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The Brain Gain

Boxing out commoditization with a platform position

Most, if not all telecommunications companies have felt the effects of commoditization as well as the looming threat of the more nimble, digital disruptor. Despite the havoc, the post-COVID world has opened up a window of opportunity for the Communications Service Provider (CSP), directly tied to connecting and monetizing value chains in an era of edge computing and platform ecosystems.

But the time to act is short. The time to move is now.

The threat of commoditization looms large for CSPs

The traditional business of CSPs has hit the wall. Established CSPs around the world have seen their core offering—business-to-consumer (B2C) and business-to-business (B2B) connectivity—remain stuck in a period of stalled growth for years, even as demand for bandwidth and digital services has never been higher.

CSPs face challenges from all sides of their business. ARPU (Price to Earnings or P/E ratio) has tanked, falling 28 percent globally in the past decade, and growth is flat (Figure 1)—while the costs to acquire new customers continue to climb. At the same time, stiff competition in B2B and B2C services and offerings from Amazon, Microsoft, and Google have made it difficult for CSPs to break out of their "connectivity wholesaler" box.

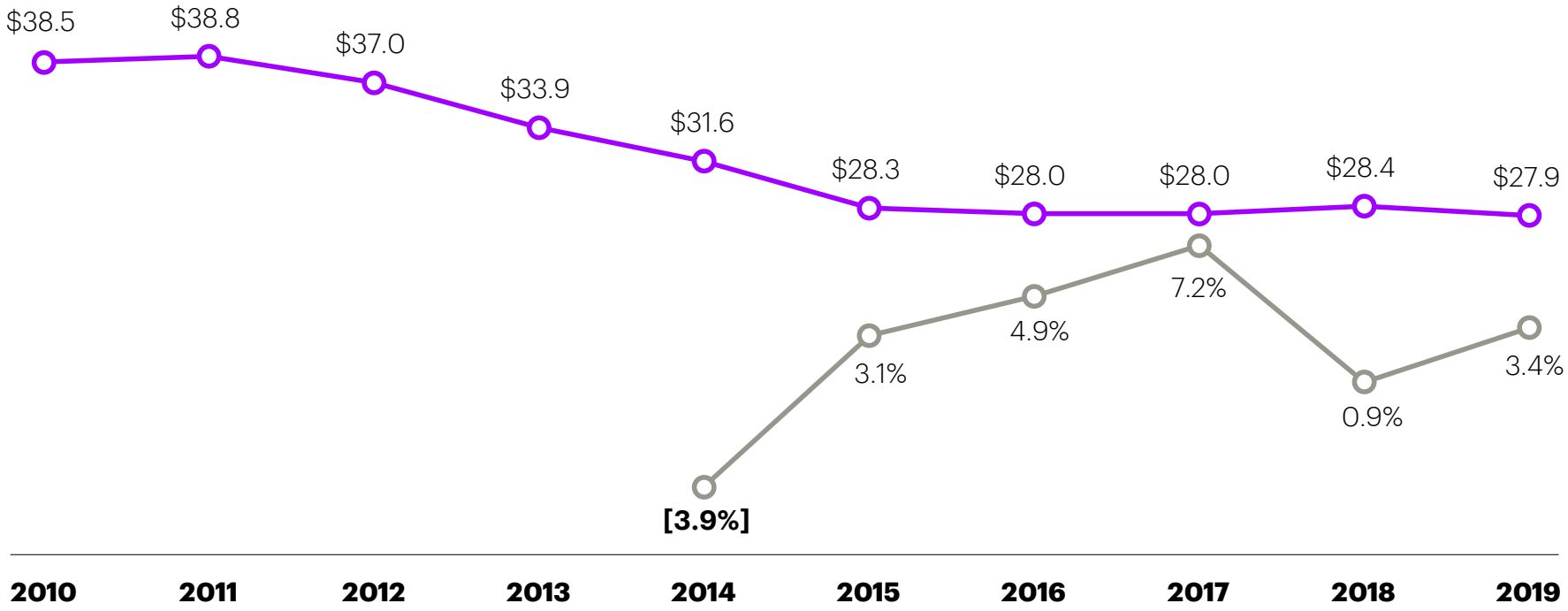
Investors have noticed, resulting in lower trading multiples (Price to Earnings ratio) for CSPs compared with disruptors and other infrastructure-based companies. CSPs today trade at a P/E ratio of 10 to 15, a far cry from the 100 to 150 that modern infrastructure-based companies enjoy. And, their current business model continues to require significant capital investments to keep pace with market expectations, putting a lot of pressure on CSPs' cash position and ability to innovate.

Making matters worse, disruptors are upending the value chain itself. These aggressive competitors are taking advantage of a modern cloud-based, agile technology stack, along with an innate ability to subsidize their products, to gain market share at scale and build lasting, high-value customer relationships through continuous product, process, and ecosystem-driven innovation.

Figure 1:

The commoditization of CSPs

Mobile ARPU -28 percent 2010–2019. Revenue growth 2.8 percent CAGR 2014–2019



ARPU defined as [Total revenue for mobile services excluding wholesale (interconnection, hosting and roaming-in) revenue] / [by Total average mobile connections] ARPU is sourced from Analysys Mason Datahub for Verizon, ATT, TMO, KDDI, Telstra, BT, Telefonica, VF, DT, TIM, and Veon all in their origin country. Revenue growth calculated from a basket of companies: AT&T, Lumen, Charter, Comcast, T-Mobile, Verizon, BT, DT, KPN, Telecom Italia, Telefonica, Swisscom, Veon, Vodafone, KDDI, and Telstra.

It all adds up to a pretty bleak future for established CSPs...or...does a post-COVID world create a window for CSPs to act?

While their current situation is, indeed, very challenging, CSPs have reasons for hope. According to an Accenture survey,[1] 80 percent of consumers said they were satisfied with their home broadband during the COVID-19 pandemic and 79 percent said the same about their mobile service. This satisfaction translates into a high degree of trust: Six in 10 consumers said they trust their CSP, nearly triple their trust in social media providers. Trust, as an intangible lever, can unlock significant tangible business value for CSPs. For instance leveraging on trust, CSPs have the ticket to access, manage, and monetize consumer data for both existing services (connectivity) and new digital services by partnering with the ecosystem.

Due to post-COVID shifts, now more than ever CSPs have opportunities to expand their offerings outside their core business. For example, our survey found consumers, who are increasingly embracing remote working, are willing to pay a premium for solutions that help make their work life more efficient.

80 percent

of consumers said they were satisfied with their home broadband

6 in 10

consumers said they trust their CSP

[1] Accenture COVID-19 Comms and Media Study 2020

Consumers are also interested in accessing new digital services—such as smart home applications and health and wellbeing monitoring—and they consider CSPs their preferred provider of such services.

Similar, but even greater potential exists among small- and medium-sized business (SMB) customers, which have been hit hard by the pandemic. A separate Accenture SMB survey[2] found the pandemic has significantly boosted demand for new and digital services that can help SMBs accelerate their own digital transformation. As SMBs feel a greater sense of urgency to become more digital, they're boosting their investment in IT products and services, with SMB spending on new technologies and related products and services projected to climb more than 6 percent between 2020 and 2025.[3]

CSPs have a genuine opportunity to help drive SMBs' economic recovery through ecommerce, online collaboration, communications, and security services, and by accelerating SMBs' shift to the cloud as sales and service increasingly move to digital channels.

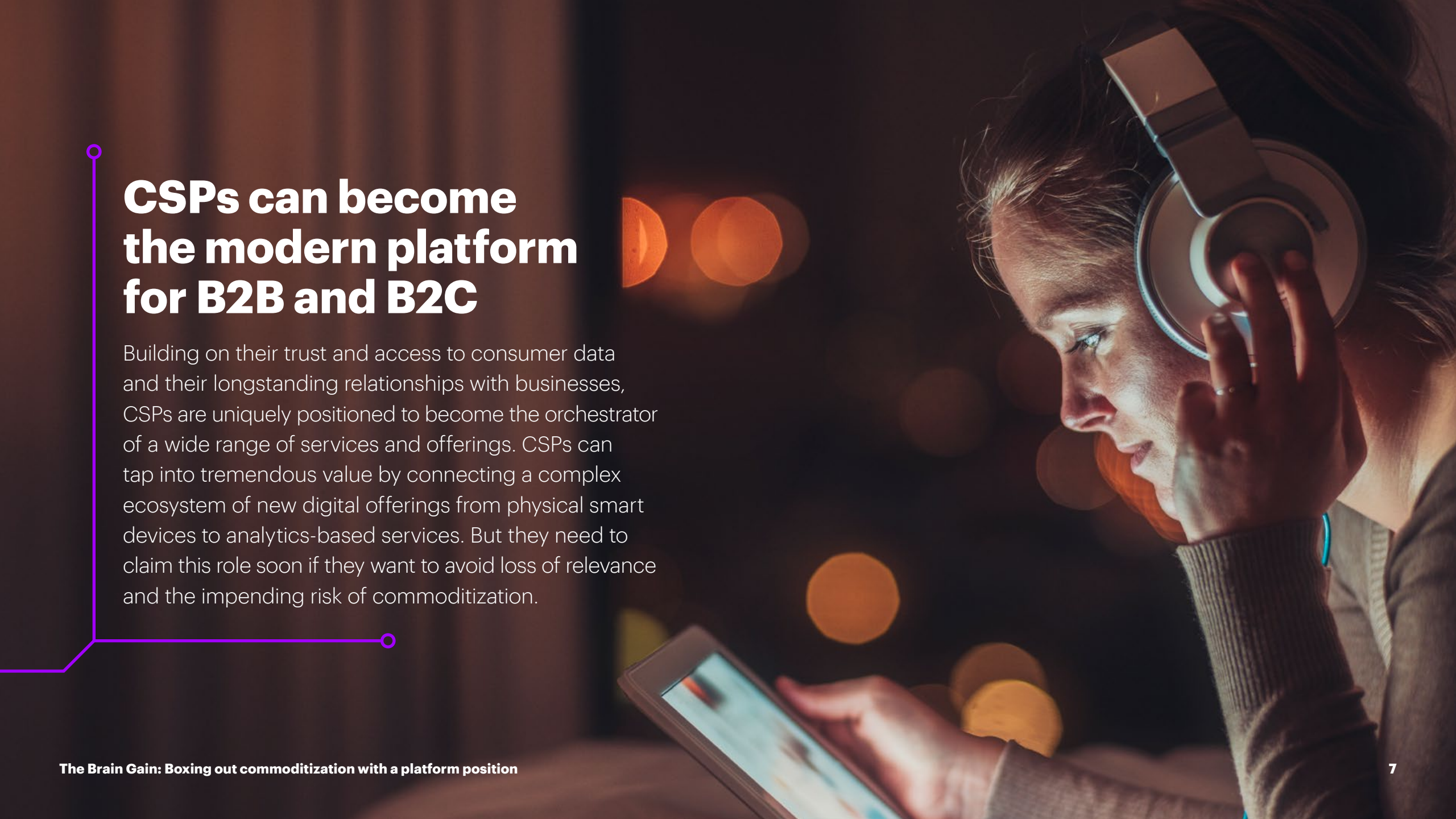
>6 percent

projected SMB spend increase on new technologies and related projects between 2020 and 2025

[2] Accenture Comms & Media COVID-19 SMB Study 2020
[3] European Commission: Annual Report on European SMEs 2019

CSPs can become the modern platform for B2B and B2C

Building on their trust and access to consumer data and their longstanding relationships with businesses, CSPs are uniquely positioned to become the orchestrator of a wide range of services and offerings. CSPs can tap into tremendous value by connecting a complex ecosystem of new digital offerings from physical smart devices to analytics-based services. But they need to claim this role soon if they want to avoid loss of relevance and the impending risk of commoditization.



Connected consumer platform

In the consumer space, this entails creating value through a "platform mindset" that starts with progressively capitalizing on key control points such as consumer identity and demographics, billing relationships, and physical hardware (e.g. set top boxes). These control points are the main interaction points with customers and present an opportunity to continuously collect and understand customer preferences.

Leveraging these control points and consumer data, CSPs can increase consumer relevance and engagement, powering a two-sided business model:

1) creating the ability to be more proactive, agile, and relevant in the current business (i.e., personalized services and experiences);

2) curating new digital services and experiences, closely working with third-party ecosystem players (in areas such as health, gaming, and education).

This approach diverges from the classic vertically-integrated approach (bundling of premium or exclusive content and services), tried by CSPs in the past. The additional value it generates is by moving beyond a mere bundling play into the realm of highly personalized and integrated self-owned and third-party services, that consistently leverage data as the new currency.

As CSPs move toward this play, increasingly their key performance indicators (KPIs) are bound to shift from an ARPU-only mindset (selling the service) to a "reach" mindset (number of transactions), which in certain cases may also entail subsidizing their services to generate data that can be used to fuel new services in new B2B2C value chains.

The role of the ecosystem is critical here: CSPs don't have the R&D capacity to build competitive, compelling products and services on their own but, at the same time, they can't afford to merely re-brand and sell through their B2C sales channels.

Success, thus, is contingent on a platform that wraps high-value CSP services with ecosystem services while ensuring CSPs maintain ownership of consumer data and identity.

Jio (India's largest and newest operator) has shown early, yet very strong signs, in realizing its ambition of becoming a true "Connected Consumer Platform," amassing large investments (~$20B) from the global hyper scalers (Facebook and Google) and top private equity funds and other investors, who increasingly recognize its potential want to partner, as it looks to stake its claim as a global tech powerhouse.

In a span of just three to four years since beginning its commercial operations,[4, 5] Jio became the largest operator in India and has leveraged this scale to progressively expand into the consumer's digital routine beyond just connectivity, providing a suite of digital services like JioMart, JioMoney, JioHome IoT, JioGames, and JioSaavn (music), to name a few.

One of the key drivers of its success has been its vision to move beyond an ARPU-only play (in some cases trading ARPU for adoption) and increasing its reach and scale. For instance, it took Jio just 83 days to reach a 50 million base vs. the other incumbent operator which took around 12 years.[6]

From there on, the idea has been to combine an increase in market share with an ambitious growth in customer share: Each customer acquires more and more products and services from the company (# of transactions) but can also enable the platform to attract a host of advertisers. This strategy of becoming a platform company vs. a telecom company augurs even better in a country like India which has a very large and relatively young population that has a strong uptake for affordable digital services.

Other key differentiators for Jio's success have been agility in strategic decision making and a relentless focus on technology, building strong capabilities in PaaS, Big Data, AR/VR, IoT, AI/ML[7] etc. through a combination of in-house R&D, incubation centers, diverse acquisitions and a seamless integration of partners and acquired companies.

[4] Three years after launch, Jio becomes No.1 telco by user base, revenue, Mint, 17 Jan 2020

[5] Jio becomes India's biggest telecom company; Voda Idea user base dips to 320 million, Economic Times, 28 July 2019

[6] Reliance Jio crosses 50 million mark in 83 days, a 12-year feat for Bharti Airtel, Business Today, 29 November 2016

[7] Reliance Industries Limited

Use case

Curating the smart home for consumers

What if a CSP provided home internet, but also helped seamlessly integrate all the devices that you use to build a personal healthy lifestyle?

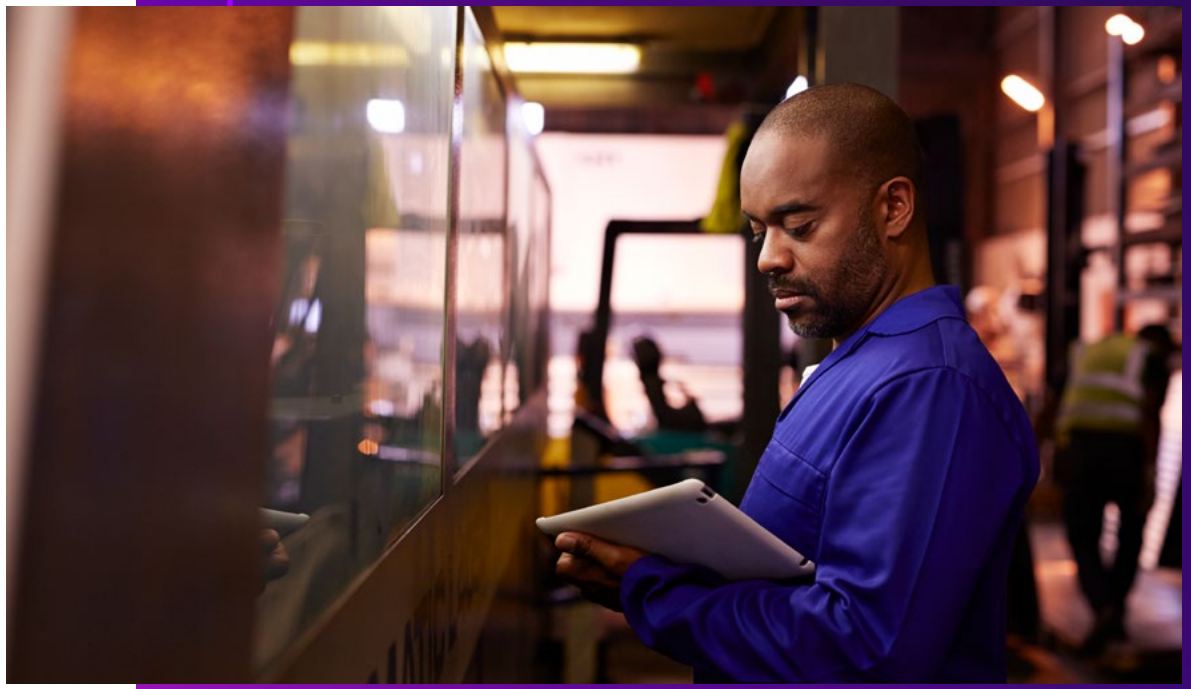
Your health devices (wearables, scale, home gym equipment, even alarm clock and thermostat) are connected to your home network and share the same "brain" for seamless integration and intelligence. The wearable "tells" your alarm clock you fell asleep hard and fast last night, so your alarm clock wakes you up 15 minutes earlier than normal. You take the dog for a long walk. Then, maybe your virtual coach in your gym even suggests you reward yourself with one less round of sit-ups because it has the intelligence that you got up early to take the dog for an extra-long walk. As you're in the gym starting to break a sweat, the temperature adjusts as your thermostat learns from your wearable of your elevated heart rate and body temperature.

The CSP should, of course, provide the base connectivity for these devices, but the CSP's role can become much more important and powerful. The CSP should act as the integrator of this ecosystem, gathering and analyzing the data, creating options for you to curate your "smart home health" life. The CSP can also partner with other companies to create future service offerings that enhance your healthy lifestyle. For instance, aggregate data and lifestyle trends for healthcare providers, primary care facilities, and health specialists so they can provide enhanced services to the consumer. Perhaps you get 10 percent off your next physical exam bill because you did that extra set of sit-ups anyway!

A x-industry orchestrator for businesses

B2B can be the next Shangri-La for CSPs, driven by 5G and edge computing, and all the highly promising doors they open. The technology evolution of the network toward software-defined 5G is, in fact, a once-in-a-lifetime chance for CSPs to reposition themselves in the value chain. This evolution is creating massive new opportunities for CSPs to help enterprises capitalize on 5G's higher and tailored connectivity and speed, as well as its ability to reliably connect millions of more things.

So what has changed now versus the past? It is not just 5G, but the combinatorial impact of 5G and edge which is positively disrupting the CSP market, technology, and network ecosystems. Software primacy at the edge (i.e. ability to deploy key software functionalities like real-time processing and decisioning) can unlock new and powerful industrial IoT use cases that need a high degree of personalization and mission criticality that 5G and multi-access edge computing (MEC) enable. And CSPs more than others, are well positioned to grab this "x-industry orchestrator" badge, requiring very specific carrier-grade assets and capabilities that only they have built progressively over the years.



Activating this play requires an investment in building a platform through which CSPs can orchestrate and deliver their own and third-party horizontal software functionalities (i.e. network decisioning and scaling, real-time analytics, data transmission and caching, context-based security etc.) that can become the foundational (and much sought after) elements of vertical industry solutions and use cases.

Think autonomous vehicles with computations on the fly—real-time data processing of sound, vision, movement, weather, road conditions, traffic, re-routing, and other relevant factors. Or Smart Manufacturing applications with computing closer to data, driving data storage in equipment itself, better predictive maintenance, and greater energy efficiency and productivity.

The opportunities really are limitless—but CSPs need to act quickly to capitalize on them. A pure connectivity and wholesale play in 5G or a mere re-seller approach to the edge will see CSPs once again cede the most promising ground to software and platform giants, driving further commoditization in the CSP business model while giving them a huge CAPEX bill with limited or negative ROI.

CSPs must learn from their experience with 4G, when they spent big on infrastructure and technologies only to see the ultimate benefit flow almost exclusively to the over-the-top (OTT) players that freeloaded on the network. CSPs missed the opportunity to appropriate their fair share of the new 4G market by innovating on their product and services portfolio, and positioning themselves higher up in the value chain.

In short, the enterprise segment offers the greatest opportunity of all for CSPs to redefine themselves—and their growth trajectory—by capitalizing on what 5G and edge computing make possible.

Use case

Building a smart transportation ecosystem to benefit city communities

Our cities are complex, crowded environments, and are only becoming more so.

We've all experienced the benefits of ride-share and on-demand car services...but imagine this times five and the impact it would have on personal pleasure and overall societal benefits (environment, health, safety). Buses drop you off two blocks closer to your final destination because real-time rider data alters the route to optimize for the exact passengers on the bus with you. You get your food delivery within a five-minute window because it's in the trunk of a ride-service your neighbor has taken at the same time. Street lights are timed for real-time traffic and all cars are routed for the best-case optimization for all. This reduces traffic, pollution, time spent commuting, and stress! How is this possible? The technologies we've been discussing (5G, IoT, MEC, advanced end point devices) plus the right ecosystem of partners (CSPs, platform providers, system integrators) bring it to life.

What is the role for CSPs?

They not only provide the 5G connectivity services, but go beyond that traditional role to grab the "orchestrator" badge in the value chain. This entails closely working with an ecosystem of partners to drive the infrastructure and services needed to activate these use cases (for example, enabling a set of software functionalities like real-time data processing that can be deployed at the edge and are needed for the smart buses to compute at speed).

The Connected Brain can power these new value plays

Irrespective of a CSP's strategic direction, there is an underlying code to success that fuels this positioning and platform shift, and this is what we call the **"Connected Brain"** (Figure 2). The Connected Brain is that key differentiator that can power these B2C and B2B growth models tackling the commoditization conundrum, helping the CSP to progressively expand into new value chains while also serving as the foundation to grow their core business.

So what is the Connected Brain?

It is a cognitive, AI-powered microservices platform with three key tenets:

A future-proof technology architecture

Built on **data-driven microservices** that are able to orchestrate and correlate data (increasingly through automation) generated by the services provided. This continuous leverage of data is key here—both for enhancing current customer experience (CX) and composing new services.

The ability to power existing and new business models

As they morph, turning strategic control points (identity and demographics, billing relationships, physical hardware) into tradable assets that can be monetized. An ecosystem of partnerships to enable industrialized access to a telco's capability pool, offloading R&D costs while maintaining operational and technical dependencies on the CSP platform.

An operating model shift

Toward an innovation culture, investment in skills like product managers and data scientists. A deconstruction of silos with a common ownership of data and a new governance structure to sync between core and new business models.

Figure 2:

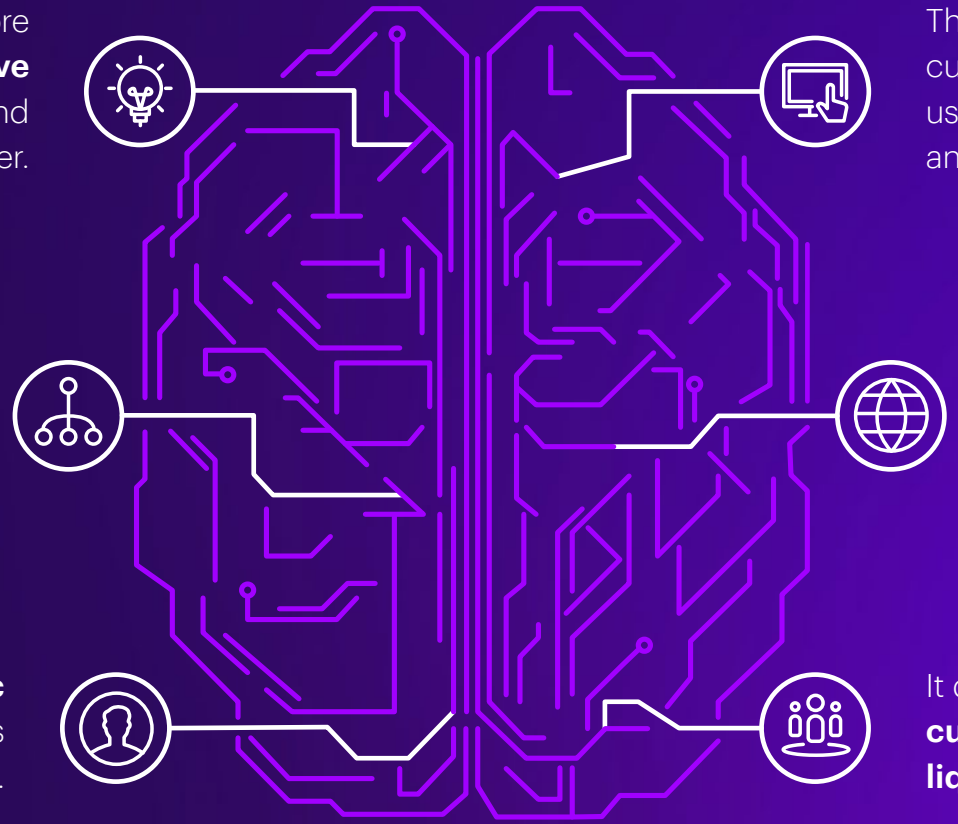
A cognitive-powered and ever-evolving digital ecosystem platform

Which acts as a strategic asset for CSPs to drive and monetize reach

The Brain makes you more **competitive** and **innovative** because it allows you to **predict** and more importantly **react** better.

It **breaks down silos**, and opens up omni-channel.

It powers **customer-centric data-driven** business models both in the **core and in the new**.



The Brain enables expansion into the customer's **daily digital engagement** by using data to **compose new digital services** and products (own or third party's).

It provides a scaled **ecosystem platform** and a **tradable asset** rivaling disruptors.

It drives a **digital innovation culture** and supports a **liquid workforce**.

Source: Accenture

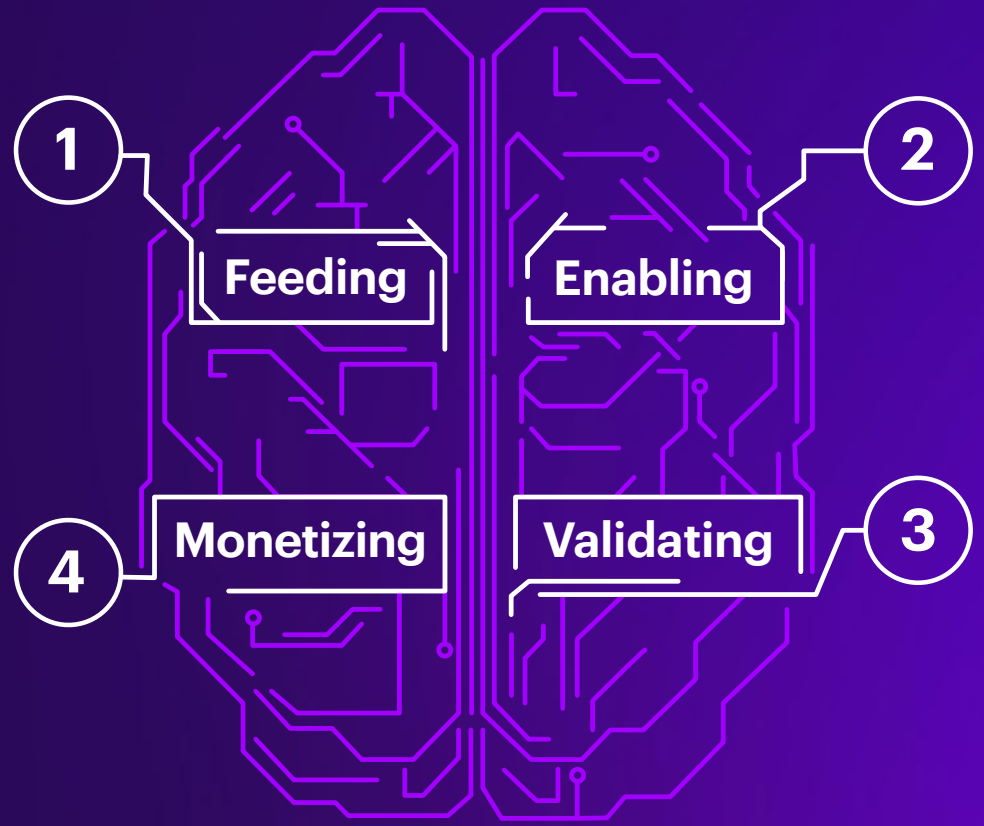
Figure 3:

Stages of the Connected Brain evolution

There are four stages of the Connected Brain's evolution

The brain must be fed—it's a machine for turning customer data into insight and then into value. So remember every initiative must be assessed on its revenue and its data-gathering potential.

And of course it must be monetized—by your business and through an ecosystem that the brain promotes.



It must be enabled—requires new collaboration and skills while leveraging third parties.

It must be validated—requires a focus on outcomes.

Source: Accenture

With the Connected Brain, CSPs can fulfill their promise of a connected consumer platform or a x-industry orchestrator for businesses, leaving their commoditized legacy connectivity business behind in favor of a vast new landscape of significant revenue potential—and a promising, growth-oriented future.

So what does it really take for the CSP to build this Connected Brain?

Becoming a telco-tech

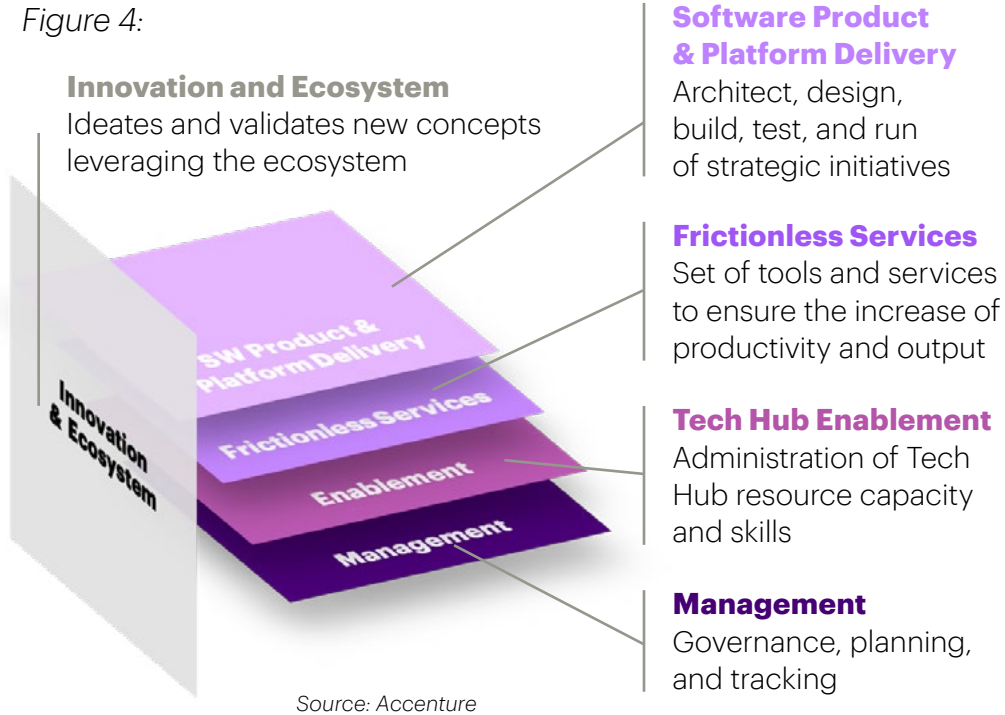
The Connected Brain is not an off-the-shelf product or a piece of technology, it is an end-to-end strategy which requires material adaption to the organization. The transformation of a telco into a **telco-tech** is an essential prerequisite for the success of the Brain.

A telco-tech is a company that takes advantage of technology (not just as an enabler but as a source of competitive advantage) to develop and offer innovative and engaging IP and business models, at scale and at speed, to respond promptly to ever-changing consumer and market demands. It operates by leveraging modern engineering capabilities to increase the efficiency and effectiveness of its processes, product and service innovation design, and operations.

Arguably the most critical driver of a successful telco-tech transformation is a new operating model

This new model is based on the concept of a technology or "digital hub" that a CSP uses to develop its own IP with an entirely new, agile way of working, and to quickly build, test, and deploy new services (often with the help of the ecosystem) while providing full transparency on efficiency, productivity, and return.

Figure 4:



Source: Accenture

Figure 5:

Telco-tech evolution pillars

This evolution toward a telco-tech will require CSPs to change in an unprecedented way across five core and interconnected pillars

	From current	To telco-tech
Technology stack	**Poorly mapped system; end-of-life platform** • Siloed stacks with duplicated functions • Legacy impeding innovation • No clear target date	**Supporting modern software engineering** • Decoupled and microservice-based architecture • Technology simplification • Open platforms for ecosystem contribution
Operating model	**Ill-defined processes with too many handoffs** • Heavy on waterfall • Friction internally (DevOps) and externally (Digital, R4B)	**Outcome based and business driven** • Digital Hub to build own IP with new agile ways of working • Collaborative decision-making • Focus on speed-to-value and innovation (try and fail)
Skills and talent	**Unempowered resources with outdated skills** • Core capabilities outsourced • Limited incentives to innovate	**New workforce with tech dominance** • Build skills and talents to reduce vendor dependency • Co-sourcing with a strategic partner
Ecosystem partnerships	**Fragmented vendor landscape** • Few vendors at scale to act as strategic partners • Rigid contracts, rigid solutions • Ecosystem held at arm's length from technology organization	**Platform approach** • Vendor consolidation initiatives • Service co-creation and product innovation with selected strategic software vendors
Outcomes and measures	**Lack of meaningful delivery metrics** • Manual and inconsistent reporting across the organization • Frequent cost and schedule overruns • Blackbox investment model	**Business outcomes focus** • Value-driven measurement model • Maturity model: efficiency and output

Source: Accenture

The time to act is now while the window of opportunity is open

CSP executives don't need to be told that their traditional business faces an existential threat. They know it—they can see the writing on the wall.

But what executives do need to consider is that time is short. In fact, companies are already working on closing the window. Just one example: Google Cloud, AWS, and Microsoft Azure have all hired senior executives from the communications sector in the past few years to build up their in-house knowledge and contacts as they seek to become a dominant player in the industry. While they're certainly among the biggest of the movers, they're far from the only ones that see the massive potential the new 5G-edge world offers and are mobilizing quickly and aggressively to plant their flags in it.

CSPs will need to address several longstanding structural challenges to make a pivot. Some of the biggest include re-architecting for economy and scale; dealing with the complexity of hybrid and customized networks and a diverse device ecosystem; orchestrating workloads across multiple edge, private, and public clouds; and integrating the new business with the legacy enterprise infrastructure.

The journey toward the new will likely unfold in stages, with a phased (but not necessarily sequential) path to value creation.

For enterprises, the first step is building on enhanced connectivity services (namely 5G), followed by de-commoditizing connectivity by supplementing with new services leveraging the power of the edge (such as context-based security or real-time data processing). The final step will be working with the ecosystem to build new vertical industry solutions (for example, smart manufacturing).

For consumer markets, CSPs will need to develop capabilities that support the core but also set the foundation for the new. This includes a decoupled omni-channel capability to drive engagement, conversion and retention while optimizing cost to serve and an Analytics & Artificial Intelligence engine to enable personalization, differentiated pricing and automation. These will be foundational for pivoting to the new reach based platform business models, that will further entail, identifying a set of own & 3rd party high engagement digital services leveraging data, setting up product innovation factories (digital hubs) and building ecosystem partnerships, while continuously expanding the control points per identity.

Build on enhanced connectivity services

De-commoditize connectivity

Work with the ecosystem to build new vertical industry solutions

These enterprise and consumer journeys will be powered by today's robust, highly mature cloud environments, which allow CSPs to quickly and cost-effectively break free of their current legacy systems and infrastructure constraints.

Rotating organizational talent and building new skills in AI, data, and modern software engineering will also be critical to success, as will a shift in culture, mindsets and incentives. For instance, Senior executive performance structures will require a clear linkage with the achievement of the business's long-term KPIs.

The time for CSPs to move is now. Progressive CSPs that seize the day and act boldly will be in the position to capture value in the communications industry of the future.

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