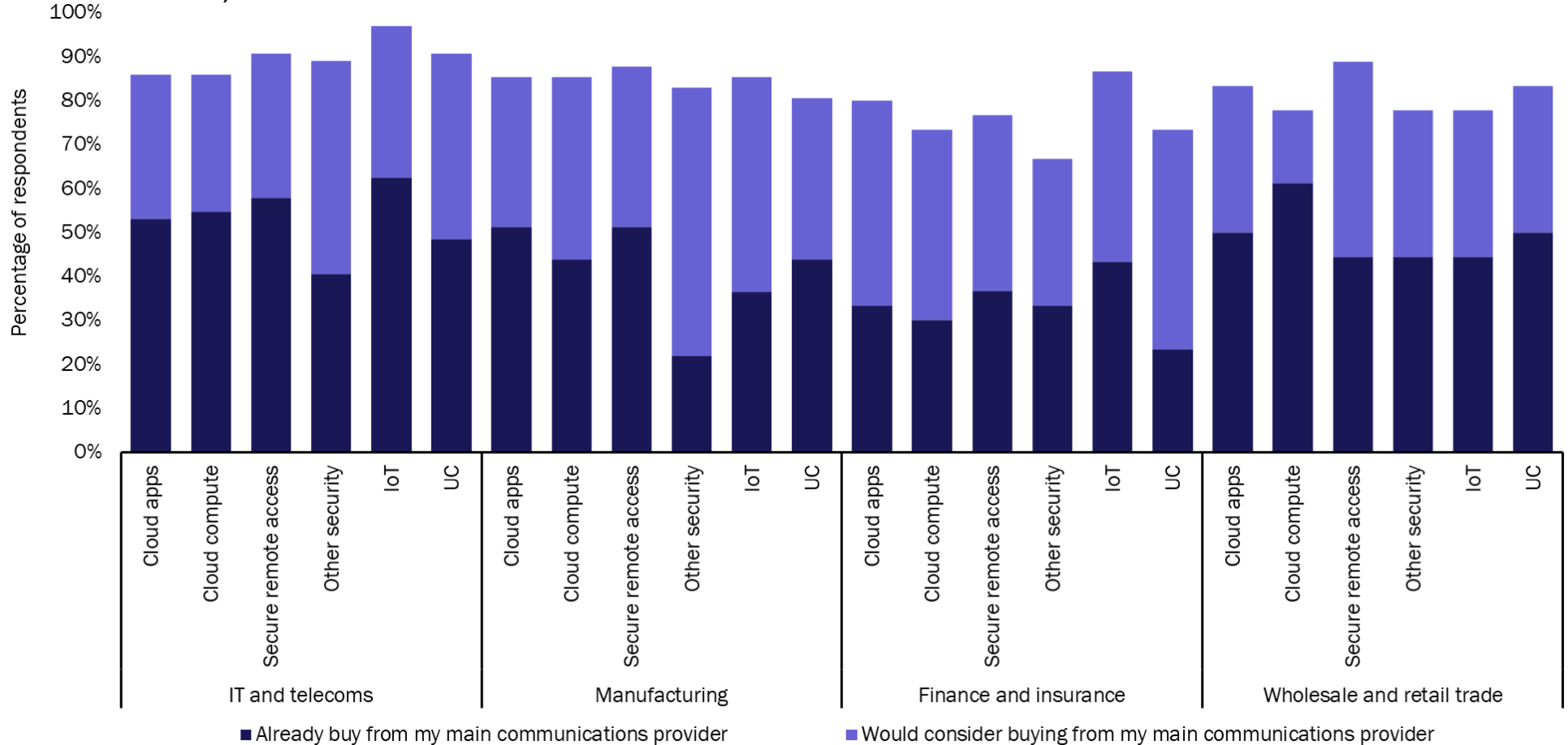
Source: Analysys Mason

<sup>1</sup>On a scale from 1 to 5 where 1 is 'not at all important' and 5 is 'very important'



## Selected results by vertical: propensity to buy new services from CSPs

Figure A8: Enterprise survey: Which of the following services would you consider buying from your main communications provider? (for selected verticals)



Source: Analysys Mason

## Selected results by region: factors in supplier selection and satisfaction with billing and invoicing services

Figure A9: **Enterprise survey:** Please rate the importance of each of the following factors when selecting a communications provider<sup>1</sup> (by region)

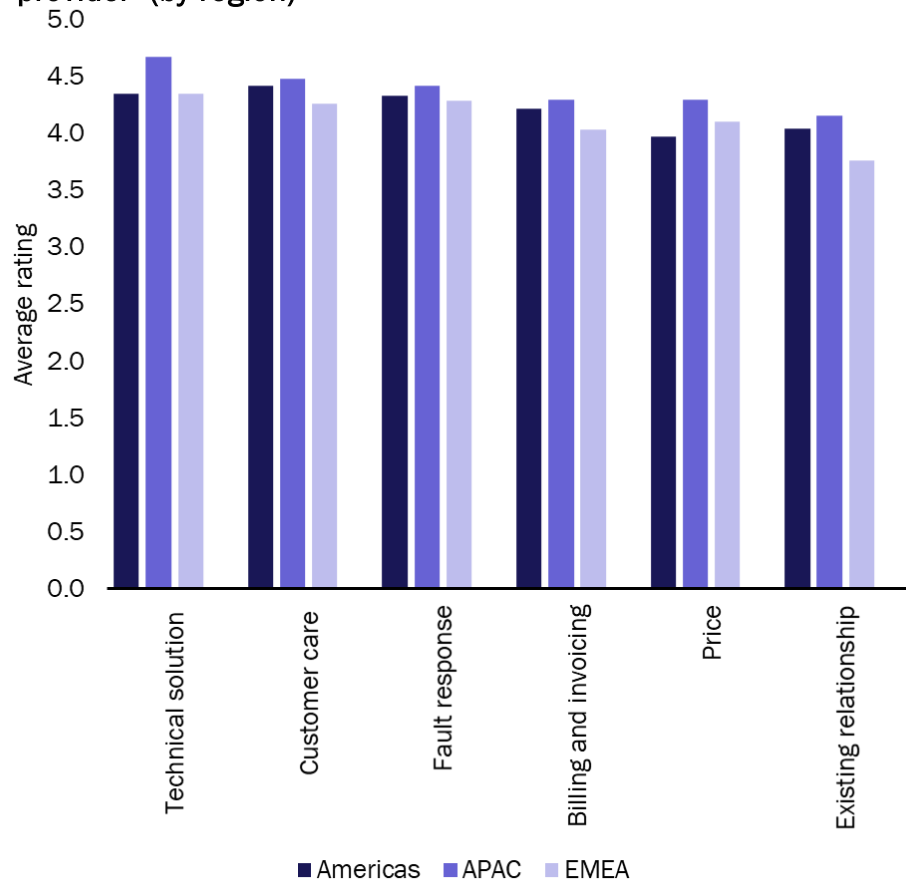


Figure A10: **Enterprise survey:** How important to you is reducing the number of suppliers? (by region)

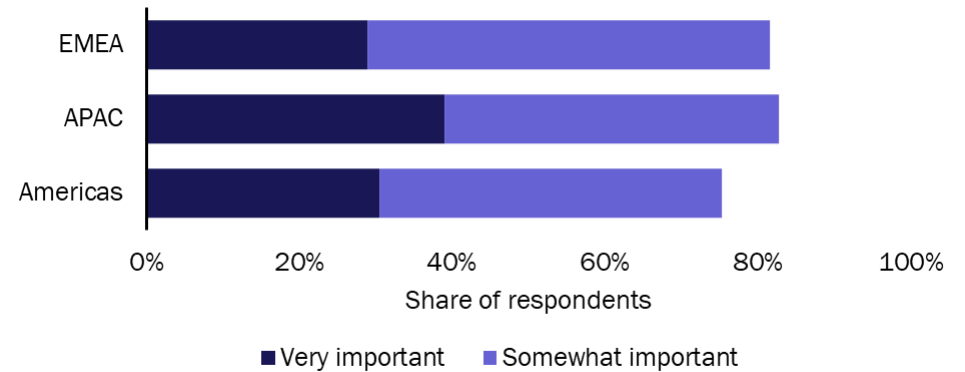
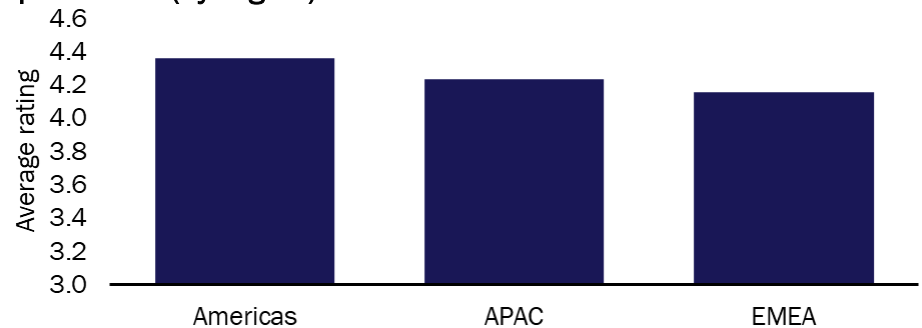


Figure A11: **Enterprise survey:** How satisfied are you with the billing and invoicing provided by your main communications provider?<sup>2</sup> (by region)

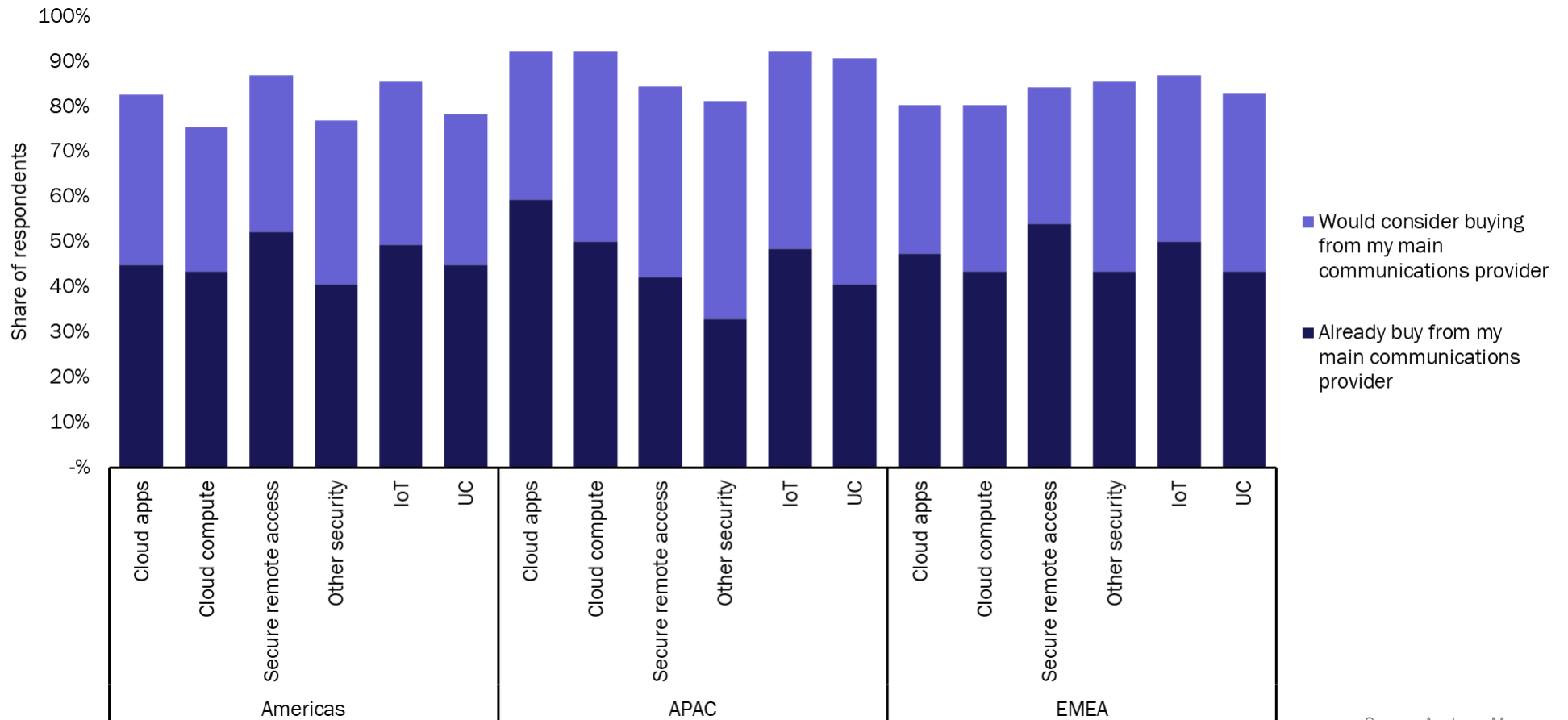


<sup>1</sup> On a scale from 1 to 5 where 1 is 'not at all important' and 5 is 'very important'.

<sup>2</sup> On a scale from 1 to 5 where 1 is 'not at all satisfied' and 5 is 'very satisfied'.

## Selected results by region: propensity to buy new services from CSPs

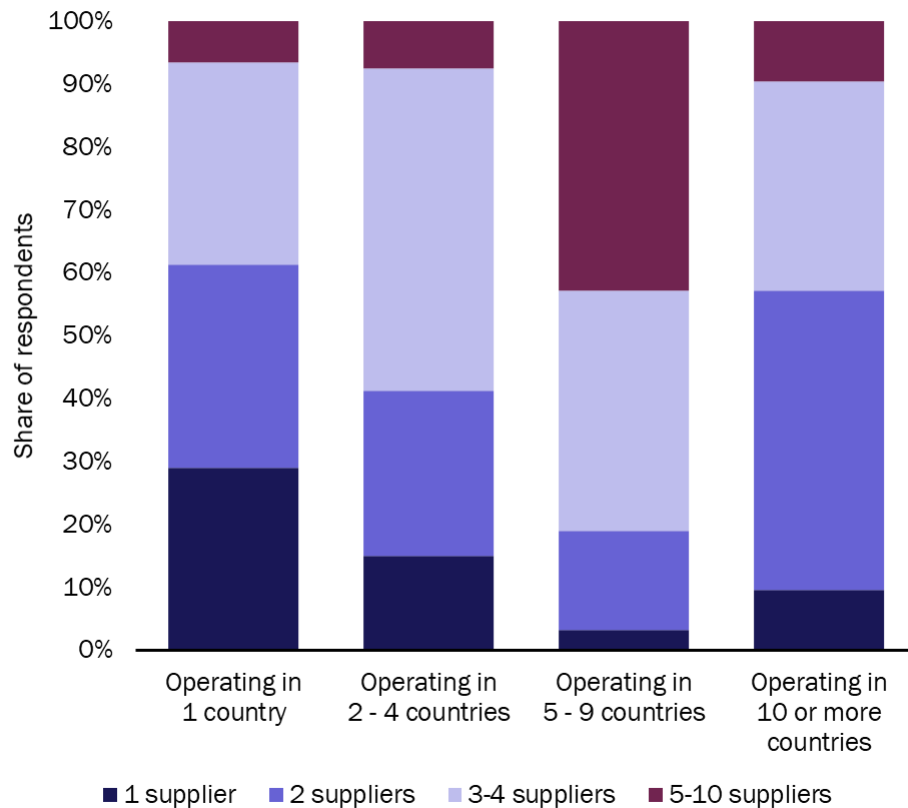
Figure A12: Enterprise survey: Which of the following services would you consider buying from your main communications provider? (by region)



Source: Analysys Mason

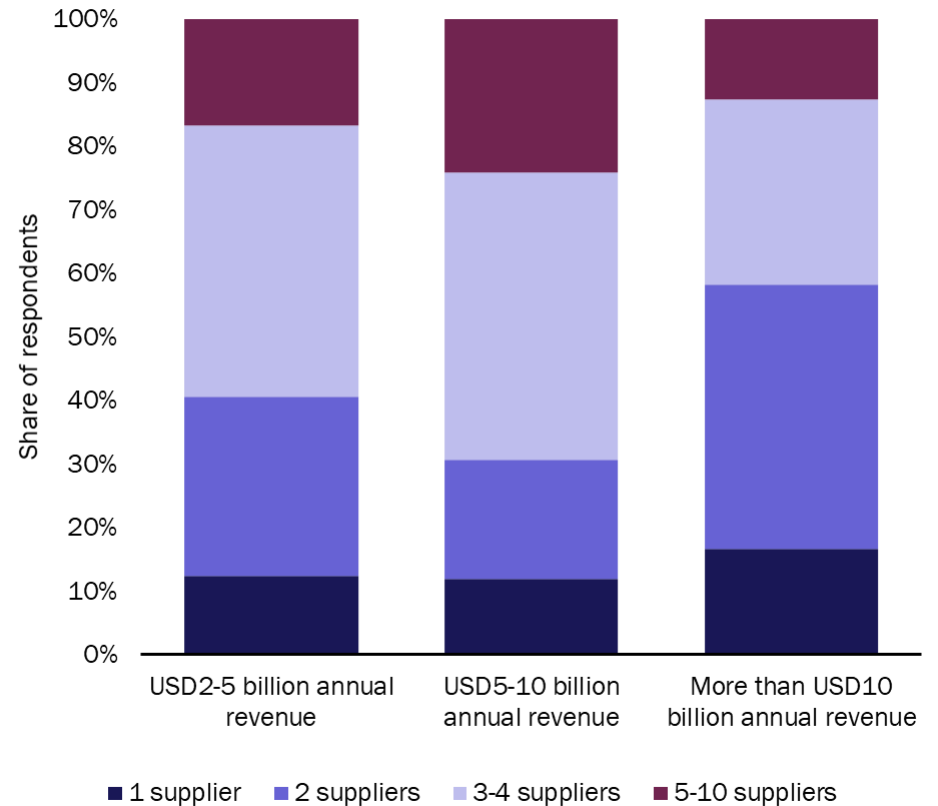
## Selected results by size of business: use of multiple suppliers

Figure A13: Enterprise survey: How many different providers do you use to supply your core communications services (fixed and mobile, voice and data connectivity)? (by number of countries the enterprise operates in)



Source: Analysys Mason

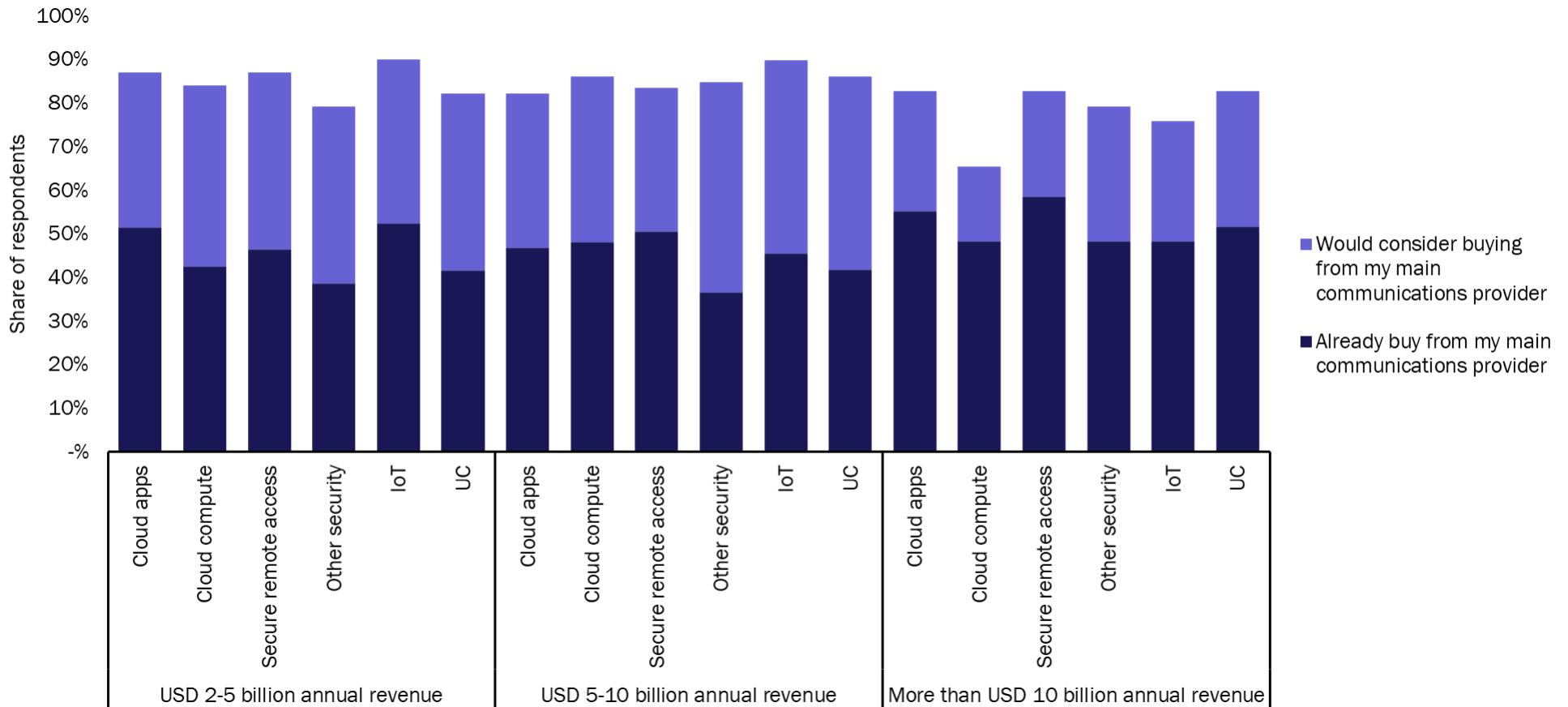
Figure A14: Enterprise survey: How many different providers do you use to supply your core communications services (fixed and mobile, voice and data connectivity)? (by size of business in terms of revenue)



Source: Analysys Mason

## Selected results by size of business: propensity to buy new services from CSPs

Figure A15: Enterprise survey: Which of the following services would you consider buying from your main communications provider? (by size of business in terms of revenue)



Source: Analysis Mason

## About CSG

For more than 35 years, CSG has simplified the complexity of business, delivering innovative customer engagement solutions that help companies acquire, monetize, engage and retain customers. Operating across more than 120 countries worldwide, CSG manages billions of critical customer interactions annually, and its award-winning suite of software and services allow companies across dozens of industries to tackle their biggest business challenges and thrive in an ever-changing marketplace.

CSG's enterprise monetization solutions provide charging, billing and customer management functionality for our customers' largest customers. We help them capture the value of the B2B market and deliver the complex functionality enterprise customers need to succeed. We are experts in consolidated separate enterprise billing instances onto one solution, as well as manage multiple tenants, charging models and hierarchies without adding additional complexity or systems. We provide consolidated charging and billing for traditional enterprise offers, products and services while establishing new revenue streams from 5G, IoT, cloud and B2B2X business offerings.

CSG is the trusted provider for driving digital innovation for hundreds of leading global brands, including Airtel Africa, América Móvil, AT&T, Charter Communications, Comcast, DISH, Formula 1, Hutchison 3 Indonesia, Inmarsat, Mastercard, Maximus, Microsoft, Mobily, MTN, TalkTalk, Telenor, Telstra and Vietnamobile.

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# We are experts in the telecoms, media and technology sector



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- Corporate growth strategy
- Business unit strategy
- Infrastructure strategy



## Transformation

- Business transformation
- Digitalisation
- Operational excellence
- Data, BI, steering and insights
- Change and programme management
- Sustainability



## Transaction support

- Commercial due diligence and market review
- Technical due diligence
- Post-merger integration
- Periodical business monitoring and loan technical advisory
- Opportunity scouting and pre-deal support



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- Network and platform
- Public sector broadband intervention
- Accelerating digital transformation of society
- Price controls and cost modelling
- Regulatory accounting
- Regulatory benchmarking and analysis
- Spectrum management and policy
- Expert witness and litigation support
- Postal regulation and policy

## Research



- DataHub and Regional Markets
- Consumer Services
- Operator Business Services and IoT Applications
- SMB IT Channels and Forecasts
- Cloud Networks

# Our research programmes

- 
**Consumer Services programmes**
  - Fixed Broadband Services
  - Mobile Services
  - Fixed-Mobile Convergence
  - Smart Devices
  - Future Comms
  - Video, Gaming and Entertainment
  - Digital Services
- 
**Networks programmes**
  - Next-Generation Wireless Networks
  - Wireless Infrastructure Strategies
  - Fibre Infrastructure Strategies
  - Operator Investment Strategies
- 
**Applications programmes**
  - Network Automation and Orchestration
  - Customer Engagement
  - Monetisation Platforms
  - Digital Experience
  - Automated Assurance
  - Service Design and Orchestration
- 
**Cloud programmes**
  - Cloud Infrastructure Strategies
  - Data, AI and Development Platforms
  - Edge and Media Platforms



- 
**Operator Business Services and IoT programmes**
  - Large Enterprise Strategies
  - SME Strategies
  - IoT and M2M Services
  - Private Networks
- 
**SMB IT Channels and Forecasts programmes**
  - Cyber Security
- 
**Regional Markets programmes**
  - Global Telecoms Data
  - Americas
  - Asia-Pacific
  - Middle East and Africa
  - European Core Forecasts
  - European Telecoms Market Matrix
  - European Country Reports
- 
**DataHub**
  - ~2800 forecast and 280+ historical metrics
  - Regional results and worldwide totals
  - Operator historical data

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# Our areas of expertise



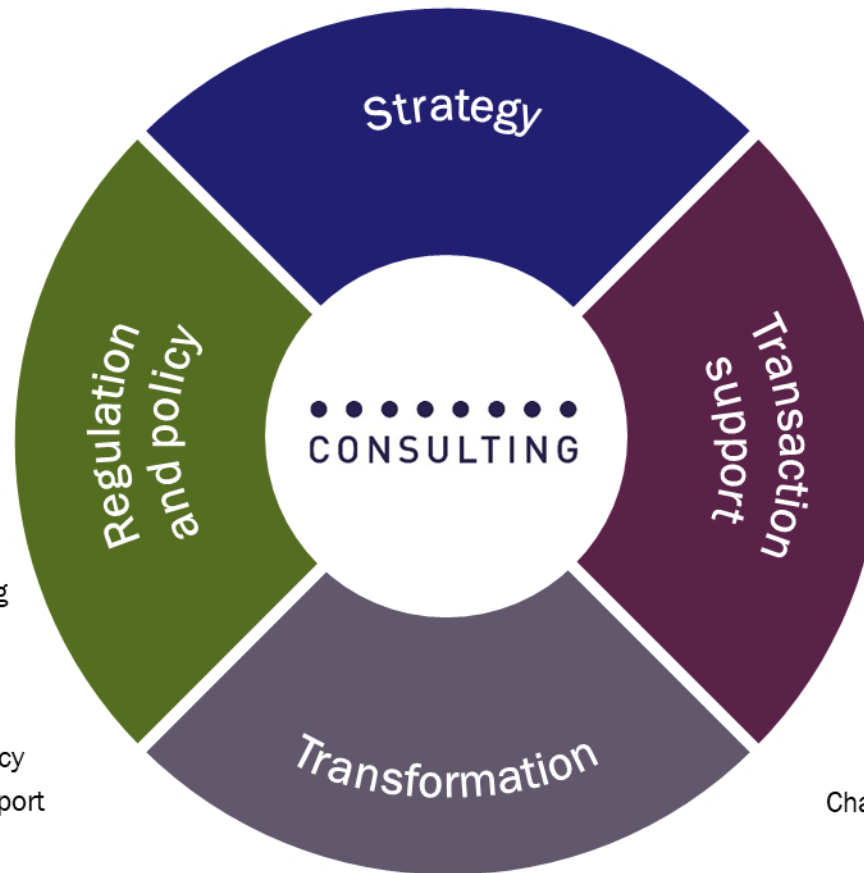
## Strategy

- Corporate growth strategy
- Business unit strategy
- Infrastructure strategy



## Regulation and policy

- Network and platform
- Public sector broadband intervention
- Accelerating digital transformation of society
- Price controls and cost modelling
- Regulatory accounting
- Regulatory benchmarking and analysis
- Spectrum management and policy
- Expert witness and litigation support
- Postal regulation and policy



## Transaction support

- Commercial due diligence and market review
- Technical due diligence
- Post-merger integration
- Periodical business monitoring and loan technical advisory
- Opportunity scouting and pre-deal support



## Transformation

- Business transformation
- Digitalisation
- Operational excellence
- Data, BI, steering and insights
- Change and programme management
- Sustainability



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