

Rethinking IT strategy...can it enable a step change in Communication Service Provider performance?

In an exciting time of fast paced technology change and economic uncertainty, we talked to a number of EMEA-based Communication Service Provider Chief Information Officers and Chief Technology Officers to discover their challenges and how they are responding to these dynamics.



Rethinking IT strategy...can it enable a step change in Communication Service Provider performance?



Table of contents

<i>Executive summary</i>	2
<i>Understanding the current IT landscape</i>	8
<i>IT strategies moving forward</i>	14
<i>Exploring COTS strategy</i>	20
<i>Understanding the costs and value of IT</i>	24
<i>Facing the future</i>	28
<i>Authors</i>	32
<i>About this survey</i>	33

Executive summary

The communications industry has emerged from the recent downturn in relatively good financial shape. However, the pace of innovation continues to require new levels of bandwidth and to place greater pressure on product prices.

Coupled with technology pressure there is also continued and rapid convergence in the marketplace with the new network-centric, digital services model taking centre stage. As a result, communication service providers (CSPs) are increasingly investing in new services, technologies, skill sets, structures and behaviours.

Looking at the communications market for 2011 and beyond, there are many challenges facing CSPs, but in our view there are several big trends that will be high on the agenda for chief information officers (CIOs) and chief technology officers (CTOs):

- **4G:** A slow start, but eventually investment in long term evolution (LTE) or “4G” networks will increase as the need for greater voice and data bandwidth becomes ever more pressing
- **Wi-Fi:** The emergence of next generation Wi-Fi as complement or alternative to cellular mobile data transfer – many CSPs need to quickly develop and execute on their strategy to ensure they are at the forefront
- **Security:** Mobile device security is becoming increasingly important with the proliferation of smart mobile computing devices – CSPs concerned about customer perceptions are already investing heavily in technologies to support increased security
- **Cloud:** Will this finally be the year that cloud computing truly emerges? Data security and privacy in the cloud are challenges that will not be easily overcome, but there are opportunities to develop deep relationships with customers as they embark on their usage of cloud services.

With these challenges and against the back drop of the ongoing economic uncertainty, our survey sets out to understand how CIOs are dealing with these challenges and, in particular, to identify the factors driving their IT strategies in the short to medium term.

Over the next three years, we see a dual challenge for CIOs and CTOs as they come under increasing pressure to reduce both OPEX and CAPEX, while meeting their organisation’s desire to invest in improving customer experience to drive retention. With the squeeze on product pricing, the need to reduce operational costs, the requirement to simplify IT and increased competition, CSPs see improved customer experience as the key differentiator.

“Communications companies are focusing their technology investments on reaching and serving customers through new platforms and networks.”

PwC 14th global CEO survey



The survey shows that communications CIOs recognise the changing dynamics of the communications industry and the increasing need to adopt new technology innovations to maintain a competitive advantage.

- CSPs are inherently complex, because of overly complicated IT systems and infrastructure supporting overly complicated processes and products
- Business desire for rapid time to market has often resulted in ‘tactical’ customised or non-strategic solutions
- Our experience shows there is no established CSP that has achieved the ultimate aim of simplified IT and simplified business operations. Some have targeted IT simplification first, others business simplification – neither approach has been particularly successful as the complexities cannot be divorced and resolved independently
- Although commercially off-the-shelf (COTS) vendors have enabled some simplification through standardised packages, the communications market continues to present an almost unique challenge
- One approach (although broadly unproven in mature organisations) might lie in the “Fresh Start” approach, whereby IT and the business are simplified by the deployment of new, standalone, end-to-end systems that deliver less complexity, greater speed to market and reduced costs
- Another potentially more realistic approach could be to tackle IT and business simplification in a robust, but incremental fashion by taking a “domain by domain” approach.

The architectural landscape

The survey shows a mixed picture for application architecture with several key highlights worth noting:

- Service- and technology-centric domains (i.e. network and faults management) remain heavily reliant on a vast number of applications
- For increasingly service agnostic domains (i.e. enterprise resource planning or ERP), we see a much more unified approach
- Market movements will give rise to multi-tiered and product agnostic architecture (service orientated architecture or SOA) to support convergence and speed to market demands
- Greater emphasis on improved customer experience will drive substantial investment in customer relationship management (CRM), and as well portal and content domains
- The growth of data usage and social media has triggered fast movement of the portal and content product market, with 54% of respondents widely planning to invest in major upgrades to existing strategic platforms and capability
- Outsourcing will continue to grow in the next three years across all functional domains with the exception of portal and content applications. This is true for Western Europe, Russia/Eastern Europe and Middle Eastern respondents.

Allocating budgets

The survey presents some interesting insights into current IT budgets within CSPs:

- Development, outsourcing and operations allocations, despite market conditions and budget reductions CSPs, will increase over the next 18 months
- Going forward, with the rise of outsourcing, we expect development costs to gradually fall
- Although integration and bespoke allocations are high today, we expect to see an increase in COTS expenditure in the next 18 months
- COTS and integration budgets will be 10-20% higher over the next 18 months. Given the levels of change in the market we have noted COTS vendors reshaping their offerings from traditional packaged and fully integrated product models to more flexible on-demand services across a range of platforms.

Emerging COTS strategies

The survey demonstrates CIOs and CTOs will be focusing on investment in COTS applications across multiple domains:

- At present, CSPs are allocating a higher proportion of their IT budget to integration and bespoke applications. This will change in the next 18 months with an overall 95% of respondents intending to increase their IT budget allocation for COTS applications
- Spending remains high on integration activities, which has led to the popularity of pre-integrated all-in-one suites
- Change is occurring as organisations look to solutions to address their unique requirements – expecting them to partly self-integrate
- Whilst there is definitely a preference for best-of-breed applications across all domains rather than single vendor solutions



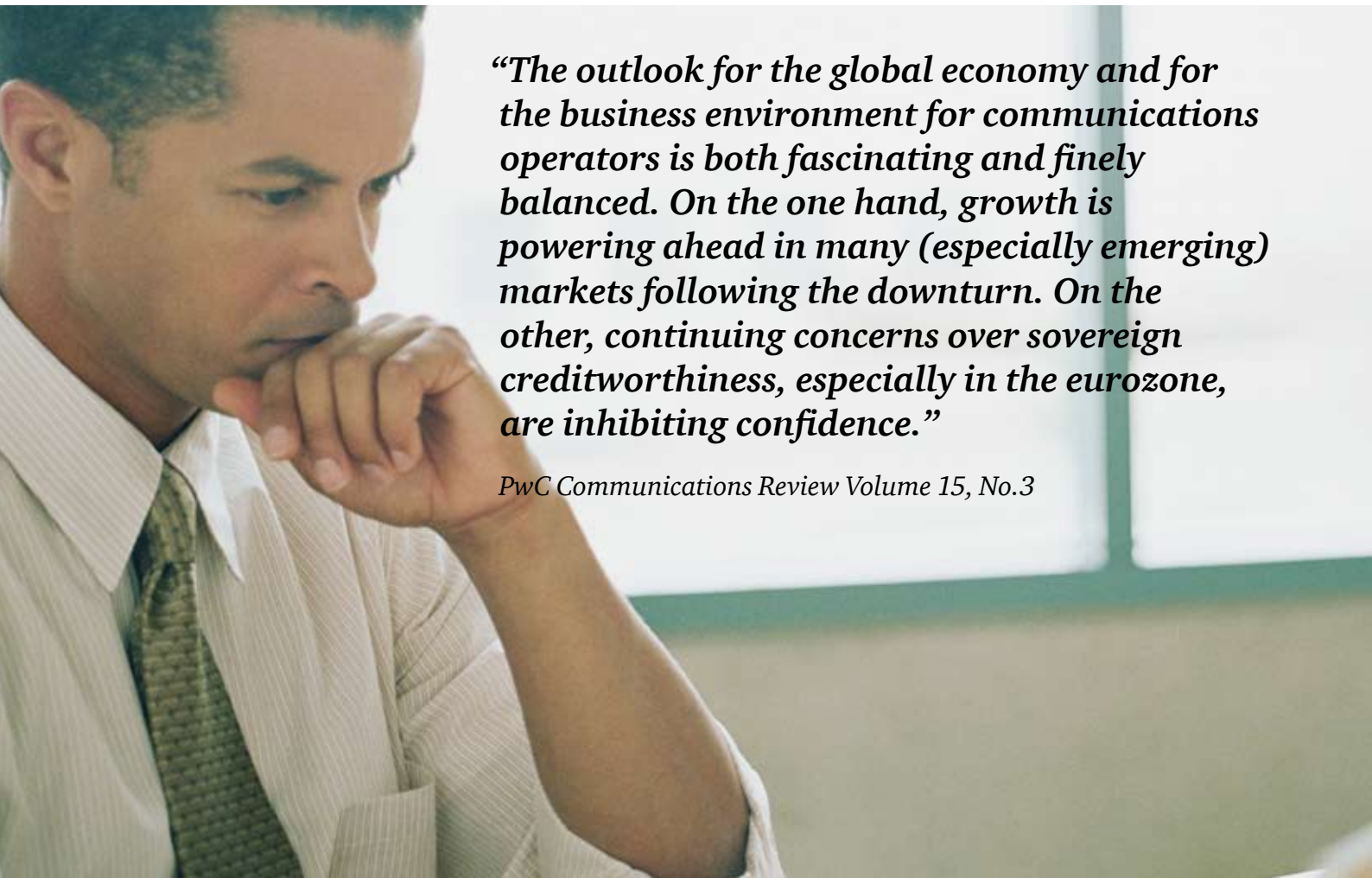
- COTS benefits are well established, yet we have noted a degree of hesitation among CIOs and CTOs with respect to COTS impact on their strategies
- CSPs want COTS vendors to respond on three main areas: functional capability, performance, and vendor support
- COTS vendors will also need to take greater responsibility for implementations and improve overall delivery to time, quality and budget
- Success will be greatly tied to strong project management, business change and vendor management capabilities within CSPs
- There is a significant opportunity for COTS vendors and other providers to shift to more collaborative business models in order to close the skills gap.

Understanding the cost and value drivers

The survey clearly demonstrates that investment in IT is high on the agenda for the next three years:

- We noted an unusual breakdown in IT expenditure on strategic activities and maintenance efforts. With 52% of respondents indicating that capital expenditure (CAPEX) is consumed on IT maintenance, whilst, unexpectedly, 38% of respondents confirmed spending operating expenditure (OPEX) on strategic activities. Typically, for strategic activities, we would expect to see higher CAPEX and lower OPEX
- It is also interesting to note that 60% of respondents indicated they consume half their IT budget on 'keeping the lights on'
- Balance between in-house bespoke and COTS systems is changing as there is increasing adoption of standardised packaged functionality
- We found no 'golden rule' for total cost of ownership (TCO) calculation across CSPs – although business related costs were consistently excluded
- We see an opportunity for CSPs and vendors to improve through a broader TCO calculation that recognises business impacts and that encourages IT to work more closely with the business
- Our experience shows that any reduction in IT spending that delivers a long term competitive advantage can translate into tangible improvements in enterprise value.





“The outlook for the global economy and for the business environment for communications operators is both fascinating and finely balanced. On the one hand, growth is powering ahead in many (especially emerging) markets following the downturn. On the other, continuing concerns over sovereign creditworthiness, especially in the eurozone, are inhibiting confidence.”

PwC Communications Review Volume 15, No.3

Pausing for thought

Reflecting on the feedback from survey respondents and our experience we see great prospects for CSPs, COTS vendors and outsourcing providers, both individually and collectively.

For CSPs:

- Invest in replacing or upgrading billing and CRM systems
- Focus on self managed development of portal and content domains
- Continue to embrace true customer centricity and invest in customer excellence programmes
- Carefully consider the development of a new approach to IT and business simplification
- Develop broader and deeper working relationships with the business and the finance community
- Consider expanding the TCO calculation to better reflect the true cost of IT implementation within the business – a consideration for both the CIO and the chief financial officer (CFO)
- Continue to exploit the outsourcing opportunity for non-strategic systems



For outsourcing providers:

- Redefine partnering arrangements towards a more collaborative model
- Align service offerings to the communications market key growth areas, such as portals and content
- Develop a strategy for a role in the communications IT and business simplification agenda
- Consider products and associated systems decommissioning as outcome based performance measures
- When partnering with CSPs focus on increasing adoption of existing outsource provider infrastructure and solutions. This is especially important as CSPs gradually adopt their outsourcer's technology infrastructure and services – providing a great opportunity for COTS vendors to redefine their sales model and focus on engaging with both CSPs and outsourcing providers.

For COTS vendors:

- As with outsourcers, COTS vendors should align development to the communications market key growth areas, such as portals and content
- Focus on becoming the partner of choice on the IT and business simplification agenda
- Expand your use and support of a broader TCO calculation to better reflect the true cost of IT implementation
- Considering more risk and reward commercial arrangements, focused on business outcomes and customer experience.

Further advances in technology and emerging trends will continue to shape and transform the IT landscape of CSPs – creating new and more exciting opportunities. We continue to see this with the emergence of cloud computing, mobile devices, network technology convergence and integrated consumer intelligence.

Moving forward, CSPs will need carefully balance the need to rapidly respond to these and other emerging technologies, whilst addressing the almost critical need for IT and business simplification.

The survey highlights a time of great change, great opportunity and great challenge for the communications industry. Capitalising on this, COTS vendors will need to gain a combined understanding of the key drivers and requirements from both CSPs and their various technology partners. This will enable them to continue providing more fit-for-purpose applications that are closely linked to the business outcomes and growth strategies of CSPs.

Understanding the current IT landscape

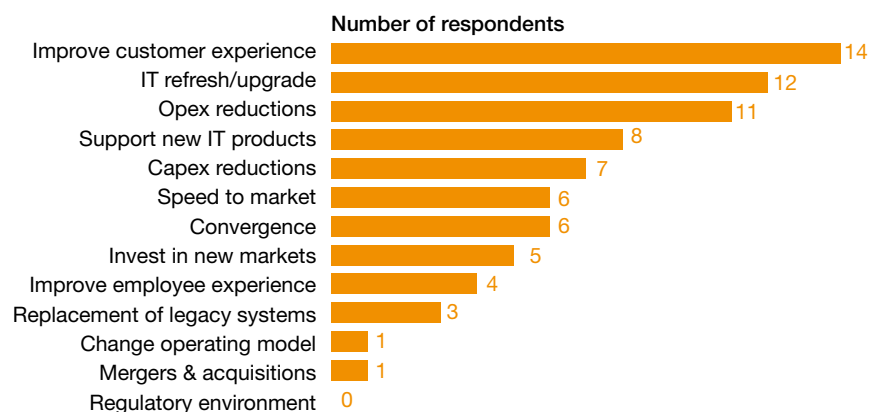
The communications industry has emerged from the recent downturn in relatively good financial shape, but is facing a business environment that is undergoing a profound and irreversible transformation. The pace of innovation in the sector is continuing to accelerate with both fixed and mobile driving bandwidths ever higher. With each technological step forward, CSPs face an exponential rise in the data traffic being carried across their networks and a corresponding decrease in the marginal price they can effectively charge customers for carrying each bit of data.

Advancing communications technologies and the markets they serve are converging at a rapid pace. This is replacing the traditional communications model with a convergence of network-centric, digital services.

For communications service offerings and marketplaces across the world, organisations are facing an increasingly urgent need to move beyond their traditional boundaries in every sense – breaking new ground in terms of services, technologies, skill sets, organisational structures, workplace behaviours, corporate culture, and social impacts.

With the ongoing uncertainty of sustainable economic growth and the influences of external market drivers, our survey set out to understand how CIOs are dealing with these challenges and, in particular, identify the factors driving their IT strategies in the short to medium term.

Figure 1 – Drivers for IT Strategy



As Figure 1 highlights, one-third of responses of communications CIOs and CTOs are particularly focused on improving their customer experience, because this a key strategic driver for their IT strategy. This is closely followed by IT refresh and upgrade activities and OPEX reductions over the next 18 months.

Over the next three years, we see a significant emphasis on OPEX and CAPEX reduction alongside customer experience improvements. As expected, CSPs are experiencing a squeeze on their product pricing structure and are constantly under pressure to reduce costs through operational efficiencies. With increased competition and new market entrants, the focus on improved customer experience is seen by most CIOs and CTOs as the key differentiator within their respective markets.

The drivers identified in the survey by the CIO and CTOs tend to focus on immediate issues such as cost, efficiency, new products and speed to market. This is probably a reflection of where the industry was and potentially not where it is heading. Regulators across the world have offered greater latitude to the industry during the downturn. However with the recovery regulators are likely to take a more challenging approach.



Over the next three years, we see a significant emphasis on OPEX and CAPEX reduction

One-third of communications CIOs and CTOs consider improved customer experience a key strategic IT driver

Therefore, we are expecting greater influence on strategy from drivers such as business combinations and regulation. We have already seen major competitors merging and competitors sharing infrastructure and services e.g. radio access network (RAN). Shared infrastructure enables one network to provide many services to any access device, reduces overhead, and can possibly pass cost benefits on to the customer.

Recognising the ever-decreasing average tenure of a CIO or CTO in the communications industry, it is perhaps not surprising that many of the respondents raised 'risk' as a key barrier to their IT strategy. This predominately refers to project delivery risk and the risk of unrealised business benefits, combined with the intricacy of the existing IT architecture within these organisations (see Figure 2).

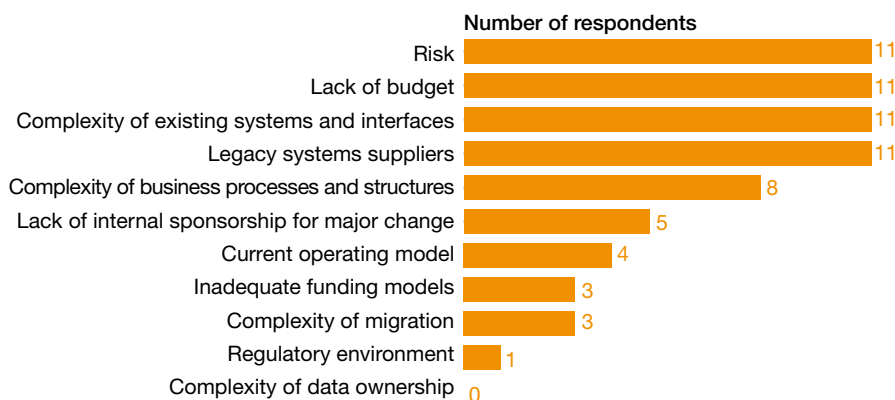
The complexities of existing systems, processes, migration and legacy system suppliers create challenges for change and transformation, compounded by the lack of budget, inadequate funding models and management sponsorship.

Major strategic drivers such as business combinations and convergence face similar barriers to success. In convergence, the requirement is to harmonise and integrate typically stand alone business and technical infrastructure onto a standardised platform. Although this sounds straightforward, it is complicated by the divergent business requirements and customer experiences required by the organisation and its customers. Equally with business combinations the same issues exist, with pressure to reduce business complexity, standardise processes, and to align operations.

For these barriers to be overcome, the business must become more standardised and streamlined by considering new approaches to IT and business simplification, as well embracing frameworks and common standards across many levels of the organisation. Examples include:

- Enhance Technology Operations Map (eTOM)
- Information Framework (SID), from TM Forum Framework
- The Open Group Application Framework (TOGAF)

Figure 2 – Barriers for IT Strategy



57% of respondents have adopted COTS for portal and content applications

61% of respondents have adopted COTS for integration and service orchestration

Existing system application environment

The survey shows that service- and technology-centric domains such as integration and service orchestration and network and faults management are heavily reliant on a vast number of applications (more than ten) to support their operations.

This fragmented application architecture is a reflection of the limited availability of standardised applications that can support multiple technologies within these domains. This will become increasingly difficult to manage with the rise of convergence, introduction of quad play, and the support of more complex products.

The challenge for COTS providers in these service and technology specific areas is to provide software with flexible integration. The business and technical demands for this functionality are currently ahead of the standards setting boards and software vendors. This offers COTS vendors a significant opportunity.

For increasingly service agnostic domains such as CRM and ERP, we see respondents adopting a more unified approach with standardised applications and platforms currently in place. This reflects the maturity of the ERP and CRM market, hence a greater presence of COTS compared to bespoke applications in these two domains (see Figure 3).

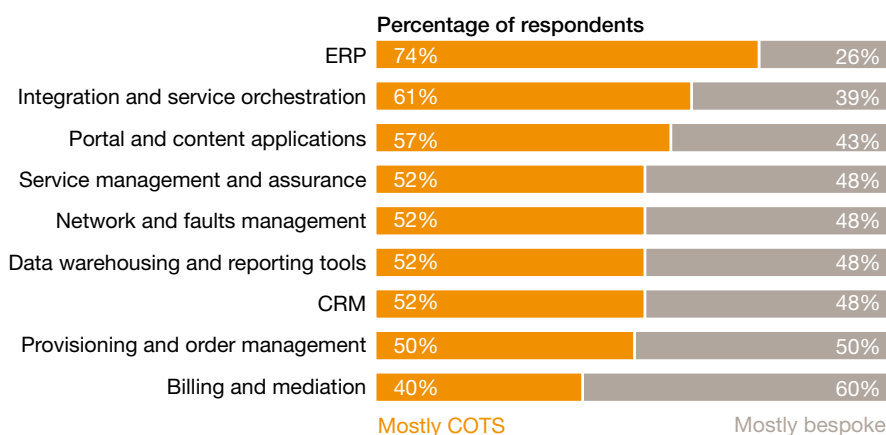
For integration and service orchestration, 61% of respondents indicated their adoption of COTS applications. From experience, this is potentially due to existing vendors coupling this capability with their standard products in the organisation (see Figure 3).

Following closely are portal and content applications with 57% of respondents adopting COTS. This finding might indicate that application-based architecture for portals and content is maturing and becoming more widely available (see Figure 3).

Although billing is a mature market, most organisations have custom-built their billing systems to specific business requirements, product models and processes or very heavily customised packages negating the advantage of COTS. As a result, no standard off-the-shelf software can match the unique and personalised requirements, or support the complex data structures of a communications organisation. Hence, the replacement of billing and mediation systems is challenging and has created complex hurdles for CSPs to move to COTS.

Many CIOs and CTOs face the challenge of supporting old products with only a few valued customers and the insatiable desire for new products, services and features. The old products drive antiquated requirements and functions, whilst the new products are required “yesterday”, and tactical siloed solutions result. These two factors often embed reliance on bespoke systems with customisation or tactical solutions.

Figure 3 – Share of COTS Applications





Current sourcing arrangements

In recent years, CSPs have increased their investment and reliance on outsourcing, yet it is still evident from the survey results that a majority of CIOs and CTOs generally keep a greater percentage of their domains in house to maintain better control and responsibility for the function.

This was more evident in the emerging market responses from Russia/Eastern Europe and the Middle East, where the uptake of outsourcing is less pronounced across all domains compared to Western Europe.

The drive for operational excellence has accelerated. The communications industry is more likely to have outsourced a business process or function, implemented a cost-reduction initiative, and entered into a new strategic alliance or joint venture.

These emerging markets, although cost-conscious, are not pressed or heavily driven by cost reduction initiatives – hence the move towards outsourcing will be gradual in the short to medium term. In our experience, there can be a tendency in their management of outsourcing to focus upon inputs rather than outputs, which often leads to managed service or out-tasking, rather than outsourcing.

For all geographies, the survey suggests that technology specific domains such as service management and assurance, network, and faults management are typically outsourced to gain access to highly skilled talent and capability for development and maintenance (see Figure 4).

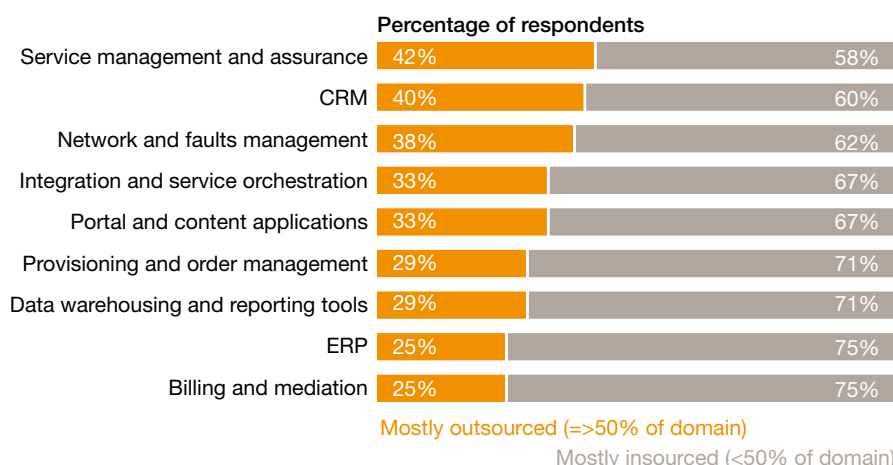
CRM and contact centre outsourcing has been a maturing success story for many years and continues to deliver the benefits of quality customer services and application management as well as better performance through outsourcing providers (see Figure 4).

Many companies are enjoying huge benefits by off shoring some of their peripheral and non core business processes to third party business process outsourcing providers. This practice allows international companies to dedicate their attention and resources to their core business processes. In our experience, the core business tends not be as resource intensive and thus does not hinder potential growth of the company.

From the survey results (see Figure 4), we see a preference for the retention of ERP and billing and mediation domains. With the maturity of the ERP market, skills and capabilities are most likely accessible within the organisation. Hence, outsourcing this function may not be as essential compared to others.

Billing applications are often complex and non-standardised, leading to heavily in-house development and support for this function. This complexity is reflected in the survey with only 25% of respondents on standardised COTS applications for billing and mediation.

Figure 4 – Percentage of Domains Outsourced



IT strategies moving forward

Embracing ongoing industry change and shifting consumer demands, communications CIOs and CTOs will have to become more innovative to align with changing business strategies to support the new digital world.

These general movements in the market will have an impact on and evolve the architectural design of enterprise systems and platforms,

giving rise to multi-tiered and product agnostic architecture or SOA) to support convergence and speed-to-market demands.

Focused on reducing overall budget, respondents are keen to invest in initiatives that will help the business reduce costs and become more efficient operationally.

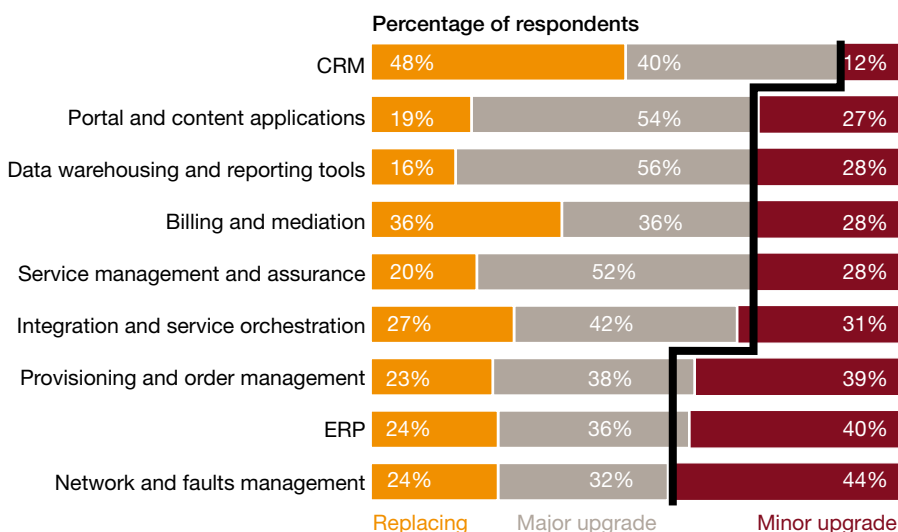
Both behemoths of the business support systems (BSS), CRM and billing, have the highest proportion of respondents who want a complete replacement, with CRM leading the way with 48% (see Figure 5).

With a greater emphasis on improved customer experience, the survey illustrates substantial investment plans for CRM replacement and major upgrades. This is significant for Western Europe with 50% of respondents indicating their CRM replacement ambitions and 42% planning a major upgrade in the next 18 months.

The growth of data usage and social media has triggered fast movement of the portal and content product market, with 54% of respondents widely planning to invest in major upgrades to existing strategic platforms and capability. While 81% of respondents believe they have their strategic solution in place and require only an upgrade path (see Figure 5).

From the survey, we see minor upgrade plans for domains with more stable platforms and infrastructure, such as ERP and network and faults management.

Figure 5 – Percentage of System Replacement & Upgrades



Sourcing intentions

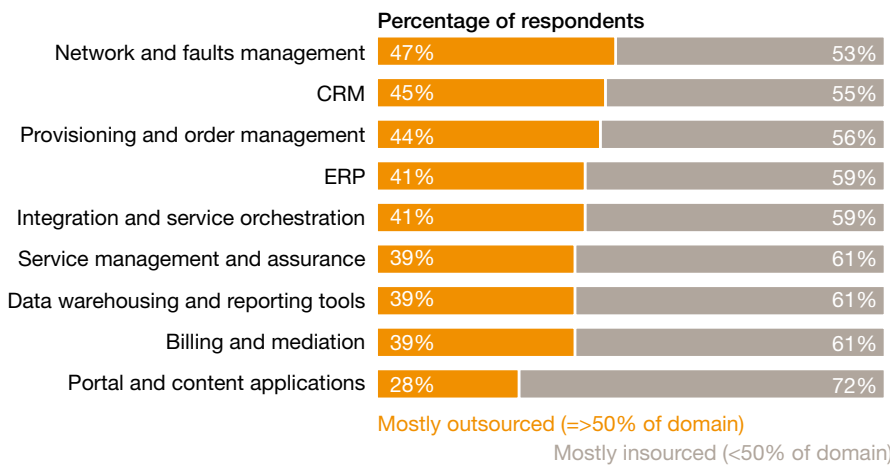
The responses to this survey confirm that outsourcing remains high on almost every telecom CIOs' agenda. Our findings show outsourcing is deeply established, an entrenched business strategy maturing and evolving to deliver value beyond just cost savings and labour arbitrage.

Consistent with the survey findings, outsourcing will continue to grow in the next three years across all functional domains with the exception of portal and content applications (see Figure 6). This is true for Western Europe, CIS and Middle Eastern respondents.

CSPs have invested their efforts towards moving their applications to stable and standardised platforms such as COTS with the aim to reduce complexity and increase the effectiveness of outsourcing.

The survey findings also illustrate the decline in outsourcing for portal and content applications (see Figure 6). With the move to mobile centric data, applications, and content, this domain is an emerging growth area that CIOs are choosing to keep in house for better control and responsibility. Additionally, the strategic importance of this domain has made it more desirable to retain in house, given the pace of change and increased responsiveness required. Presumably as 81% of respondents believed they were already on their strategic solution, they are more confident in developing permanent expertise on these platforms and applications.

Figure 6 – Percentage of Domains Expected to be Outsourced in three Years

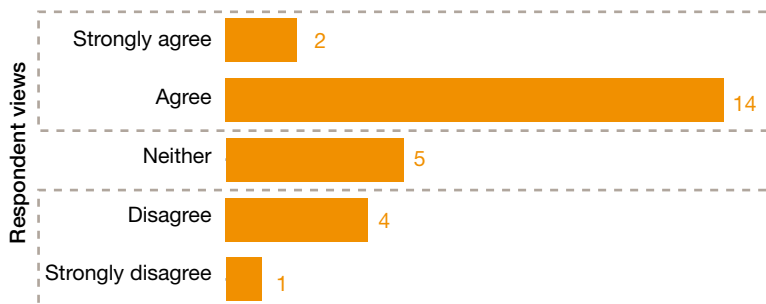


As an expanding area, the portal and content applications domain is experiencing a skill shortage of technical resources. The rise of multi-sourcing and partnerships with research development institutions and universities has been an effective method of building portal and content knowledge and capability to address this skill shortage.



CIO respondents indicated that they would rather adopt their outsourcing provider's existing infrastructure

Figure 7 – Likely Adoption of Outsourcing Partners Infrastructure or Services



When asked to consider their future outsourcing requirements and whether they were more likely to adopt their outsourcing partner(s) IT infrastructure and services, CIOs interestingly indicated that they would rather adopt their outsourcing provider's existing infrastructure as opposed to specifying the infrastructure and applications themselves (see Figure 7).

Is this a reflection of a maturing market and a growing belief in outsourcing companies?

Today, with better service level agreements (SLAs), reduced costs, and increased quality of service, the benefits are obvious. Organisations across various industries are quick to move to this model to gain an improved customer experience. These factors are an indication that the outsourcing market is maturing, sparking a potential change in the sales focus for COTS vendors to not only target CSPs, but also outsourcing providers.

System development life-cycle intentions

The survey shows that CIOs and CTOs are currently allocating a significant proportion of their IT budget to in-house development (17%), outsourcing (16%) and operational (16%) efforts (see Figure 8).

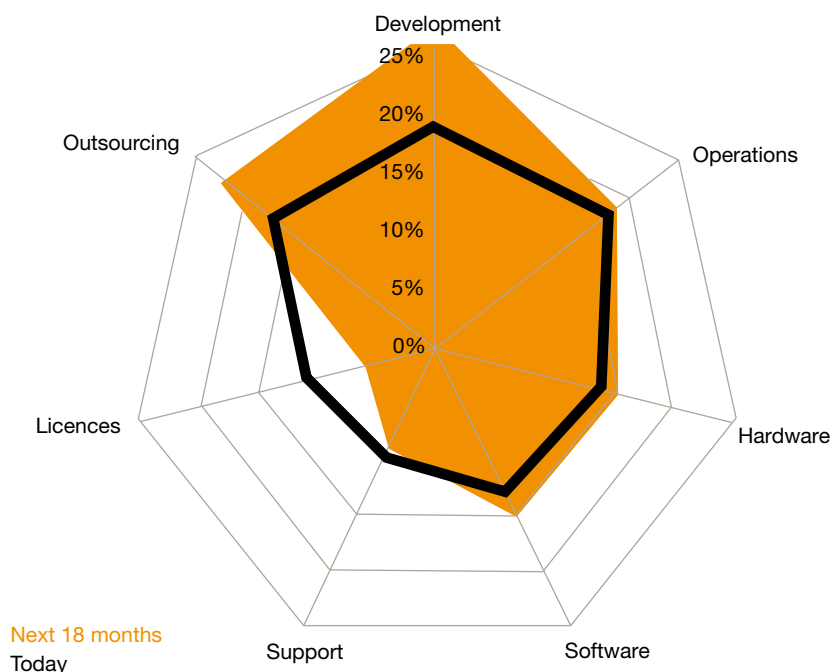
Over the next 18 months, CIOs and CTOs have suggested that they will continue to increase their IT budget allocation for these phases: development (24%), outsourcing (20%), and operational (17%) (see Figure 8). This is unexpected. Going forward, with the rise of outsourcing, we would expect development costs to gradually fall. This finding may be due to the subjective method with which deals and contracts are structured, as well as the allocation of effort and costs to each phase.

These findings also expose the complexity of existing legacy systems and bespoke applications in CSPs and the costs associated with their ongoing development and maintenance.

The reality is, in the short term, reducing this budget allocation will be an enormous challenge for CSPs.

In the next 18 months, as outsourcing increases, we will see a drop in licensing costs. As expected, licensing costs will most likely shift to the outsourcing provider to manage and charge back to CSPs as an outsourcing provider fee.

Figure 8 – Expected Change in the next 18 months



COTS intentions

As CSPs emerge from the economic downturn of the past few years, we are seeing organisations increase their IT budgets to meet their business growth demands.

At present, CSPs are allocating a higher proportion of their IT budget to integration and bespoke applications. This will change in the next 18 months with an overall 95% of respondents intending to increase their IT budget allocation for COTS applications (see Figure 9).

Looking at budget allocation geographically, respondents in Western Europe all foresee an increase in their COTS applications budget. Eighty-six percent of respondents also anticipate an increase in budget for both integration and bespoke applications.

In the emerging markets, 92% of respondents expect to see an increase in their budgets for COTS applications and 83% for integration. For bespoke applications there is an even split: 50% expect a budget increase and 50% expect a budget decrease. It will be interesting to see how they manage CAPEX reduction as a strategic driver, whilst increasing investment in these areas.

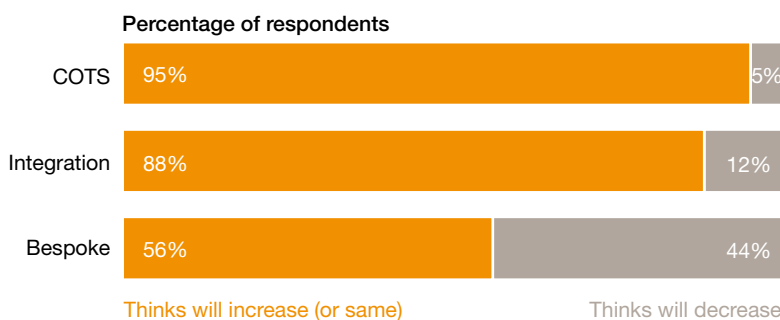
Overall, the survey suggests that budget allocation for COTS applications and integration will be higher by 10–20% over the next 18 months, with minor investments in bespoke applications. We anticipate a fall in bespoke applications in the longer term as the transition to COTS continues.


CSPs will continue to transform their complex IT environments through new upgrades, applications and processes, with a vision to heighten efficiency and agility through operational simplification. Respondents are confident that their potential investments in COTS will support this vision.

With the flux of change and emerging trends in both communications and technology industries, we have seen COTS vendors reshaping their offerings from traditional packaged and fully integrated product models to a more flexible on-demand services model across a range of platforms – mobile, desktop and cloud - to effectively service their customers.

The maturity of the market is such that organisations are now more output focused than input focused. Where originally a bespoke solution was the requirement, the customer is now adopting the thought that the solution can be of the vendor's choosing provided that the best solution is delivered.

Figure 9 – Expected Percentage Change over next 18 Months



A photograph of a modern, brightly lit hallway with a glass wall on the left. The hallway is long and narrow, with a polished floor. A man in a blue shirt and dark pants is walking away from the camera towards the right. In the foreground, the backs of two people's heads are visible as they look towards the hallway. The lighting is bright, creating strong reflections on the floor and glass.

CIO respondents would rather adopt their outsourcing provider's existing infrastructure as opposed to specifying the applications themselves

Overall 95% of respondents are intending to increase their IT budget allocation for COTS applications

Exploring COTS strategy

Application build versus buy strategies have been a long-standing topic of debate. It seems clear however that the more standardised applications and off-the-shelf products are within an organisation, the more cost-effective it will be for implementation and ongoing maintenance efforts. This truism only holds water if the COTS package meets the business requirements and as previously discussed, requires business simplification and greater flexibility of COTS packages.

At present, organisations are still spending too much time and effort on integration activities.

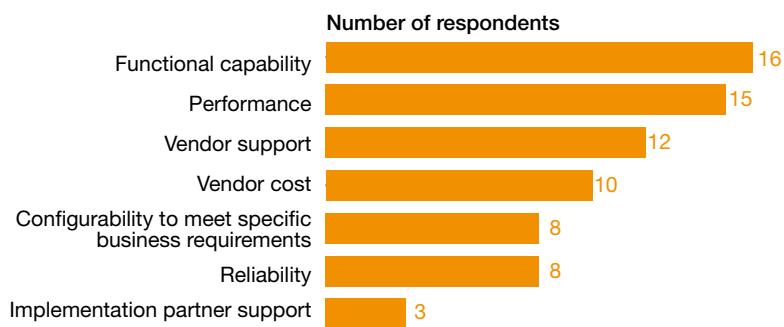
Traditionally this has led to the popularity of pre-integrated all-in-one suites. However, this has changed as organisations are looking to point solutions to address their unique requirements – expecting them to partly self-integrate.

The benefits of COTS are well-known and proven. Yet, the survey has also revealed a degree of hesitation among respondents, when asked about their transition to COTS (see Figure 10).

Their views vary from limited management support to fit-for-purpose and performance concerns. But the majority highlighted three key issues they believe may impact the success of their COTS strategy:

- 1 **Functional capability of COTS**
- 2 **Performance of COTS**
- 3 **COTS vendor support**

Figure 10 – Issues Impacting COTS



These issues may be rectified by COTS vendors through increased functional development, common framework adoption, marketing and awareness efforts, as well as demonstrating a collaborative engagement approach.

Building confidence in the market is key to increasing COTS adoption. Survey respondents have suggested that for COTS vendors to make their proposition more compelling, they will need to take greater responsibility for successful implementations and improve their overall delivery to time, to quality and to budget.

For CIOs and CTOs who have opted for off-the-shelf applications, they have highlighted a greater preference for best-of-breed applications across all functional domains compared to single COTS vendors. Because CIOs and CTOs have the flexibility to select specific components they desire using the best-of-breed approach, many have found such an approach strategically and economically attractive. However, best-of-breed functionality can only be realised with high quality integration.

Rapidly responding to this, COTS vendors are aggressively developing or acquiring their own best-of-breed modules to stay in the race. They claim that pre-integration reduces cost and delivers better interworking of functionality to deliver the required business outcomes. A mark of success for these large pre-integrated COTS vendors will be if the split of seven to eighteen changes next year (see Figure 11).

This preference suggests that CSPs are actively exploring fresh options to address their unique requirements as well as achieve agility and innovation.

Figure 11 – Vendor Preference across Multiple Domains





COTS skills and capability

With any strategy, business or technology requires significant top management support and ownership. In many cases, this has proven to be challenging and has contributed to the failure of many large-scale transformation programmes.

For technology strategy, specifically COTS, successful delivery is not only dependent on the underlying system architecture, but more importantly, its close alignment to the key strategic business drivers. This is fundamental and needs to be effectively measured and tracked through the course of the implementation to ensure anticipated benefits are realised.

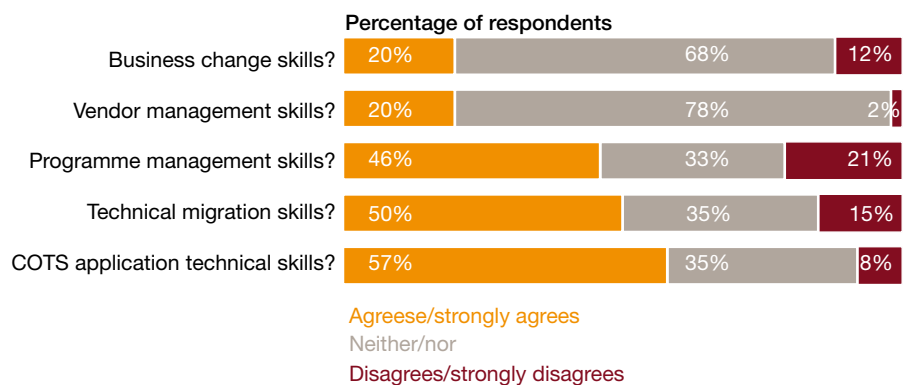
Additionally, choosing the right implementation partners is crucial and extends beyond just the services and products they provide. From experience, CSPs will evaluate implementation partners based on their past track record and experience, individual team member skills, stability and, most importantly, people whom they can work with and trust to successfully deliver the intended benefits.

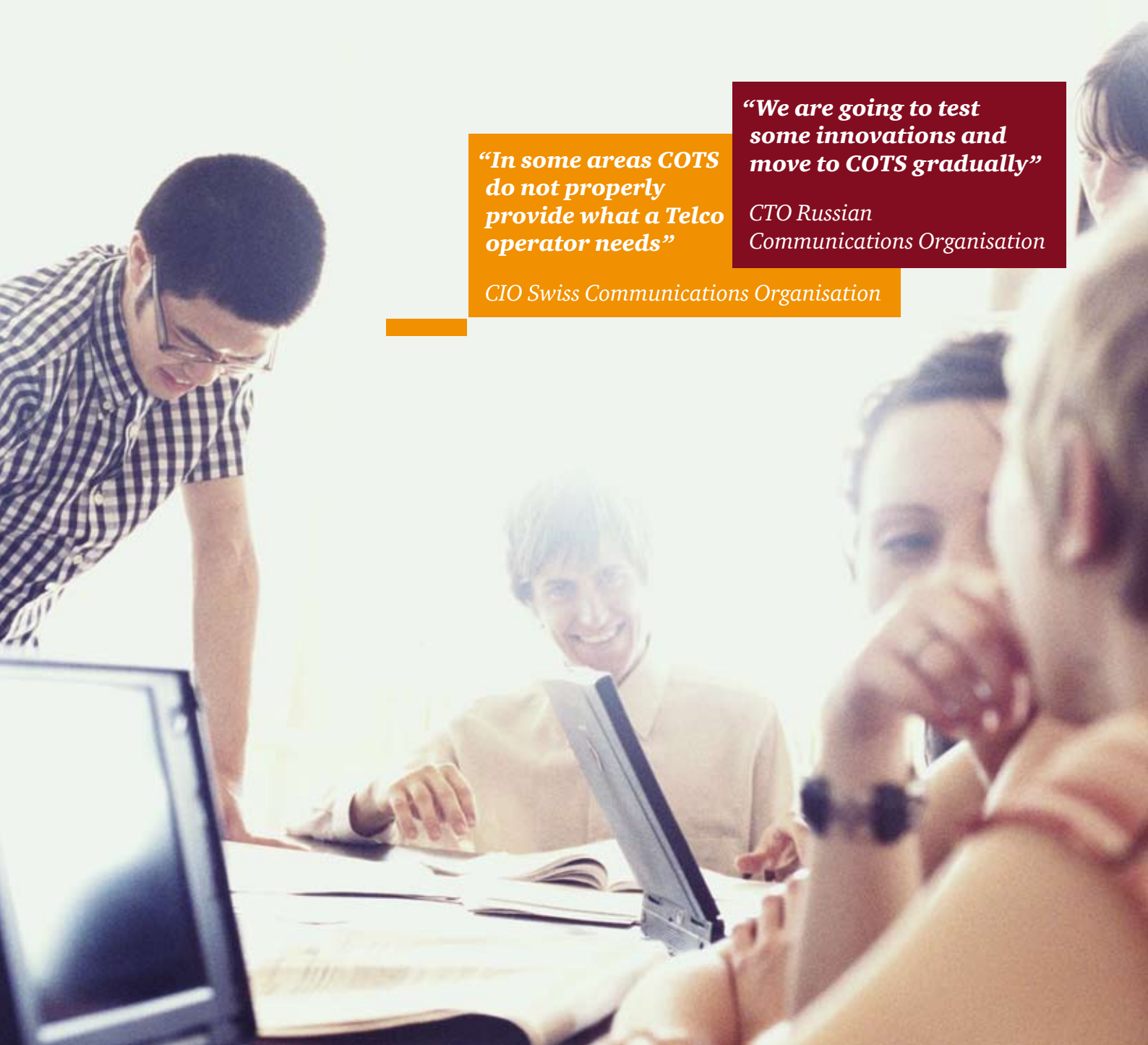
The survey results highlight that 35% of respondents believe their current implementation partners are capable of delivering a COTS solution that would meet their business requirements (see Figure 12). Eight percent indicated that their implementation partner was incapable and 58% of respondents were unsure of their implementation partners' capability.

When asked to assess in-house capability to support COTS, a high percentage of respondents were unsure of their current capability, specifically in areas of business change (68%) and vendor management skills (78%) (see Figure 12).

Although project management and technical capabilities have advanced over the years and are no longer a huge barrier for CSPs, there are still areas of uncertainty that need to be tackled.

Figure 12 – Assessment of In-house Core Skills





“In some areas COTS do not properly provide what a Telco operator needs”

CIO Swiss Communications Organisation

“We are going to test some innovations and move to COTS gradually”

CTO Russian Communications Organisation

In most cases, the skills needed to execute and support a COTS strategy are rarely present in a single organisation. Building exceptional internal capabilities takes time and requires enormous vendor support and training.

Recognising this, it is essential for a CIO to have a clear view of the current skills and capabilities of their implementation partners and their own team. This will allow them to fully leverage and utilise resources; ultimately to drive IT strategy and achieve their COTS aspirations.

Survey results show it is clear that CSPs have a vision to transform their IT environments through increasing their adoption of COTS, undertaking major system upgrades and replacements, as well as accelerating their outsourcing efforts. The success of these activities will greatly rely on strong project management, business change, and vendor management capability.

This represents a significant opportunity for COTS vendors, system integrators and outsourcing providers to shift from more traditional buyer/seller relationships to collaborative business models which effectively support CSPs in closing the skill gap.

Understanding the costs and value of IT

Today, CIOs in particular are showing the way through the thicket of IT over-complexity and re-imagining IT as a source of innovation. But, each member of the C-suite must play a role in creating IT value: the chief executive officer (CEO) in aligning IT initiatives with overall strategy, the chief financial officer (CFO) in prioritising and understanding IT cost and value management, and the chief operating officer (COO) in ensuring that IT initiatives support crucial, customer-facing business processes.

With 85% of respondents specifying an annual IT budget greater than US\$100 million, it is evident that investment in technology is high on the agenda.

However, the survey results draw attention to the unusual breakdown of IT expenditure of OPEX and CAPEX for strategic activities and maintenance efforts. Fifty-two percent of respondents have indicated that they consume their CAPEX budget on maintaining their IT environment and 38% spend their OPEX budget on strategic activities (see Figure 13).

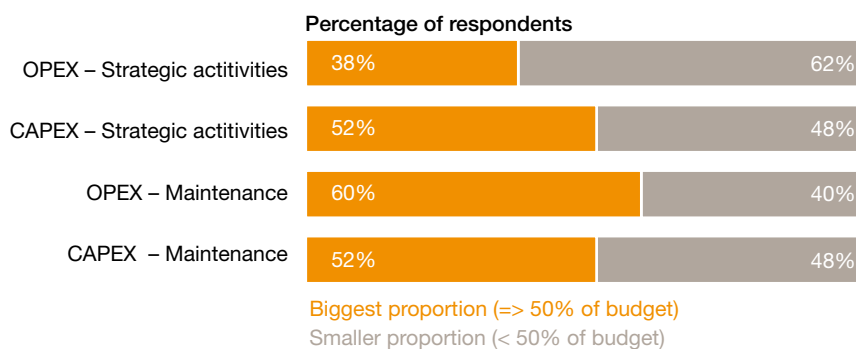
Typically, we would expect strategic initiatives to be fully funded by CAPEX, whilst OPEX would be spent on ongoing maintenance of the IT environment. Analysis of the survey responses illustrates that the percentage of CAPEX and OPEX against IT spending for these CSPs is approximately 40% and 60%, respectively.

From the survey, 60% of respondents indicated that they consume half of their IT budget on operational expenditure, otherwise known as 'keeping the lights on'. Although keeping the lights on is as fundamental to IT as balancing the books is to finance, CIOs need to have the right balance and control of their IT expenditure to drive innovation and value through strategic initiatives.

If substantial resources are consumed to keep the lights on and much CAPEX expenditure is non-strategic, then are CIOs sufficiently driving value into the business? Are CIOs contributing sufficiently to the enterprise value with the resources under their control? Are CIOs influencing the CFO agenda on expenditure allocations strongly enough?

There were a small number of respondents that had a low budget as a percentage of revenue, and most of their IT budget was consumed by operational expenditure. For those with a high budget as a percentage of revenue, as expected, the survey showed these respondents spending more on strategic initiatives to grow the business.

Figure 13 – Breakdown of IT Expenditure



Measuring costs

From experience, IT functions need a better understanding of their cost bases and to be clearer on what activities add or destroy value, the desired business outcomes, and the right activities and inputs to achieve them.

The right measurement and reporting framework is required to monitor this and understand what levers, such as prioritisation and resourcing, to pull, to ensure IT programmes deliver.

Standardising the TCO calculation

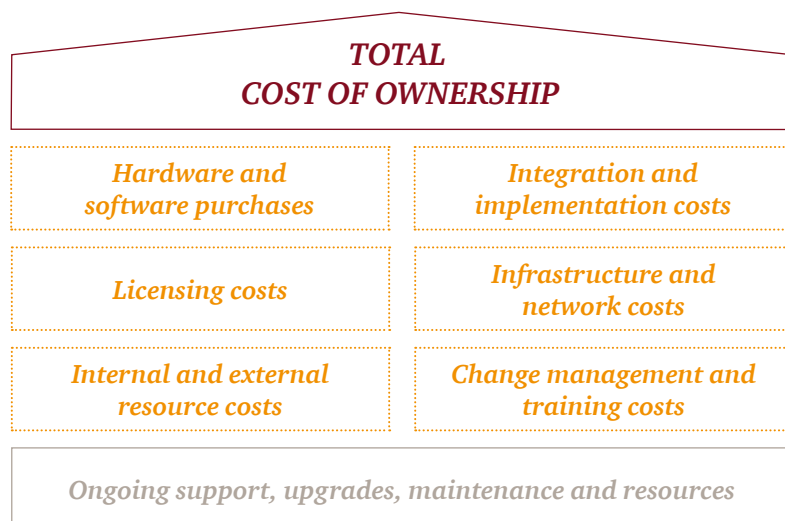
The balance between in-house bespoke and COTS systems is changing as CSPs increasingly adopt standardised packaged functionality. This has had an impact on the way the TCO is measured as the components used to calculate TCO for COTS often differ compared to TCO for in-house bespoke applications.

The TCO calculation should include all potential real costs incurred in delivering technology and services; this includes both direct costs such as hardware, software and employee resources, as well as indirect costs such as training and maintenance.

When asked to specify which IT costs were included in their TCO calculation, a majority of respondents indicated that hardware (54%) and software (50%) were included. Only 12% of respondents included business change as part of their TCO.

From our experience, there is no golden rule for calculating the TCO as each organisation and its IT function is unique. However, there are methods that can be used to ensure a comprehensive result that ensures all cost components are considered and accounted for.

Figure 14 – Total Cost of Ownership Components



We have seen through experience that most clients fail to include all costs in the TCO calculation. Figure 14 typifies the approach with a focus on development and IT costs. Many TCO calculations ignore operational costs, business running costs, speed to market capability, business impacts of upgrade paths, and availability of development resources available to the business post implementation.

When you consider the most common barriers outlined by the survey respondents – risk, lack of budget, complexity of existing systems, and legacy systems suppliers – you see that CSPs should be paying greater attention to how they account for operational business support and resources in simplifying and implementing IT change. To some degree, all of the above barriers can be mitigated by earlier, broader and deeper engagement with the operational business. But, recognition and support of this activity suggests that TCO calculations need to be far more reflective of indirect costs when they are calculated.



Moving forward COTS vendors should think carefully on how they not only influence their immediate clients, CIOs and CTOs, to ensure the appropriate level of operational business engagement, but to also enhance the mechanisms they use to articulate COTS package value during the bidding process. This could be an area for real vendor differentiation. If, COTS vendors can demonstrate and deliver the process, operational, and business in-life savings, then these factors should almost certainly be included in TCO calculations when comparing COTS and in-house bespoke applications.

Typically with COTS implementations, there is a more predictable TCO. However, with any system implementation, a full detailed understanding of the return on investment (ROI) and capital expenditure is fundamental to prevent any overlooked costs, avoid budget slippage and manage delivery risk within the organisation.



By managing in IT innovation and managing out IT complexity, companies can once again truly drive value through their IT spending

Figure 15 – Potential Value Uplift

Value uplift based on a reduction in total IT spending of 10%

Revenue Band	Potential value uplift
Less than \$1bn	Up to 4.5%
Between \$5bn and \$10bn	1.2% to 3.2%
Between \$10bn and \$20bn	0.6% to 1.5%
More than \$20bn	0.6% to 0.8%

The figures in the table are broad estimates and are based on a key assumption that reduced spend can be maintained into perpetuity, which may be difficult to achieve in a competitive marketplace.

Unsurprisingly, the most significant value impact in relative terms is for companies at the smaller end of the scale. For such entities, IT spend may represent a higher proportion of revenue and IT procurement may be less developed, hence a greater value impact can be achieved from cutting IT spending.

This, of course, only considers the value impact of greater cost effectiveness in IT expenditure. Improving alignment of IT expenditure with strategic growth priorities could also have a significant beneficial impact on revenue and margin growth and thus on enterprise value.

This, of course, only considers the value impact of greater cost effectiveness in IT expenditure. Many enterprises will not wish to take this benefit by means of a straightforward cost reduction and EBITDA increase. Maintaining expenditure levels, but improving alignment of IT expenditure with strategic growth priorities (e.g. smart device support, improved online or self-service capability, customer experience enhancement) could also have a significant and potentially greater beneficial impact on revenue and margin growth and thus on enterprise value. This trade-off and decision will vary by CSP according to their market and strategic priorities.

Value drivers

If CSPs can make sustainable reductions in IT budgets there is real possibility for a positive increase in enterprise value for CSPs across the EMEA region.

Any sustainable reduction in IT spending can translate into tangible improvements in business value. Based on an analysis of survey data and high level market benchmarks of average margins and valuation multiples, it is possible to predict how a reduction in IT OPEX will flow through to business enterprise value through an increase in EBITDA margin. Our analysis indicates that a 10% reduction in total IT spending could result in a value uplift of up to 4.5% of margin (this includes both CAPEX and OPEX effects) (see Figure 15).

Facing the future

The survey shows that communications CIOs and CTOs recognise the changing dynamics of the communications industry and the increasing need to adopt new technology innovations to maintain a competitive advantage.

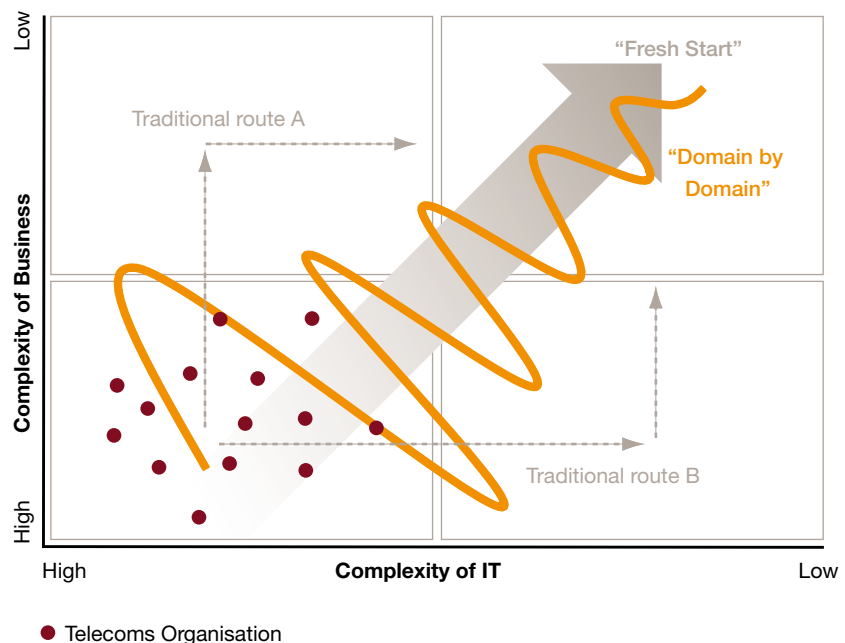
While the survey looks to the near and medium term, the effects of these will have implications on the longer term strategy and direction.

As we know, CSPs today are inherently complex, with overly complicated IT systems and infrastructure supporting overly complicated business processes. The environment has been created as a result of continual innovation of products and services, but also by a reluctance to address the legacy of older generation products, their processes and inevitably the systems that support them. The business desire for rapid time to market has often resulted in 'tactical' customised or non-strategic solutions.

In our experience, no established communications organisation has achieved the ultimate aim of simplified IT and simplified business operations. We have seen many CIOs and CTOs undertake bold and ambitious simplification plans, but we have also seen limited long-term success.

Some have targeted business simplification first, and then tackled the IT agenda, whilst others have simplified IT first, before setting out to make the business work smarter. Neither approach has been entirely successful within the communications arena, as the business and systems complexity cannot be divorced and resolved independently.

Figure 16 – IT and Business Complexity



Although COTS vendors have enabled some simplification through standardised packages (e.g. ERP and CRM) and supporting the technical standards agenda, the communications market continues to present an almost unique challenge in its inability to deliver overall IT simplification.

Reflecting on the sustainability of the current situation in which CSPs find themselves, the simple question is, “is there a better way?”

One option might lie in the “Fresh Start” approach, whereby IT and the business are simplified by the deployment of new, standalone, end-to-end systems that deliver less complexity, greater speed to market and reduced operating costs (see Figure 16). Unfortunately this approach has drawbacks, mainly the cost to establish and run dual sets of infrastructure, whilst migrating customers and staff in a timely manner. It is worth noting that such deployments to date have tended to be in “greenfield” sites, typically when a company is entering a new market organically. One of the best recent examples is a global communications company that adopted a single vendor COTS approach across virtually all domains for their market entry in a Middle Eastern market. However, as yet the “Fresh Start” approach remains unproven in established territories where legacy systems and processes issues are the most significant.

Survey respondents have clearly called out process complexity, operating models, and legacy systems as key barriers to their IT simplification strategy. So another, potentially more realistic approach for CIOs could be to tackle IT and business simplification in a robust, but incremental fashion. This approach is fundamentally about changing the way IT works with the business to deliver the required simplification in the operating model. The incremental approach acknowledges the challenges faced by many, if not all CSPs, but responds to the lack of past success, by taking a “domain by domain” approach.

If you look more closely at CSPs you can see a number of entrenched behaviours that restrict their ability to transform overly complex IT and business architectures. For instance, product portfolios represent one of the biggest single areas of complexity for these organisations. Years of focus on innovation have seen product proliferation, with little focus on decommissioning of the old. This has resulted in a very common picture of a multitude of older generation products underpinned by legacy systems stacks, supporting only small numbers of customers, at great cost to the business. In our experience, there is a degree of hesitancy in moving customers to new products for fear of churn and revenue loss.

There comes a point where the cost of retaining a product or customer becomes unsustainable. In our view, tough decisions are required if CSPs are going to achieve the step-change in IT and business simplification that is becoming critical. However, such decisions are only going to be taken in an environment where IT and the business are working closely together.

It should be noted that this approach does not influence the best-of-breed versus single vendor debate. This remains very much the decision of the communications organisation or outsourcing provider.

Reflecting on the feedback from survey respondents and our experience, we see great prospects for CSPs, COTS vendors and outsourcing providers, both individually and collectively.

For CSPs, we believe focal point should be on the following:

- Focus IT investments and cost savings on customer excellence improvement to support customer retention activities
- Strong consideration of the “domain by domain” IT delivery approach, including a significant shift in the relationship with the business
- Where appropriate, good consideration of the “Fresh Start” IT delivery approach for delivering simplified IT infrastructure
- Expansion of the TCO calculation to better reflect the true cost of IT implementation, to better recognise the impacts and costs from a business perspective
- Continue to pursue strategic systems outsourcing, leveraging skills and best-of-breed technologies to support the IT simplification agenda.

Today, outsourcing is adopted by almost every communications organisation to some extent for a variety of strategic reasons that extend well beyond cost savings. It has become a way for them to better access talent and capabilities, gain more flexibility, reinvent their business model and drive innovation.

For outsourcers, we think the following areas will be important to consider moving forward:

- Definition of effective partnership models to support CSPs in closing their skills gaps
- Consideration of alignment of technology developments to key communications growth areas such as portals and content
- Consideration of how to best support the IT simplification agenda for CSPs, by focusing on systems decommissioning and removal as a performance metric
- Consideration of taking on legacy systems / infrastructure support to allow CSPs to focus resources and CAPEX on value creation projects.

This is especially important as CSPs gradually adopt their outsourcer’s technology infrastructure and services – providing a great opportunity for COTS vendors to redefine their sales model and focus on engaging with both CSPs and outsourcing providers.

For COTS vendors, we believe added focus should be given to the following:

- Partnering with outsourcers to embed COTS packages across multiple domains so that CSPs can simplify architecture on transfer of process
- Alignment of COTS technology developments to key communications growth areas, such as portals and content domains
- Targeting key domains to extend best-of-breed vision and approach to support CIOs and CTOs
- Become the partner of choice on the IT and business simplification agenda by working with customers to explore alternate delivery approaches
- Expand the use and support of a broader TCO calculation to better reflect the true cost of IT implementation, as fostering a better relationship between IT and the business is a key success factor for CSPs and vendors
- Consider more risk and reward type commercial arrangements, focused on implementation outcomes, but also be more demanding of customers in the level of integration between the business and IT.



However, we must not forget that further advances in technology and emerging trends will continue to shape and transform the IT landscape of CSPs – creating new and more exciting opportunities. We continue to see this now with the emergence of cloud computing, mobile devices, network technology convergence and integrated consumer intelligence.

- Cloud computing – The cloud has given rise to the fundamental change from application software as a product to software as a service. Concerns over data security and privacy in the cloud will not be easily overcome and will become more challenging as data traffic accelerates
- Mobile devices – The exploding popularity of smartphone and tablets demands that applications have the flexibility to work on a variety of platforms and devices, in a variety of locations, anytime, anywhere
- Network technology convergence – technological and architectural transformation is underway in CSPs to enable the consolidation of multiple networks (e.g. for voice, data and video) to a single infrastructure, as the traditional communications model is replaced by a convergence of network-centric and digital services
- Integrated consumer intelligence – CRM environments will incorporate merged consumer insight, and dashboards will become a standard. Integrated consumer intelligence will rest at the fingertips of all appropriate employees, enabling them to swiftly improve and develop products and services.

In conclusion, the survey highlights a time of great change, great opportunity, and great challenge for the communications industry. Capitalising on this, COTS vendors will need to gain a combined understanding of the key drivers and requirements from both CSPs and their various technology partners. This will enable them to continue providing more fit-for-purpose applications that are closely linked to the business outcomes, the IT and business simplification agenda, and growth strategies of CSPs.

Moving forward, CSPs will need to carefully balance the need to respond rapidly to these and other emerging technologies, whilst addressing the almost critical need for IT and business simplification.

Authors

The survey was developed by PwC's UK Consulting practice. If you would like to discuss any of the content contained in the report, please contact the following people.



David Russell
Partner, Telecoms & Technology

Direct: +44 (0) 207 804 0555
Email: david.russell@uk.pwc.com



Jim Davies
Director, Technology

Direct: +44 (0) 207 312 4495
Email: jim.davies@uk.pwc.com



Neil Blagden
Director, Telecoms & Technology

Direct: +44 (0) 207 804 3303
Email: neil.a.blagden@uk.pwc.com



About this survey

PwC was commissioned by Oracle to survey a mix of 30 communications CIOs, CTOs and senior IT executives in ten countries within the EMEA cluster, in the first quarter of 2011, to understand their IT agenda in particular with respect to COTS applications in the short (18 months) to mid term (three years).

The survey consisted of 26 questions focused on the respondents' current IT environment and associated budgets, key drivers and challenges for change and future IT strategies specific to COTS.

Forty-five percent of respondents provided both mobile and fixed-line services. The rest of the respondents' organisations were split between either a mobile provider only (32%) or a fixed-line provider only (23%).

More than 50% of respondents had annual revenues of greater than \$5 billion US, including 18% with revenues greater than \$20 billion US.



