

The logo for Telco Republic features the company name in a bold, sans-serif font. The word 'Telco' is positioned to the left of 'Republic'. Below the text is a horizontal line of 18 grey dots, with two rows of nine dots each. The entire logo is set against a light grey circular background.

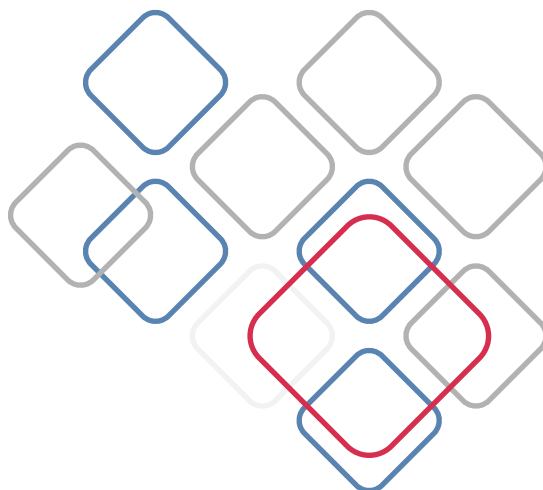
**Telco Republic**

# Whitepaper

## **CSPs Must Launch Agile Ecosystems and Marketplaces to Monetize 5G B2B Opportunities**

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In collaboration with



# Executive Summary

**CSPs are exploring new 5G and IoT opportunities with enterprises and small to medium-sized businesses (SMBs) by establishing collaborative business-to-business (B2B) ecosystems and marketplaces with third-party specialists to complement and enhance their own products and services.**

**This report shows how CSPs can accelerate their journeys toward becoming digital service providers (DSPs) by establishing B2B ecosystems and marketplaces with cloud-native, out-of-the-box solutions, built on agile development, open APIs and using configuration instead of coding.**

## Key Takeaways

- 5G and IoT presents CSPs with new growth opportunities in the B2B market to compensate for the stagnant consumer market.
- Enterprises and SMBs are looking for composite solutions that solve their needs, rather than for isolated technologies that address only parts of their requirements.
- Digital B2B marketplaces have become ubiquitous, addressing a variety of enterprise and SMB requirements.
- Legacy operations support and business support systems (OSSs and BSSs) prevent CSPs from launching successful digital B2B marketplaces.

## Recommendations for CSPs

- Differentiate yourself from NEPs, SIs, ISVs, hyperscalers and other competitors by enhancing our own connectivity and value-added services (VAS) with 5G and IoT-enabled third-party services and solutions.
- Elevate the enterprise business value of your offerings by composing solutions that target specific enterprise and SMB requirements, addressing their unique workflows, standards and industry challenges.
- React to changing business and SMB dynamics by quickly launching new marketplaces in the public or private cloud.
- Accelerate time-to-market of new products and services by resorting to cloud-based, out-of-the-box, commercially available solutions with open APIs and pre-integrations to major OSS, BSS, payment and e-commerce platforms.

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# **Why CSPs Must Engage in Digital B2B Ecosystems**

**The communications service provider (CSP) market continues to evolve, led by the potential of 5G.**

**CSPs see their future growth and profits hampered by a stagnant consumer market. To overcome this challenge, they are redirecting their attention toward large enterprises and small to medium-sized businesses (SMBs).**

CSPs have always offered connectivity and value-added services (VAS) to enterprises and SMBs, but this market took a backseat compared to the larger mass consumer market, which allowed them to sell undifferentiated products and services at a higher margin than customized enterprise solutions.

For many CSPs, consumer non-core revenue beyond connectivity is also beginning to slow down, prompting them to explore the enterprise and SMB market for future growth.

**CSPs are betting that the enterprise opportunity will drive new revenue.** On average, B2B revenue accounts for around 30% of CSP revenue. The value and growth of new services vary widely among CSPs, ranging from 40% of total revenue to less than 10%.

**CSPs see their future growth and profits hampered by a stagnant consumer market.**

**To overcome this challenge, they are redirecting their attention toward large enterprises and small to medium-sized businesses (SMBs).**

# Why CSPs Must Engage in Digital B2B Ecosystems

CSP CXOs are Looking for Alternatives to Connectivity and VAS.

CSP CXOs express their biggest worries as:

- **Developing the right business model**, realizing that a one-size-fits-all approach will no longer work in a hyper-personalized environment.
- **Identifying the right use cases** to establish competitive differentiators.
- **Innovating fast** to leverage new and emerging technologies, such as artificial intelligence (AI), machine learning (ML), analytics, DevOps, agile software development, blockchain, edge computing, and many others.

CXOs realize that their CSPs' reaction times will now be outpaced by emerging opportunities. CSPs will have to experiment with new products and services and quickly decommission them if necessary.

The key to achieving this goal is by establishing collaborative ecosystems and marketplaces with third-party specialists that complement and enhance CSPs' own products and services.

These new ecosystems and marketplaces must resort to commercial out-of-the-box solutions, using agile development and configuration instead of coding.

**CSPs' new ecosystems and marketplaces must resort to commercial out-of-the-box solutions, using agile development and configuration instead of coding.**

# New Opportunities in the Enterprise and SMB Market

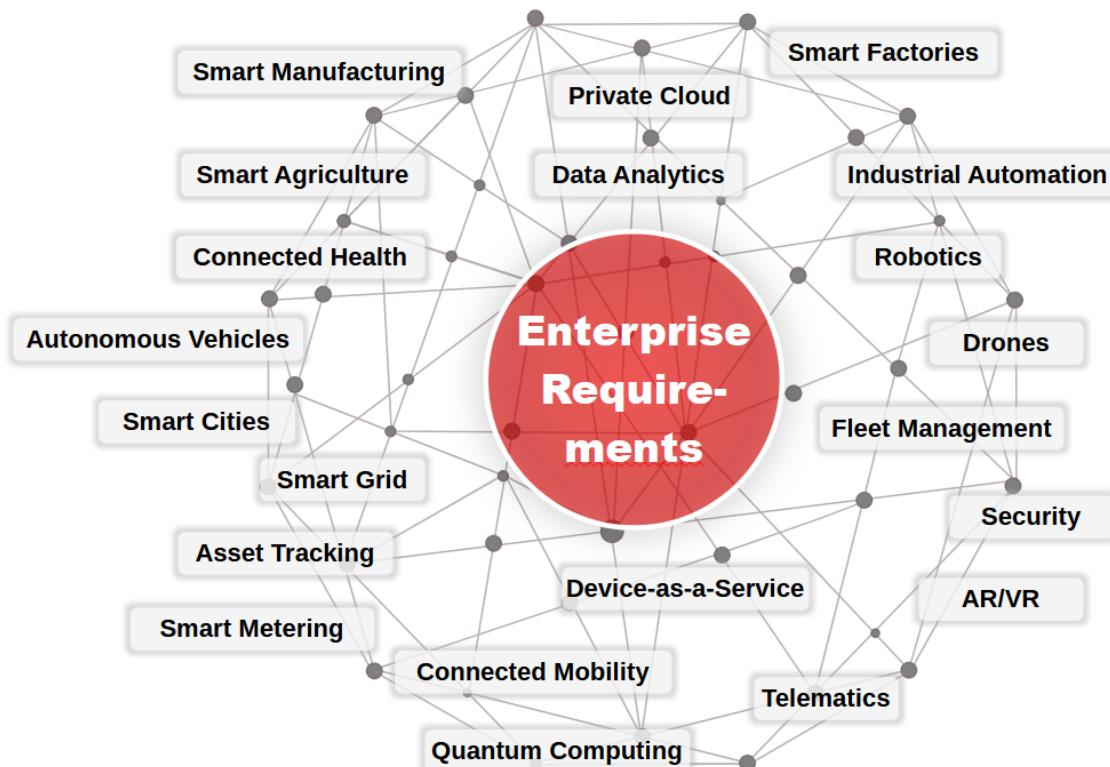
CSPs' rediscovery of the enterprise and SMB markets offers many new opportunities.

In the past, CSPs had a near monopoly on connectivity and VAS.

**Today, enterprises and SMBs expect more than connectivity, including a large variety of solutions, technologies and professional services enabled by 5G and IoT.**

These include industrial automation, robotics, drones, asset tracking, security, autonomous vehicles, artificial reality/virtual reality (AR/VR), connected health, smart agriculture, smart manufacturing, connected mobility, smart cities, smart grid, smart factories, telematics, fleet management, device-as-a-service, smart metering, private cloud, data analytics, quantum computing and more.

Figure 1. New Enterprise and SMB Requirements for CSPs



Source: Telco Republic, July 2023

# New Opportunities in the Enterprise and SMB Market

**Enterprises and SMBs are only beginning their 5G and IoT journeys.**

Less than a quarter of enterprises worldwide are currently investing in 5G, and less than two-fifths are investing in IoT, but most enterprises and SMBs expect to ramp up their spending on these technologies in the near future.

CSPs are not the only providers offering these services and technologies.

In the assessment of enterprise decision makers, CSPs are only one of many supplier options and not always the preferred ones. Some enterprises completely bypass CSPs when building private networks.

**Challengers with similar value propositions include:**

- Network equipment providers (NEPs)
- System integrators (SIs)
- Large independent software vendors (ISVs)
- Hyperscalers
- IoT specialists
- Device vendors
- Application and platform vendors
- New industry specialists
- Enterprises themselves

**CSPs are only one of many supplier options and not always the preferred ones.**

**Some enterprises completely bypass CSPs when building private networks.**



# How 5G is Changing the Equation

**Enterprises and SMBs expect 5G to boost productivity by enabling business automation and improving customer relations and experiences. They also expect 5G to accelerate existing and future B2B2X ecosystems.**

The opportunities engendered by 5G differ from those associated with previous Gs.

With 3G and 4G, CSPs operated in nearly closed ecosystems, offering connectivity, VAS and a small number of partner solutions to enterprises.

**With 5G, CSPs themselves can no longer develop all the elements necessary to support enterprises.**

Traditionally, CSPs provided value by operating tangible assets, converting them into connectivity and VAS.

Creating value with 5G-enabled intangible digital assets requires the ability to manage long-tail services by setting up digital ecosystems and operating them with agility, flexibility and speed.

In other words, CSPs cannot work with or speculate on the emergence of a “killer app” – one or a small number of innovative solutions that will dominate the competition and give them a near-exclusive foothold with SMBs and enterprises.

**CSPs must combine, reconfigure and manage innumerable and ever-growing digital and physical products and services from their own as well as from third-party suppliers’ portfolios.**

**Creating value with 5G-enabled intangible digital assets requires the ability to manage long-tail services by setting up digital ecosystems and operating them with agility, flexibility and speed.**

# CSP Strategies for Enterprises and SMBs

**CSPs must pursue multiple strategies in parallel to improve their standing in the enterprise and SMB market. Each of these strategies comes with its own challenges.**

The strategies show in Figure 2 range from simple to complex, reflecting the evolution from yesterday’s strategies to those of the future.

Each strategy has its opportunities and challenges, as shown in Table 1. Most CSPs are currently pursuing strategies 1 to 4: Integrated connectivity providers or multi-play operators, selling directly to enterprises, co-creation with partners and closed ecosystems.

CSPs are cautiously exploring possible benefits of open ecosystems (strategy 5), without having made firm commitments to move forward, mainly because of the difficulty of owning the customer relationship.

**Figure 2. CSP Digital Ecosystem Strategies**

Integrated Connectivity Providers Multi-play Operators	1	CSPs own the entire value chain.	Limited potential to expand.
Selling Directly to Enterprises	2	CSPs resell or through-sell partner solutions.	Limited potential to differentiate.
Co-Creation With Partners	3	CSPs build a joint value proposition with partners.	Limited potential to scale.
Closed Ecosystems	4	CSPs bring a select number of participants together.	Limited potential to differentiate and scale.
Open Ecosystems	5	CSPs or a third party bring any number of participants together.	Limited ownership of the customer relationship.

Source: Telco Republic, July 2023

# CSP Strategies for Enterprises and SMBs

**Table 1. Challenges of CSP Digital Ecosystem Strategies**

Strategy	Activity	Challenges
<b>1 Integrated Connectivity Providers</b>  <b>Multi-play Operators</b>	CSPs own the entire value chain and offer their products and services via a webstore or portal.	There is limited expansion potential due to the limited product and service portfolios of CSPs.
<b>2 Selling Directly to Enterprises</b>	CSPs resell or through-sell partner solutions, either on a one-to-one basis or via a webshop or portal.	<p>This is a static approach and makes it difficult to compose solutions and services from multiple partners while providing little differentiation.</p> <p>Partners are treated as customers that can be monetized or used to create leads and data. Profit margins are usually small.</p>
<b>3 Co-creation with Partners</b>	CSPs build a joint value proposition with partners and sell products and services via a webshop or portal.	Success depends on the cooperation of partners and might not scale because solutions are mainly one-offs.
<b>Participating in Digital Ecosystems</b>	Ecosystems typically include device manufacturers, content providers, system integrators (SIs), network equipment providers (NEPs), CSPs, enterprises and SMBs, IT platform providers, hyperscalers, application developers, outsourcers, managed service providers, distributors, implementers and others.	
<b>4 Closed Ecosystems</b>	CSPs bring a select number of participants together to create an enhanced value proposition, offering products and services via a webshop or a digital marketplace.	<p>CSPs need to define a clear value proposition and develop a flexible infrastructure that ensures the interoperability of solutions and services offered.</p> <p>Closed ecosystems tend to offer only a limited number of products and services, which makes them difficult to expand and scale.</p>
<b>5 Open Ecosystems</b>	CSPs or a third party bring any number of participants together to create an enhanced value proposition, offering products and services via a webshop or a digital marketplace.	<p>CSPs' goals may be at odds with ecosystem owners, who might promote offers that compete with those of CSPs.</p> <p>It can be difficult for CSPs to wield sufficient influence to make participation in open ecosystems worthwhile.</p> <p>CSPs have limited ownership of the customer relationship. CPQ is nearly impossible for CSPs.</p> <p>The potentially large number of participants requires a flexible infrastructure and interoperability.</p>

Source: Telco Republic, July 2023

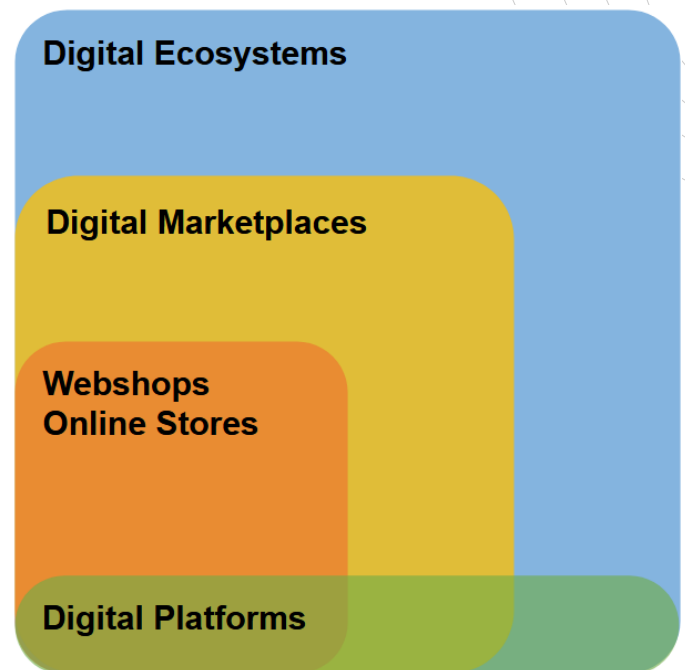
# Ecosystems and Marketplaces Defined

The concept of modern digital ecosystems and marketplaces dates back to the rise of e-commerce in the mid- to late-1990s, when Amazon, eBay and PayPal opened shop. Despite this long pedigree, CSPs remain unsure what constitutes an ecosystem and a marketplace.

**CSP decision makers are highly divided** on whether a marketplace should be a self-service portal for a single CSP and its partners; a software procurement portal; a third-party marketplace where CSPs and their partners can offer products and services; or a hub for CSP groups to provide services to each other.

In part, the apparent confusion results from a loose or overlapping definition of the following terms: “Digital marketplace,” “webshop,” “online store,” “digital ecosystem” and “platform.”

*Figure 3. CSP Digital Ecosystems*



Source: Telco Republic, July 2023

**This lack of clarity and direction is evidence of a dynamic and fast changing market and provides an opportunity for third-party suppliers to demonstrate the benefits of their solutions to CSPs.**



# Ecosystems and Marketplaces Defined

Telco Republic provides clarification on the following definitions.

## Digital Ecosystems

Digital ecosystems represent the evolution and expansion of marketplaces beyond trading and can include multiple specialized marketplaces.

They are dynamic networks of participants that interact with each other by integrating multiple technologies such as cloud, networks, IoT, security, data, AI, applications and hardware.

Digital ecosystems solve business problems in new and innovative ways, thereby creating and exchanging value for all participants.

## Digital Marketplaces

A digital marketplace is a digital platform where the leader or orchestrator connects potential buyers and sellers.

Services and solutions dynamically change, as does the partner ecosystem contributing these to these services and solutions. Marketplaces can address very specific buyer needs or focus on long-tail economics.

## Webshops and Online Stores

These are a subcategory of digital marketplaces where the CSP provides its own products and services along with the products and services of its partners.

## Digital Platforms

Platforms are the foundations of marketplaces and ecosystems, being sets of related systems, processes, people and data.

Platforms deliver or expose sets of business services via APIs. They enable CSPs to build components that provide the platform services that can be implemented independently of each other.

# CSPs Must Offer Composite Solutions to Enterprises and SMBs

**CSPs can no longer rely solely on selling or reselling products and services to enterprises and SMBs, regardless of their innovation levels.**

**Enterprises and SMBs are looking for composite solutions that solve their needs, rather than for isolated technologies that address only parts of their requirements.**

Connectivity itself has become commoditized, but composite solutions that address specific business challenges still remain specialized.

CSPs have the opportunity to demonstrate how these composite solutions address enterprises' perceived business needs.

CSPs' efforts to enumerate use cases for services such as 5G, IoT, MEC, network slicing and so on are as effective as car manufacturers extolling use cases for the wheel.

CSPs will not succeed by trying to create a market that is limited to the technologies they develop in-house.

CSPs must develop ecosystem relationships with multiple third-party solution providers while using their traditional connectivity and VAS offerings (networking, voice, data, PBX, unified communications) as a foundation, surrounding them with "enhanced connectivity," including SD-WAN as a service, managed CPE, managed routers, bandwidth on demand, IaaS, PaaS, SaaS, MEC, security as a service, IoT and analytics as a service.

**"Enhanced connectivity" will be the bedrock for composite solutions assembled from the multiple third-party services shown above.**

**CSPs must develop ecosystem relationships with multiple third-party solution providers while using their traditional connectivity and VAS offerings as a foundation, surrounding them with "enhanced connectivity."**

# CSPs Must Focus on Digital Ecosystems and Marketplaces for the B2B Segment

CSPs can benefit from establishing digital B2B marketplaces in a variety of ways. They must evaluate benefits and address potential challenges before launching a marketplace.

Figure 4. Benefits and Challenges of Digital Marketplaces

## Benefits

- Generate new connectivity and VAS revenues.
- Generate additional revenue by taking a cut from third-party services and solutions.
- Deepen the CSP's control of the customer relationship when the CSP manages the marketplace.
- Prevent other companies from owning the customer by participating in a marketplace.
- Offer custom-tailored solutions for industry verticals.
- Target specific B2C, B2B and B2B2X market segments.
- Seize the opportunity to co-innovate with partners.
- Up-sell and cross-sell solutions.
- Gain visibility into all partner transactions.

## Challenges

- Reliance on legacy infrastructure.
- Absence of automated business processes.
- Lack of an open architecture for full integration of all products and services.
- Lack of experience working with third parties.
- Lack of full commitment to a new business model of working with partners.
- Competition from other marketplace providers, especially the hyperscalers.
- The selection of products and services might be too limited to satisfy customer expectations.
- Marketplaces can become disorderly online stores unless they are curated diligently.
- Marketplaces can languish and become a burden on CSP operations as enterprises fail to adopt them at scale.
- Escalating costs due to the proliferation of too many marketplaces for different purposes.

Source: Telco Republic, July 2023

# CSPs Can Play Different Roles in Digital Ecosystems and Marketplaces

Digital marketplaces and ecosystems allow CSPs to create value beyond connectivity.

Marketplaces allow CSPs to participate in value exchanges and the use of shared capabilities with participants.

One of the challenges for CSPs is that there are many ways to engage. CSPs can play different roles in different marketplaces, or multiple roles in the same marketplace.

## Leaders and Orchestrators

The CSP manages the customer relationship, curates the selling of solutions and services and connects value chains.

The CSP benefits from revenues from transaction fees consisting of multiple small components, as opposed to fixed fees or usage-based fees in a one-to-one relationship.

## Consumers

The CSP sources products and services for its own use or for resale purposes.

## Users and Participants

The CSP can minimize competitive threats with a strong competitive presence in the marketplace, and at the same time realize incremental revenue.

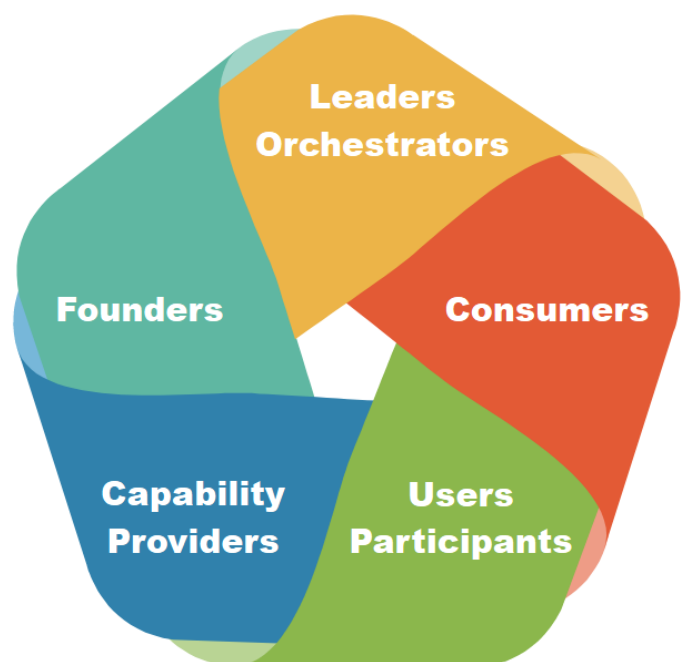
## Capability Providers

The CSP provides and monetizes physical and digital assets provided to the marketplace.

## Founders

The CSP leads the market direction and manages the customer relationship.

**Figure 5. CSPs' Roles in Digital Ecosystems and Marketplaces**



Source: Telco Republic, July 2023



# The Proliferation of Digital Marketplaces

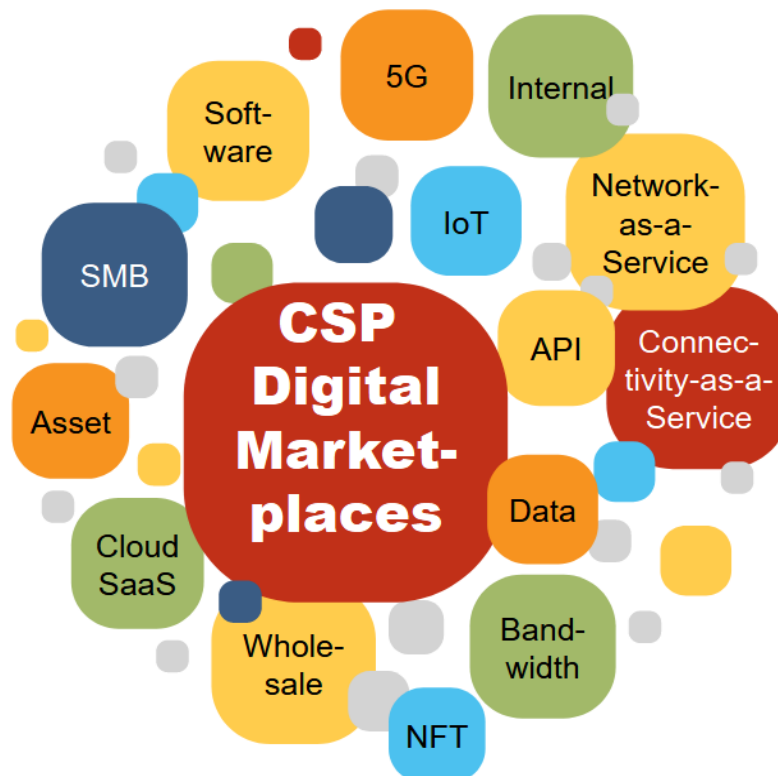
Digital marketplaces have become ubiquitous. CSPs have set up marketplaces for a variety of purposes and are expected to continue doing so.

Digital marketplaces must rely on out-of-the box solutions and ideally be cloud-based so CSPs can score quick wins and scale as the number of users and participants expands.

Digital marketplaces must be flexible to allow CSPs to experiment with new products and services, allowing them to enter and exit industry verticals and customer segments as the economic and competitive environment changes.

Many CSP marketplaces will have a limited lifespan as CSPs scuttle them when they adjust their enterprise strategy.

Figure 6. Types of Digital Marketplaces



Source: Telco Republic, July 2023

# Types of Digital Marketplaces

## **IoT Marketplace**

Provides connectivity with services such as management of applications, data and devices for a single enterprise or SMB.

## **API Marketplace**

Provides mechanisms for developers to design and publish, as well as tools, documentation and incentives to participate.

## **Software Marketplace**

Offers software licenses with embedded analytics.

## **Wholesale Marketplace**

CSPs buy wholesale services outside their own footprints to deliver end-to-end services to enterprises and SMBs.

## **SMB/SME Marketplace**

Tailored toward SMB software and services requirements, such as e-mail, conferencing, security, productivity suites and more.

## **5G Marketplace**

Lets 5G network providers resell services through local CSPs.

## **Connectivity-as-a-Service (CaaS) Marketplace**

Abstracts the network from its OSS and BSS and invites partners onto the platform. The idea is to offer a catalog of service elements that can be composed on-demand in near real-time based on a customer's business intent.

## **Network-as-a-Service (NaaS) Marketplace**

Connects enterprises and SMBs with an ecosystem of partners to orchestrate network services.

## **Data Marketplace**

Enables data trading and live access for data scientists, business intelligence and analytics specialists for business intelligence, advertising, demographics, personal information, research and other activities.

## **Cloud Marketplace, SaaS Marketplace**

Provides solutions, business applications and services to accelerate and optimize cloud and hybrid deployments.

## **NFT Marketplace**

A platform that makes it simple to store and sell NFTs.

## **Asset Marketplace**

For un- or underused assets such as cell towers, WiFi infrastructures, frequency bands, fiber networks and aerial drones. An asset marketplace can serve MVNOs or support enterprises and SMBs for a limited time.

## **Bandwidth Marketplace**

Allows participants to buy bandwidth for current or future use at any time.

## **Internal Marketplace**

Large CSP groups can expose assets to their operating companies or set up procurement ecosystems.

# Examples of CSP Digital Marketplaces

The following examples demonstrate the range and diversity of digital marketplaces established by leading CSPs. These examples serve illustrative purpose only and do not represent an assessment of the marketplaces' technical or commercial efficacy.

## AT&T

[AT&T's IoT marketplace](#) gives enterprises instant access to a wide array of IoT hardware, software and solutions.

## Axiata Digital

[Axiata Digital's Ideamart](#) is an API marketplace for SMBs in the Asia Pacific region. The marketplace lets SMBs develop innovative services on the Axiata network and get paid quickly by customers.

## BuyIn

A strategic procurement alliance consisting of Bell Canada, Deutsche Telekom, NOS, Orange and Proximus, including their over 45 affiliates globally, BuyIn ensures strategic fit and customization for the best procurement results.

## HGC

[HGC's International Marketplace](#) brings international NaaS to a digital marketplace for service orchestration and ordering enabled by HGC SDN architecture, letting enterprises and partners manage multiple networks and resources.

## Indosat Ooredoo Hutchison (IOH)

Micro, small and medium enterprises (MSMEs) can access the [IOH digital marketplace \(MarketSpace\)](#) to purchase and activate solutions with guided service "turn-up" (Mobile, SMS LBA, I Manage, EPP and Advisory Hub). Customers can also use the platform to purchase a complete digital solution suite (Google Workspace (GWS), VOVIX) as an automation tool to run their business.

## Singtel

[Singtel's Paragon marketplace](#) enables enterprises to tap into Singtel's 5G network to activate network slices on demand, deploy mission-critical applications on Singtel MEC and access an ecosystem of partner applications.

## T-Mobile US

[T-Mobile US's DevEdge](#) is a self-service developer platform that gives developers access to T-Mobile's network through APIs and network-enabled services.

# Examples of CSP Digital Marketplaces

## **Tata Communications**

[Tata Communications' IoT marketplace](#) is designed to link enterprises with IoT service providers to enable customers to easily develop tailored IoT solutions.

## **Telstra**

[Telstra's Apps Marketplace](#) lets enterprises select from a variety of applications, including security; productivity and collaboration; websites, domains and digital commerce; workforce management; communications and collaboration; and professional services.

## **Vodafone Business**

The [Vodafone Business Marketplace](#) lets enterprises and SMBs manage all business application licenses from a single location and get support from one central location.

## **Vodafone and Sumomito Corporation**

A joint venture based on [Vodafone's Digital Asset Broker \(DAB\)](#) that lets vehicles, devices and machines interact and transact with each other via a secure digital platform, without human intervention, but with the owner in full control.

## **Verizon Business**

[Verizon Business' ThingSpace](#) IoT marketplace lets SMBs and enterprises purchase, activate and manage customized IoT solutions, including device management, security, location, advanced diagnostics and firmware updates. The marketplace lets users filter by 17 vertical industries.



# Requirements for Successful Digital Ecosystems and Marketplaces

**A digital marketplace must be able to compose solutions from the CSPs' own and third-party products and services to provide personalized solutions that address specific enterprise requirements.**

It is essential that CSPs set up digital marketplaces quickly by resorting to cloud-based, out-of-the-box, commercially available solutions with open APIs and pre-integrations to major OSS, BSS, payment and e-commerce platforms.

CSPs cannot afford to spend months or years grafting a new marketplace onto existing legacy front- and backoffice solutions. Ideally, CSPs should consider cloud-based solutions so they can avoid investing in new equipment or infrastructure.

## Limitations of Current CSP Approaches

**Many CSPs cannot realize their vision of digital marketplaces because they are limited by their accumulated technical debt of legacy OSSs and BSSs, the practice of engaging in one-off custom projects and an undiversified approach to enterprises and SMBs.**

### Legacy OSSs and BSSs

Existing OSSs and BSSs are usually unfit to solve the marketplace challenge.

- Provisioning third-party services requires unique workflows.
- Onboarding new partners and settlements is difficult to manage with existing systems.
- Billing systems cannot cope with multiple charging and payment options.

### Custom Projects

Traditionally, CSPs established partnerships as custom projects, which were time- and resource-intensive.

These projects could extend over months or years because of the challenges of designing user journeys and integrating with other back-end systems.

The long duration caused many partnerships to lose relevance or not launch at all.

### Undiversified Enterprise Strategies

Another limitation of current approaches is a relatively undiversified view of enterprise and SMB requirements. While CSPs have long distinguished between enterprise size (large, medium, or small) or industry vertical, they did so in a relatively homogeneous way related to connectivity services.

In the context of 5G-related services and solutions, CSPs must become experts in industry-specific workflows, standards and solutions. Much of this expertise does not reside within CSPs, but needs to be sourced from third parties.

# Required Capabilities for Digital Marketplaces

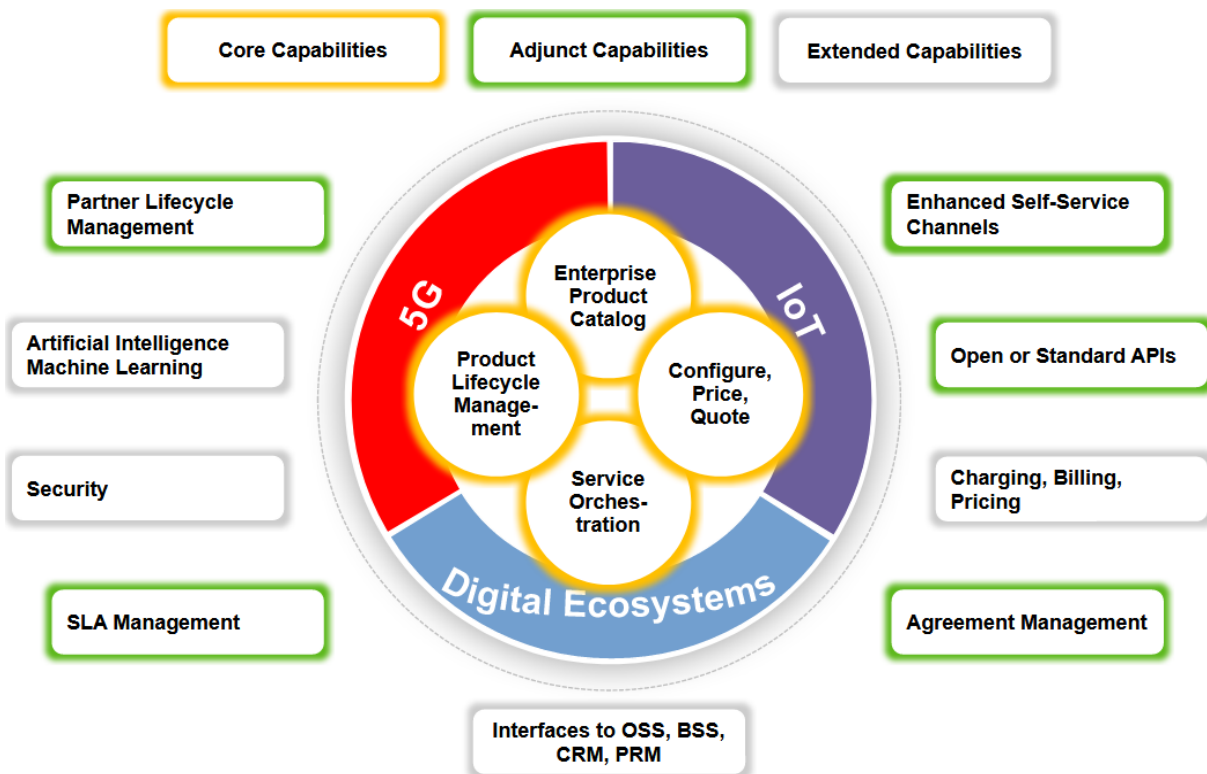
Digital marketplaces must include the capabilities shown in Figure 7.

Telco Republic distinguished between three capability sets:

- **Core capabilities** that are must-haves for every marketplace.
- **Adjunct capabilities** that are important but can also be performed by other backoffice systems.
- **Extended capabilities** that are nice-to-have but not essential for the proper functioning of a digital marketplace.

CSPs that cannot provide these capabilities will be left behind.

Figure 7. Required Capabilities for Digital Marketplaces



Source: Telco Republic, July 2023

# Required Capabilities for Digital Marketplaces

## Core Capabilities

Core capabilities are essential to a digital marketplace. A solution provider must develop them in-house and continuously evolve their features.

**Service Orchestration** to orchestrate multi-vendor and multi-domain products and services based on specific configurations.

**Configure, Price and Quote (CPQ)**, including zero-touch sales models that capture B2B user data for new product development and service improvements combined with personalization, and the ability to manage catalogs, segments, bundles and eligibilities.

**An Open and Flexible Product Catalog** to provide synergies with third-party and technical services options. It manages the commercial offers from third-party providers and CSPs and provides a catalog for CSPs and businesses to search, select and subscribe to products and services.

**Product Lifecycle Management** to manage and onboarded products and their lifecycle.

## Adjunct Capabilities

Adjunct capabilities surround the core capabilities. Marketplace providers should develop most them in-house, but might consider OEM'ing some of them from third-party specialists.

**Enhanced Self-Service Channels** to offer a digital-first experience where enterprises and SMBs can purchase new services on-demand and access them instantly.

**Open or Standard APIs** that are discoverable by developers and partners in a self-service fashion.

**Agreement Management** to manage commercial agreements between providers engaged in the marketplace in support of the marketplace governance.

**Partner Lifecycle Management** to fully automate onboarding and managing the lifecycle of third parties and CSPs, including bundling, ordering, fulfillment, monetization, charging, invoicing and partner settlement.

**SLA Management** to manage and report real-time and predicted performance and recommendations for upgrades.

# Required Capabilities for Digital Marketplaces

## Extended Capabilities

Extended capabilities are nice-to-have but not essential for the proper functioning of a digital marketplace. Marketplace providers can OEM them from third-party specialists.

**Charging, Billing and Pricing**, facilitating a combination of new and traditional mechanisms, such as charging based on usage, volume, sessions, time of day, traffic, location, device type, number of devices, QoS/SLA guarantees, network slice, uplink/downlink speed and latency.

**Security** for users and data.

**AI and ML** to identify the optimization of the marketplace and its offerings and assure overall business performance; quickly handle large datasets; filter synchronized and orchestrated data, and eventually retire it; calculate and communicate eligibility and triggers such as discounts, credits or account buyouts.

**Interfaces** with OSS, BSS, PRM, CRM, campaign management, e-commerce and customer portals.



# How Kloudville Helps CSPs Succeed



**Kloudville Marketplace 360 offers CSPs a single comprehensive solution for managing any product, any service and any order along with traditional CSP telco market offerings.**

Marketplace 360 manages the end-to-end partner lifecycle from onboarding to order fulfillment and reconciliation and settlements **without impact on legacy OSS and BSS**. A rule-based catalog combines CSP and partner products and services, pricing, costing and contracts.

Marketplace 360 allows CSPs to expand into the B2B2X market by leveraging partner products to monetize 5G and IoT opportunities, as well as vertical marketplaces, such as utilities, agriculture and hospitality with tailored solutions.

Marketplace 360 supports CSP's partner journeys, customer journeys and portfolio management.

## Key modules include:

### Product Management

Product lifecycle management and enterprise product catalog.

### Configure, Price and Quote (CPQ)

Configuration, pricing, quoting, proposal/contract generation, negotiation, approval, ordering/renewal, production, delivery and installation.

### Order-to-Cash

Lead and opportunity management, customer management, contract management, quotation management, order management and subscription management.

### Partner Management

Partner product management and partner fulfillment management.

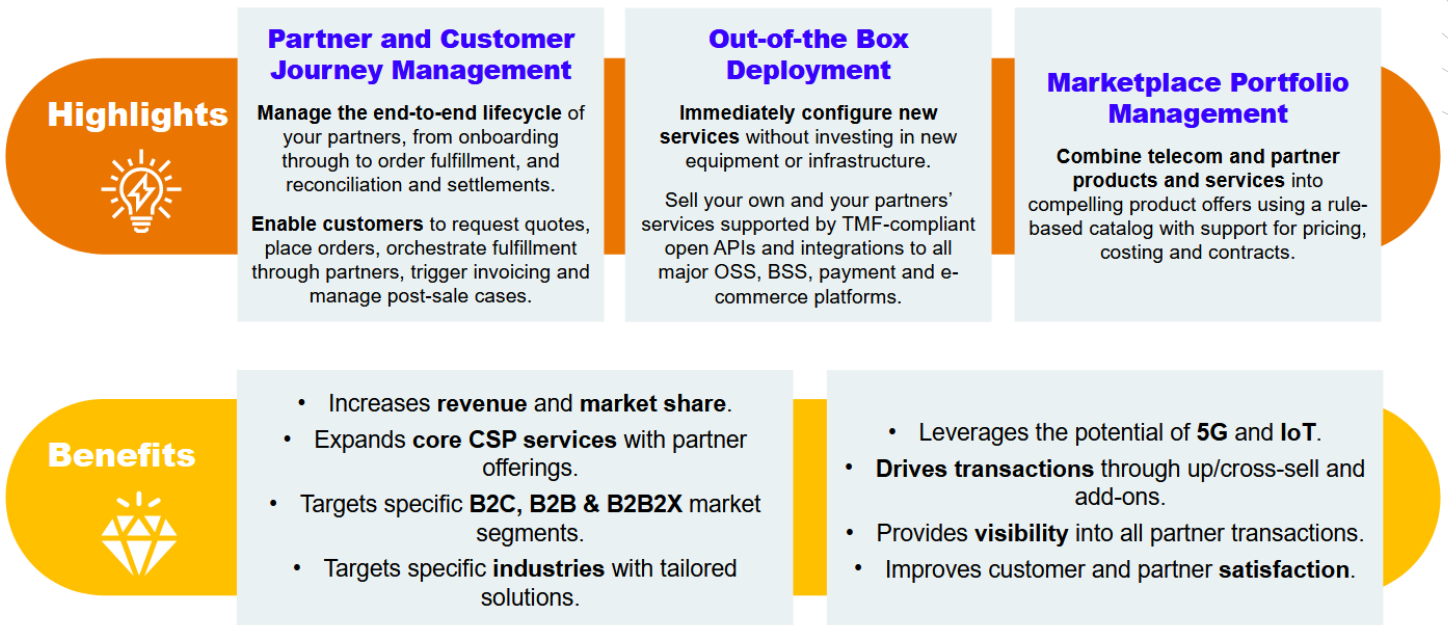
### Reporting and Analytics

# Marketplace 360 Highlights and Benefits



Figure 8. Kloudville Marketplace 360 Highlights and Benefits

## Marketplace 360 Enables CSPs to Build Ecosystems by Combining Their Own Solutions with Partner and Industry Vertical Vendor Solutions



Source: Kloudville, July 2023

# Kloudville Overview



**Kloudville** is a privately owned, software company that provides an innovative, composable, cloud and mobile applications suite covering the entire business-to-business and business-to-consumer (B2B2X) concept-to-market, lead-to-quote, quote-to-cash and order-to-delivery cycles for communications service providers (CSPs).

Kloudville is uniquely focused on CSPs' B2B and B2B2X business requirements. It has over 30 years proven business and technical track record of telco systems, a presence on five continents and a global partner network.

Kloudville's product portfolio includes the following:

## **Marketplace 360**

Enables CSPs to build ecosystems by combining their own solutions with partner and industry vertical vendor solutions.

## **Telecom 360**

Automates, optimizes, simplifies and accelerates the entire B2B and wholesale quote-to-cash process.

## **Product Lifecycle Management/Enterprise Product Catalog 360 (PLM/EPC 360)**

Manages CSPs' product lifecycle and business processes from ideation to definition, launch and retirement.

Kloudville is **headquartered** in Toronto, ON, Canada and has offices on five continents.

**Partners** include ServiceNow, Infosys, Celfocus, Tata Consultancy Services (TCS), Solutions by STC, Readiness IT, ZCOM Systems and Smartdata Solusi Utama.

Kloudville's products are **certified** on ten [TM Forum open APIs](#).

Kloudville Orchestrator is a **Certified ServiceNow App** available on the [ServiceNow Store](#).

# Kloudville Overview



Kloudville clients are global telecom providers including the following:



## Indosat Ooredoo Hutchison (IOH), Indonesia *Marketplace 360*

Enables IOH and partner solutions for immediate purchase and activation. IOH leverages the Marketplace 360 flexibility to launch any solution via the digital marketplace quickly.

The solution provides product master support, back-office and partner integration, provisioning, activation and inventory/device management.

The marketplace was deployed in under three months and integrated using TM Forum Open APIs. The APIs can support a complete (order to pay) e-commerce journey, partner onboarding, and marketplace management.

Indosat micro, small and medium Enterprises (MSMEs) can access the IOH digital marketplace (MarketSpace) to purchase and activate solutions with guided service “turn-up” (mobile, SMS LBA, I Manage, EPP, and Advisory Hub).

Customers can also use the platform to purchase a complete digital solution suite (Google Workspace (GWS), VOVIX) as an automation tool to run their business.



## STC, Saudi Arabia *PLM/EPC 360*

Catalog-driven ordering of all channels. A centralized EPC serves all channels with real-time catalog and chart services, such as e-commerce and mobile app. Publishing of EPC data to non-customer-facing systems.

Rule and policy enforcements: Kloudville provides the rules engine functionality evaluating all business rules related to the products, offers and portfolio.

Management of the end-to-end product lifecycle catalog by integration to Ericsson, MATRXXX Software, 6D and Adobe Experience Manager.



## Brightspeed, United States *Telecom 360*

CPQ with CRM and contract management, EPC and product lifecycle management and commercial order management with service order management (SOM) integration.



## About Telco Republic

We are the go-to, thought-provoking market research and advisory firm for the new telecom software market.

Our mission is to track ongoing disruption and innovation related to telecommunications business and operations.

As a boutique firm we focus specifically on emerging management systems and applications that allow operationalization and monetization of emerging technologies, operating models and market value creation ecosystems.

- We advise technology vendors on their strategic positioning and messaging. This includes innovation start-ups.
- We advise communications service providers on their strategic purchasing decisions.
- We advise investor clients regarding their strategic investment decisions.

### Our Commitment

Within three months, we can help you define a new strategic technology vision and guide you on initial execution of this vision.

We provide rigorous, in-depth benchmarking analysis of the players in this market. Our services center on rigorous, well-vetted market ranking & capability assessments, based on a proven, fact-based rating methodology of respective companies in a given market. In this context, we advise technology vendors on their strategic positioning and messaging, and we advise communications service providers regarding their strategic purchasing decision making.

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