

how to build a **successful** **digital** marketplace

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setting the scene

Digital marketplaces are a hot topic as communications service providers (CSPs) seek new revenue opportunities, especially in B2B markets. Operators' common goal is to offer increasing value to businesses beyond connectivity, phones and network devices. As they have expanded offerings into areas like security software, productivity tools and unified communications services, some are focusing on verticals, creating solutions often via partnership that address needs specific to sectors such as healthcare, education and automotive.

As the pace of innovation and complexity increases, automation is becoming key. But for small and medium-sized enterprises (SMEs), the job of identifying and sourcing – much less creating – new technology-centric solutions can be overwhelming. CSPs are beginning to target SMEs with B2B marketplaces that include a robust ecosystem of partners that ideally can collaborate around sustainable, continuously improving solutions that are zero-touch whenever possible.

“At every level of the service, ICT companies are at a ‘make’ versus ‘partner’ versus ‘buy’ decision and that drives the need for the ecosystem,” says Sofiène Kamoun, General Director – Strategic Initiatives, at Videotron. “How you optimize the whole thing is part of the game now and the sky is the limit in terms of creativity.”

It's a powerful vision, but not every operator will decide to develop sophisticated digital marketplaces. Those that do must start with a clear understanding of what a marketplace is and what's required to build it.

This ebook explains what a digital marketplace is, the challenges CSPs face in building them and how to build one that can evolve and last.

Read our recent ebook to learn more about zero-touch partnering:

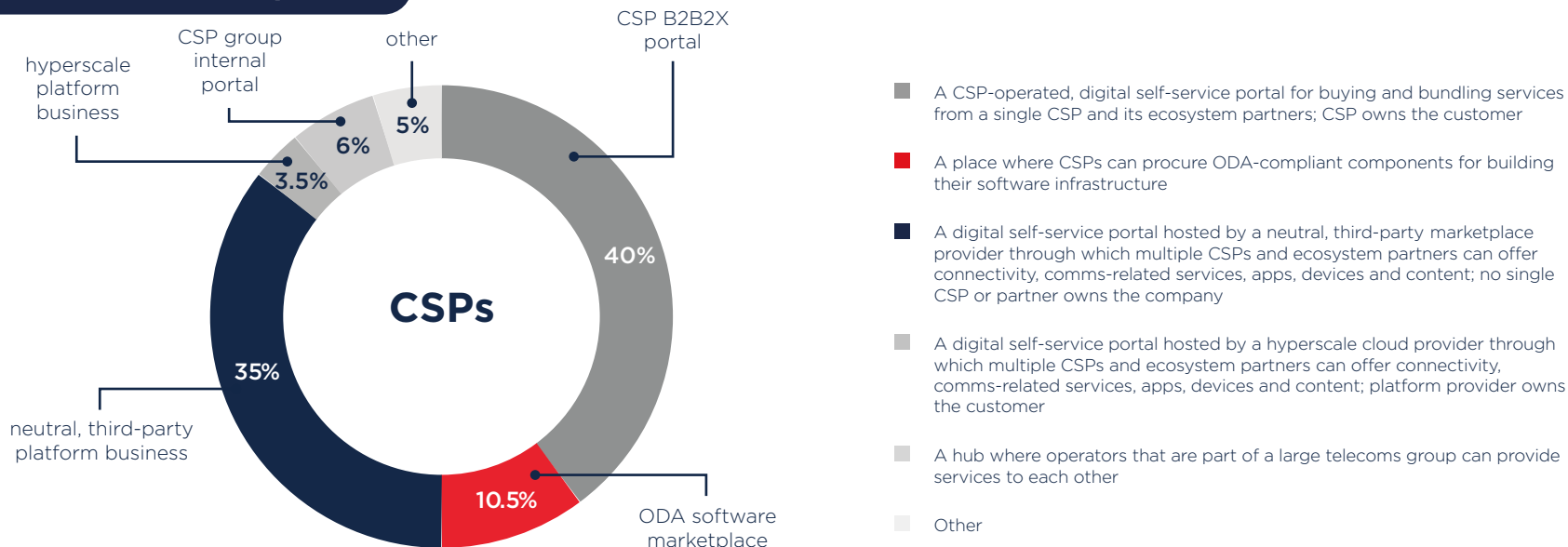


what is a digital marketplace?

A marketplace where products are bought and sold is such a fundamental concept in human cultural development that it is no surprise the idea is alive and well in the digital world. But digital and online marketplaces are becoming extremely complex, reflecting the sophisticated evolution of value chains and technologies.

CSPs themselves aren't entirely sure how to define a digital marketplace. A survey conducted for our report [Exploring marketplaces for software and services](#) found that 40% of CSP respondents define a marketplace as a simple B2B2X portal where they can sell their own services and those of partners. A slightly lower percentage (35%) said they view it as a neutral, third-party platform business.

what is a marketplace?



A central concept in any marketplace – physical or virtual – is that everyone involved can be a buyer and a seller at the same time. Not every participant will choose to do both, but a marketplace should enable its participants to engage in a variety of roles at different levels of the value chain.

For example, a new device maker may wish to license use of another ecosystem member's patent when it goes to market with a new IoT offer. In this example, the device maker is both a buyer and a seller: The company buys use of a patent in a supplier-to-supplier model, and it sells IoT devices to end users in a retail model. The patent holder is only a seller and may be a crucial member of the ecosystem even though the company never interacts directly with end users.

For CSPs, amorphous roles and relationships create new challenges for operational and business support systems (OSS/BSS) because they force fundamental changes to account structures, payments and other compensation flows, and to contract structures and management. In addition, more personalization than ever before is required in B2B markets.

“It really comes down to personalization, because if you get swamped with 30 or 40 different products, you're not going to buy any of them – it's too hard,” Nathan Bell, Chief Digital Officer of Singapore-based M1, told TM Forum during a recent interview. The worry is that if the marketplace becomes a disorderly warehouse, it's easier for the customer to go directly to the ecosystem partners, he explains. Then the value of the marketplace as a customizable one-stop shop loses its appeal.



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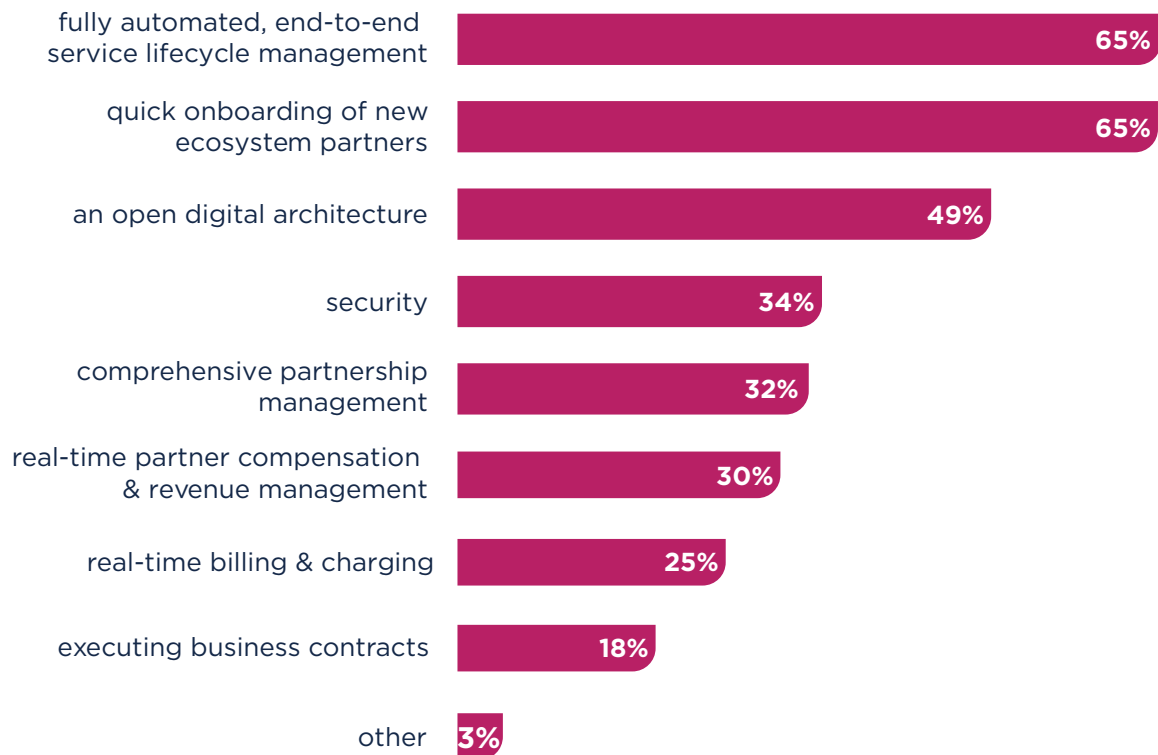
Nathan Bell
Chief Digital Officer

M1

how do marketplaces evolve?

Because marketplaces are complex to develop, those emerging in the ICT industry tend to follow evolutionary paths along two key dimensions from the user's perspective: product sophistication and commerce capabilities. Under the hood, a range of BSS and OSS capabilities are required to create a marketplace, like automated lifecycle management and rapid partner onboarding, which topped the list when we asked CSPs for our marketplaces report which OSS/BSS capabilities they need most urgently.

capabilities most lacking and urgently needed to create a marketplace



A marketplace is just a web shop if it only offers the CSP's services along with devices from its traditional partners. By definition, a marketplace should offer continuously improving services and solutions derived from a partner ecosystem that address either broad or much more specific needs to capitalize on long-tail economics.

As shown by the survey [for our earlier report](#), many CSPs have not understood the difference between a web shop and a true marketplace, but this is beginning to change. One major US operator interviewed for this ebook noted that its sales of non-stock, or long-tail, devices now equals or exceeds traditional in-stock sales. Non-stock devices can include anything from smartphones that are certified for the carrier's network, but not incentivized or promoted, to IoT devices like cameras, alarms, temperature sensors and other purpose-built connected things.

The B2C customer experience (CX) lessons CSPs have learned with web shops are useful for refining user experiences. But B2B operations are even more complex when expanding ecosystems, and new marketplaces increase the potential for complexity.

For example, if B2B and wholesale operations cannot fulfill products in an automated or semi-automated fashion, then the marketplace is likely little more than a web brochure fronting a quagmire of exposed legacy systems and manual processes.

In the next section we'll look at some examples of CSP marketplaces.

A marketplace is just a web shop if it only offers the CSP's services along with devices from its traditional partners.

examples of emerging CSP marketplaces

Communications service providers (CSPs) are at various stages of developing web shops and digital marketplaces. The six highlighted in this chapter – plus one large CSP partner – provide good examples of how operators differ in approaches, store models, emphasis on zero-touch capabilities and depth of partner offerings.



As part of an initiative within the Malaysia Digital Hub, Axiata Digital Labs has created a large-scale open API platform to bring together network operators, content providers, startups, small businesses and developers. The Malaysia Digital Hub is part of a more than 20-year investment effort by the Malaysian government to develop its digital economy. With 15 participating operators, the API marketplace could provide participants with access to more than 320 million subscribers in Asia. API hubs in India and Brazil connect to nearly a billion more. This is a hub for solutions developers and integrators, which makes many services accessible via APIs, but it does not present the type of e-commerce user experience seen in the other examples.



Etisalat's small business app store offers comms services, productivity, security, CRM and a variety of other small business applications. A strong e-commerce experience offers a consumer web shop feel but fronts an expanding catalog of business-centric offers.



The O2 small business store offers classic mobility services along with a variety of horizontal business applications like security, productivity, workforce management and IoT solutions. Vertical-specific offerings are represented in the store, but at the time of writing, flow-purchasing was not yet available.

SAMSUNG Samsung is a strategic partner to CSPs worldwide. Its new direct-to-business store provides persona-driven experiences that shift offers and pricing based on eligibilities and order volume. Its multi-industry solution catalog includes large and small partners addressing niches across more than a dozen sectors. This direct-to-business approach is disruptive to electronics makers' traditional sales models.

T-Mobile T-Mobile US's business store looks like a staging area for a developing ecosystem, emphasized in the operator's recent announcement of a 5G incubator and innovation program. The e-commerce environment lacks zero-touch automation for all but core mobility and internet services but represents a broad range of partner solutions in both horizontal and vertical functional areas ranging from productivity, PC security and fleet management, to connected cars and agriculture monitoring.

Telefónica Telefonica's IoT Marketplace is a prime example of a growing marketplace and ecosystem with solution depth in multiple industries including healthcare, agriculture, smart cities and industrial IoT. The marketplace labels clear journeys for buyers and sellers to shop or to bring their own products or services into the ecosystem.

TELUS Telus has been a leader in ecosystem development with its IoT shop, Telus Health and Telus Agriculture. While its marketplace is limited in terms of zero-touch functionality, it is deep in specificity and partner offerings in niches like pharmacies and cattle farms.

In the next chapter we'll look at how to build a marketplace that can evolve.

building a marketplace to last

CSPs should develop a long-term strategy that uses proven design principles to create a marketplace that can evolve. Maria Eugenia Armijo Marchant, Content Platform Expert in the Office of the CTO at Telecom Argentina, suggests that they start marketplace development by focusing on simplicity.

“When building a marketplace, a CSP cannot think about solving the whole problem; that’s an old mindset,” she explains. “No company will solve anybody’s whole problem. We must focus on delivering the simplest solution anyone can imagine.”

As a result, the minimum viable product concept applies. Evolving solutions with the customer in mind is a key characteristic of a modern marketplace, Armijo Marchant says. But the challenge is to “keep partnerships alive, yet maintain their independence as they operate at different speeds and with different levels of focus”, she adds.

This forces architects to determine how to standardize design principles for sustainability and collaboration. [TM Forum Open APIs](#) (see page 13) cover areas like integration, applications, service and customer centricity well, according to Armijo Marchant, and these design principles apply to the underlying infrastructure that provides the long-term foundation for a scalable and sustainable marketplace.

The graphic on page 11 shows the core design principles, which apply far beyond marketplace creation. The takeaway is that a marketplace is not a lightweight e-commerce portal with a product catalog refresh. It is more sophisticated and represents a strategic investment in the way a CSP develops and brings new value to markets and customers.



Evolving solutions with the customer in mind is a key characteristic of a modern marketplace

Maria Eugenia Armijo Marchant
*Content Platform Expert in the
Office of the CTO*

TELECOM ARGENTINA

marketplace design principles



ensure elasticity, reliability & resiliency



consider security from the outset & minimize points of vulnerability



minimize obsolescence & future-proof wherever possible



design for hybrid infrastructure & report use of underlying resources



provide visibility into behavior & measure adherence to principles



support latency requirements & ensure service quality when some infrastructure fails



support events and automate management & operation

addressing complexity

Even with just a few partners and a service as straightforward as mobile activation, operators have traditionally faced significant complexity when it comes to synchronizing promotions, discounts, incentives and eligibility-based offers across dozens of rate plans. The offers consumers see for contract buyouts, device subsidies and free accessories with purchase are difficult to design, implement, order and fulfill. In the B2B world, product catalogs go deeper and into complex network, security and enterprise application services.

Offers get more complicated when CSPs add a continuously evolving ecosystem of partner-based solutions that change daily or weekly with constant releases. Plus, suppliers have their own incentives, discounts, promotions, eligibility rules and pricing. Suddenly change is the challenge, and operators must figure out how to effectively manage, communicate, enforce and fulfill orders.

Addressing these challenges requires a robust product catalog coupled with sophisticated configure-price-quote (CPQ) capabilities. Most CSPs will need to implement cloud-scale enterprise product catalogs that are open, dynamic and federated.

Many dependent variables will also mean coupling CPQ engines with AI. The ability to handle large datasets, fast, will be required because of the exponential rise in changing promotions, discounts, rates, contract terms and product variants. This data must be filtered, synchronized and orchestrated, and eventually retired.

CPQs also must be able to calculate and communicate eligibility and triggers like discounts, credits or account buyouts. If this data resides only with the biller, quotes and bills can become wildly out of sync.

The list below highlights the key capabilities and attributes of successful marketplaces:

- offers a buy-side and a sell-side to everyone
- presents strong to exceptional persona-based e-commerce
- uses a CPQ layer to manage catalogs, segments, bundles and eligibilities
- supports dynamic, federated product catalog(s) accessible via open APIs
- enables offer creation & sequencing of delivery components
- drives customer journeys & determines which competing offers to present in a way that is equitable for all
- supports any number of partners, yet engages customers with a unified, synchronized experience
- bills and assures revenue, chargeback, settlements, commissions, etc.
- provides rigorous user and data security at multiple levels.

building digital ecosystems step by step

TM Forum members are working on architectures and tools to help CSPs develop marketplaces. The [TM Forum Open Digital Architecture \(ODA\)](#) defines standardized, interoperable software components organized into loosely coupled domains. The components expose business services through Open APIs, which are built on a common data model. By taking this approach, CSPs can develop platforms to open their network and IT assets to customers, partners and developers, eliminating the need for the IT team to be involved in creating new plans and services.

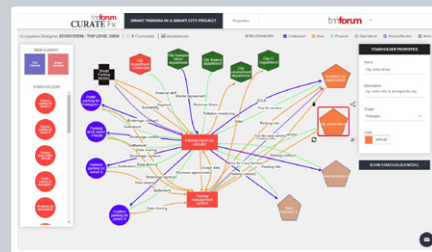
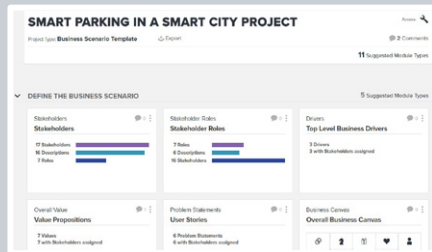
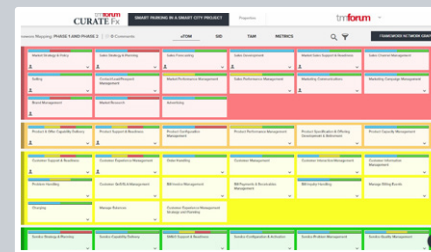
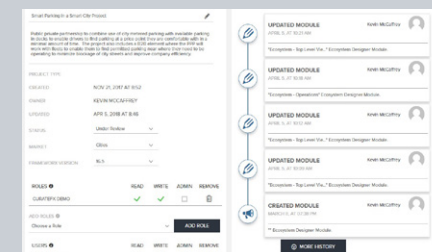
The [Digital Ecosystem Management Project](#) is also creating digital ecosystem playbooks that offer practical partnering guidance for CSPs and their suppliers. This includes developing the business architecture, APIs and data models for connectivity-as-a-service, marketplace platforms and zero-touch partnering. All three share a customer-centric approach to simplifying service delivery and usage that relies on automation to enable self-service.

TM Forum also provides [CurateFX](#), a software-as-a-service (SaaS) solution (see graphic on p.14). It enables ecosystem builders and participants to leverage TM Forum assets and pre-built designs as they model contracts, financial flows, processes, products and relationships among stakeholders in an ecosystem. The guided approach makes life easier for users, while “having a framework and process for how the APIs should be standardized makes for far less time and effort spent on integration,” says Luqman Shantal, CEO, Makman Consulting, and TM Forum Principal Business Associate.

CSPs can use the tool to leverage ODA assets, like business process definitions and Open APIs, to create visual blueprints for B2B2X marketplaces. “If you don’t map the ecosystem and just use the traditional tools, you will not be able to continue to grow, troubleshoot and meet customer experience expectations across your ecosystem,” Shantal says.

Read this white paper to learn more about TM Forum’s work on marketplaces. And to get involved in this work, please contact [Joann O’Brien](#).



define

business scenarios, ecosystems, products/services

design

with intelligence using proven TM Forum blueprints

scope

using the common language of Frameworkx models

collaborate

inside and outside of your company-business and technology

addressing marketplace security

One marketplace design principle that merits special consideration from the outset is security, because marketplaces will bring in new devices and developers. Experts have been concerned for years about IoT growth and its potential to increase network and data vulnerability. Another worry is the misuse of SMS to send one-time passcodes.

Jacqui Biggart, Manager – Technology Security, at Telus, has a front-row seat to marketplace security as the operator builds out its [IoT](#) and [Telus Health](#) marketplaces. While there are many basic security requirements for marketplaces, she points to four that are critical for CSPs and device and application developers to consider:

- **Data encryption.** Encryption must happen at rest and in transit. “In a case of potential breach or compromise, this can be the difference between having to say ‘all the data is leaked’ versus being able to say ‘there was an incident, however all [personally identifiable information] or sensitive data is encrypted and unreadable’.”
- **Comprehensive logging.** In-built logging in typical applications may only provide a local record, which is insufficient. “My argument with project teams hesitant to spend money on a proper logging solution was always, ‘If or when an incident occurs, do you want to be in a position to tell your executive that you don’t know the scale or scope because the logs were either insufficient or...lost or compromised during the incident?’”

- **Login requirements.** For both employees and vendors, CSPs need to ensure controls like two-factor authentication (2FA), complex passwords, password expiry, and credential expiry or deletion when a user leaves the company or community, or changes to a role with different permissions.
- **SMS for 2FA.** Though using SMS to exchange one-time passcodes (OTP) is common, it is highly vulnerable to attack because SMS was not designed to be secure for this purpose.

marketplace security considerations



security and privacy by design reviews to assess alignment with compliance and risk requirements



compliance with standards-based corporate security policies



adherence to payment card industry compliance requirements where applicable



privacy law compliance for handling personally identifiable information



vulnerability scanning & penetration testing



proof of certification



code reviews

TM Forum, 2022

In the next chapter we offer some advice for building a successful marketplace.

key steps to success

Platform-based marketplaces give CSPs a way to co-create services with an ecosystem of partners to drive the long-tail economics the telecoms industry has long awaited. But operators that decide to develop marketplaces should commit to a long-term strategy and build them to evolve. Following are three critical steps they need to take.



consider the stakeholders

Marketplaces put the spotlight on customer experience, and they create opportunities to deepen relationships with customers and partners. But when everyone is a buyer and seller, they expect a digital-first experience that lets them see their commitments, dependencies, liabilities, resources and performance at any time, in any scenario. As a result, CSPs must consider not only how customers experience the marketplaces they are creating, but also how stakeholders' experiences and journeys are evolving and how to equip them with the visibility and control they need over time.



refresh the toolbox

A marketplace can require many new tools, ranging from dynamic product catalogs and AI-powered configure-price-quote (CPQ) engines to partner offer creation, billing and settlement. Juggling the changing products, features, offers, discounts, promotions and eligibilities from partners across the ecosystem will be one of the most difficult marketplace challenges to solve. CSPs will need to ensure they have the sophisticated product catalog and CPQ capabilities necessary to synchronize promotions, incentives and eligibilities while simplifying quote-to-cash processes for ecosystem sellers.



make it secure

A marketplace must be secure in every way. This includes users, services, systems and especially data. With so much customization and purchasing power in one place, it is imperative for CSPs to work the balancing act between openness and security. CSPs need layers of security to maintain and govern an open marketplace and keep it safe. For example, all software and hardware developers should be made to comply with privacy- and security-by-design standards while standing up to everything from compliance reviews to vulnerability and penetration testing.

how to integrate a marketplace into an omnichannel B2B customer experience

Marketplaces offer a wealth of opportunities for telecommunications carriers to enrich their core offerings and add value for their business customers. However, simply rushing to set up a marketplace as a separate silo without consolidating it into your overall sales strategy won't yield the full potential for revenue growth.

Your marketplace strategy needs to consider multiple aspects of integration and how this new interaction point will deliver the high-quality, omnichannel experience required to increase customer loyalty. A critical part of the design of your customer buyer journey, is the configure, price, quote (CPQ) engine that will enrich the customer experience within the marketplace and link it smoothly with other channels.

Three critical success factors for your marketplace are enabled by your CPQ solution:

1. Visibility and personalization
2. Product compatibility and bundling
3. Reliability and delivery experience



visibility and personalization

A major selling point of a marketplace is that it enables carriers to generate greater loyalty from their customers. It allows customers to self-serve repeatedly and avoid going through a tedious procurement exercise each time they need to provision new technology or solutions.

Bear in mind, however, that each enterprise customer will have multiple purchasing users including IT leads, sales representatives, HR personnel, sales operations managers and so on. The marketplace expands their access to your portfolio alongside existing channels, including sales agents or partners.



Recreating direct connections between each of these buyers, across all sales channels, for your full portfolio of owned and third-party services, would inevitably create inconsistencies and become difficult to maintain and update.

Ideally, you want to be able to personalize your marketplace so that it surfaces different product sets for different users based on their personal needs. For example, showing menus of software licences, network products and security / antivirus software for IT leads, roaming data packages for travelling sales representatives, or new phone handsets and other onboarding products for HR personnel. A CPQ will simplify the underlying complexity of presenting the right product groups to the right customer and allow you create new rules to meet the need of new segments and role categories as your portfolio expands.

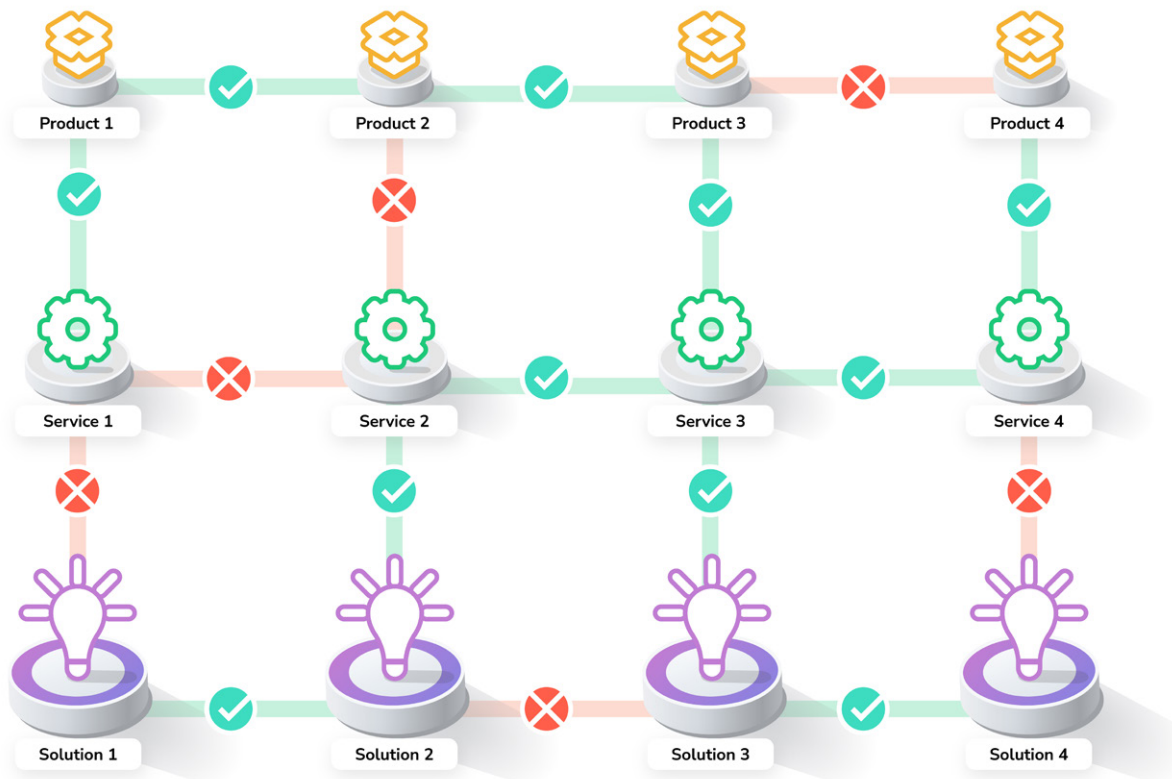
Providing your sales and technical staff with full visibility of how their accounts are interacting on the marketplace will enable them to develop targeted sales strategies that leverage these new insights. Equally, it is vital a single CPQ affords sales teams access to the same 360° view of all products and services, so that they are able to engage appropriately whenever enterprise customers reach out to them directly.

product compatibility and bundling

Scaling your marketplace to include hundreds of third-party products alongside your own is a major obstacle for many telecommunications carriers. As numbers increase, it's a challenge for those without a robust CPQ to stay in control of personalizing the portfolio to different buyer groups, while imposing internal logic on the product sets to prevent mismatches and clashes. This is especially difficult when customers are

purchasing bundles that include products from multiple unrelated suppliers.

So although a classic marketplace can boast a wide and impressive array of products and services, if product rules have not been pre-configured, purchasing a clutch of products and services may yield unforeseen incompatibilities: for example, sending a customer Samsung earbuds with an Apple Watch.



To avoid compatibility issues that would then lead to a poor customer experience, you need to ensure the marketplace provides complementary products and excludes those that are incompatible when configuring a solution for your customer.

Manual coding to set compatibility rules is not only highly prone to mistakes, but is also too slow to keep up with the innovation ambitions of most carriers. Onboarding new products into the marketplace needs to be flexible and fast. Your CPQ should provide you with the tools to set this logic and update it easily for all new offerings so that you can be confident your customers choose only the best, compatible options to meet their needs.

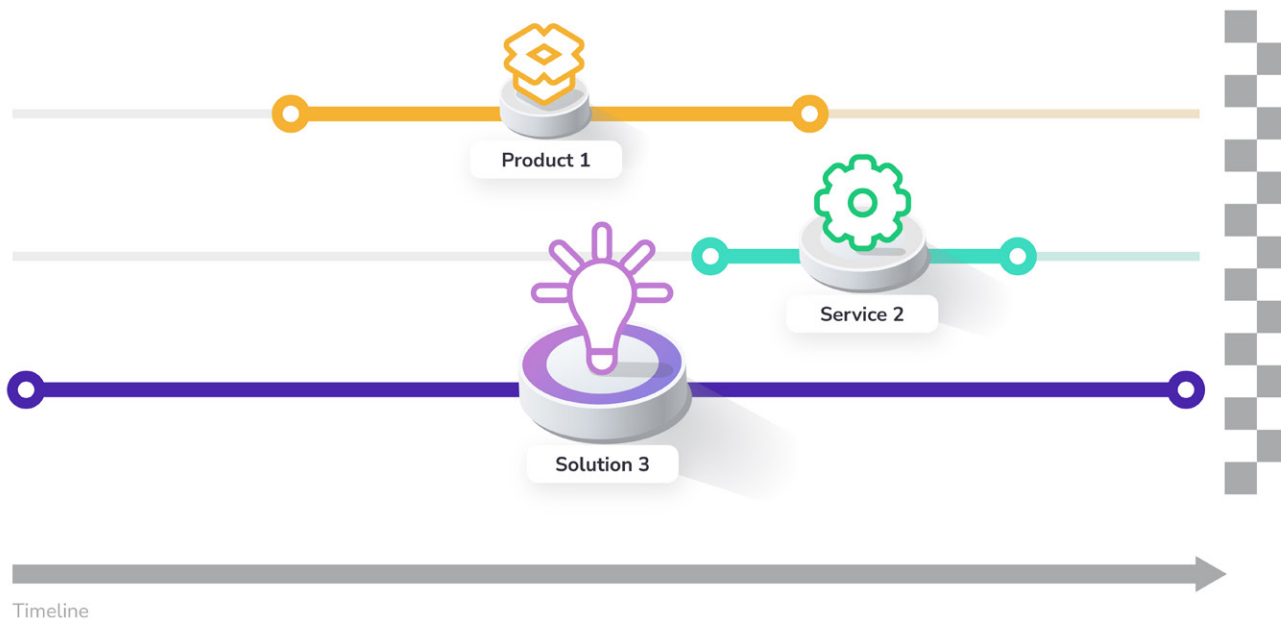
reliability and delivery experience

With a CPQ at the center of operations, you can thread orders from your marketplace through to all other applications and functions along the delivery cycle. If you have customers buying complex solutions and bundles, your CPQ will allow you to coordinate even the more complex, multi-staged deliveries successfully.

For example, imagine you are fulfilling an order for an internet service over SD-WAN with additional security, coupled with hosted security that includes anti-virus and malware.

Although these complementary software applications may be readily available, they should not be delivered before the internet itself is actually active and running, which may take upwards of a couple of months.

It will produce a poor customer experience if you activate all the paid security services before the internet is even working. Adding insult to injury by billing before the services are live will trigger extra work for finance to credit the customer back for payments taken too early, and cause unnecessary upset with your customer.



All components of a solution need to be delivered at compatible times

The optimal solution is to deliver the internet connection, allow the customer to test and approve it, and only then activate all the other services. The logic behind this sequential ordering and billing can be efficiently driven by the CPQ.

marketplaces need robust CPQ

Marketplaces promise to be a powerful avenue towards revenue growth for CSPs, as well as allowing them to broaden the scope of their relevance in the modern digital landscape.

In order to capitalize on this trend, CSPs need to keep the overall customer experience at the forefront of their operational marketplace strategies. A CPQ platform will play a critical role in enabling your vision. Select a CPQ platform that can handle the complexity of managing a large, fast evolving portfolio and help guide your customers through a smooth buying journey. Ensure your CPQ has the capacity to scale and integrate easily with your delivery systems, so that your customers are confident about increasing their use of your most cost-effective channel.

About CloudSense

The CloudSense Configure, Price, Quote (CPQ) application suite powers increased productivity and profits for ambitious enterprises allowing them to launch faster, sell more and fulfill orders faultlessly. Its growing global community of customers rely on CloudSense to deliver sales transformation within the Communications and Media industries. Leading brands including Telefonica, Telstra, and Informa use CloudSense's portfolio of applications to streamline the entire customer lifecycle, providing a better customer experience while improving business performance.

To find out more, visit [CloudSense.com](https://www.cloudsense.com)

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