

Whitepaper

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The CXO guide to telco B2B Commerce

The criticality of telco-specific full stack systems

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INTRODUCTION

The telecommunications landscape has undergone significant transformation over the past five years, shaped by multiple factors: the COVID-19 pandemic, 5G's failure to deliver expected returns, and mounting pressures on shareholder returns. These pressures intensified as consumer market growth stagnated and digital-native competitors began making inroads into traditional telco territory. In response to these challenges, communications service providers (CSPs) have increasingly pivoted toward enterprise markets, now viewing them as a primary strategic focus.

The enterprise segment has for decades remained an underserved market for CSPs. Several factors contributed to this: telcos' limited interest, the inherent complexity of enterprise services, the distraction of rapid consumer market growth, and the dominance of large enterprise-focused companies that discouraged CSPs from seriously pursuing corporate customers.

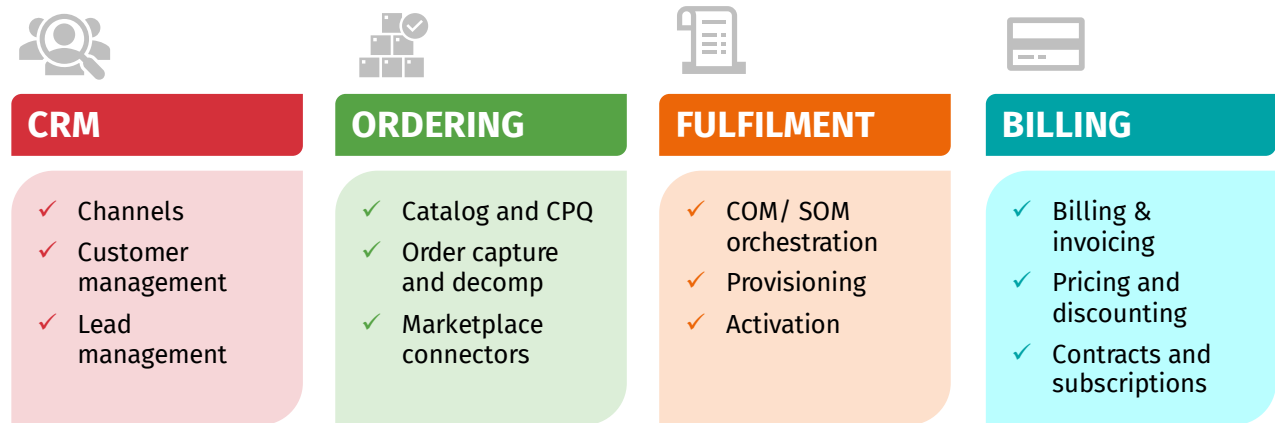
The last decade has seen a significant shift in this mindset. This change was initially driven by growing enterprise opportunities that relied heavily on connectivity. The advent of 5G technology became the decisive factor, as its substantial capital expenditure could only be justified by a major expansion into the enterprise market. Moreover, 5G offered CSPs something unprecedented: an architecture that enabled network access through software APIs. This capability, which previously required complex integrations that made it unserviceable, creates new opportunities for CSPs to collaborate with enterprise customers.

Today's telecommunications providers are expanding deeper into the enterprise value chain, driven by factors that extend well beyond 5G capabilities. Despite slower-than-expected 5G standalone network deployments, CSPs continue to prioritize enterprise engagement as a core strategic initiative.

Traditionally, CSPs have managed their enterprise sales through fragmented, ad-hoc processes, heavily dependent on spreadsheets and manual verification. This approach was manageable only because CSPs primarily focused on a small segment of large enterprise clients with a limited product portfolio. The model was further sustained by assigning large, dedicated sales teams to individual accounts. As CSPs expanded their portfolio complexity and began targeting smaller business customers, their legacy sales processes became increasingly strained. The traditional model of dedicated sales teams proved impractical for smaller B2B accounts, exposing the limitations of their outdated selling approaches.

The essential B2B commerce systems for CSPs can be divided into four main functional areas (figure 1). Each area operates with distinct protocols and standards, alongside various vendor-specific interfaces. This landscape is further complicated by departmental silos containing multiple systems with redundant capabilities. Successfully navigating this intricate technical architecture is just as important as having the right system features. The complex nature of existing telco frameworks and their unique operational workflows is a key reason why CSPs require specialized solutions as standard off-the-shelf B2B commerce solutions fail to satisfy such requirements.

Figure 1: Overview of the key systems essential to telco B2B commerce



Source: Appledore Research

CSPs know they need robust business commerce systems but face difficult strategic choices: how to implement them effectively, what pitfalls to avoid, and which technology partners to trust. This paper traces the development of telco B2B commerce systems and outlines key considerations for CSPs when choosing a future-proof B2B commerce platform.

Our key recommendations are summarized below:

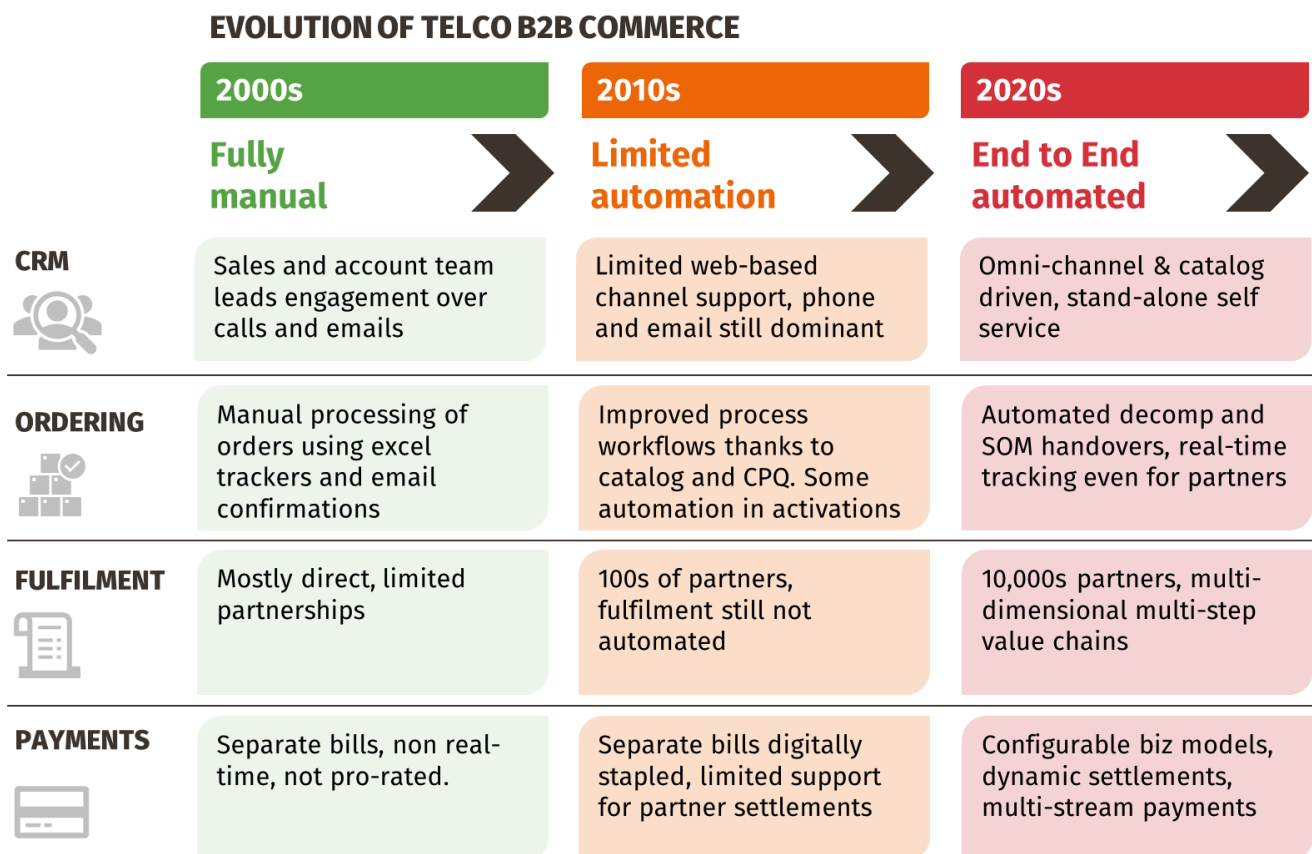
1. **CSPs should prioritize telecom-specific solutions for their B2B commerce needs.** These specialized platforms offer superior scalability and adaptability for future expansions. Even in the short to medium, telco-focused systems will outperform generic, non-carrier grade alternatives in meeting the unique demands of the industry.
2. **CSPs should prioritize vendors that provide fully integrated solutions and have proven experience managing complex integrations.** Pre-integrated end-to-end solutions offer CSPs the flexibility to choose their transformation starting point and choice of upgrade paths while ensuring a homogenous architecture framework. In addition, partners with expertise in navigating legacy silos, harmonizing disparate systems, and interfacing with proprietary technologies can ensure smooth transitions and optimal outcomes.
3. **CSPs must embrace AI-driven commerce solutions for success in B2B commerce.** Solutions built on generative AI frameworks are strategically positioned for long-term success as AI and

reasoning models continue to evolve, creating a significant competitive advantage in the marketplace.

THE EVOLUTION OF TELCO B2B COMMERCE SOLUTIONS

Telco B2B commerce systems have evolved slowly, largely because CSPs historically prioritized consumer markets over enterprise opportunities. Only when consumer market growth began to plateau and 5G emerged on the horizon did enterprise business become a strategic focus for executives. This delayed prioritization helps explain why many CSPs operate with rudimentary enterprise systems, creating a significant gap between telcos and other industries' enterprise commerce capabilities.

Figure 2: Overview of evolution of telco B2B commerce



Source: Appledore Research

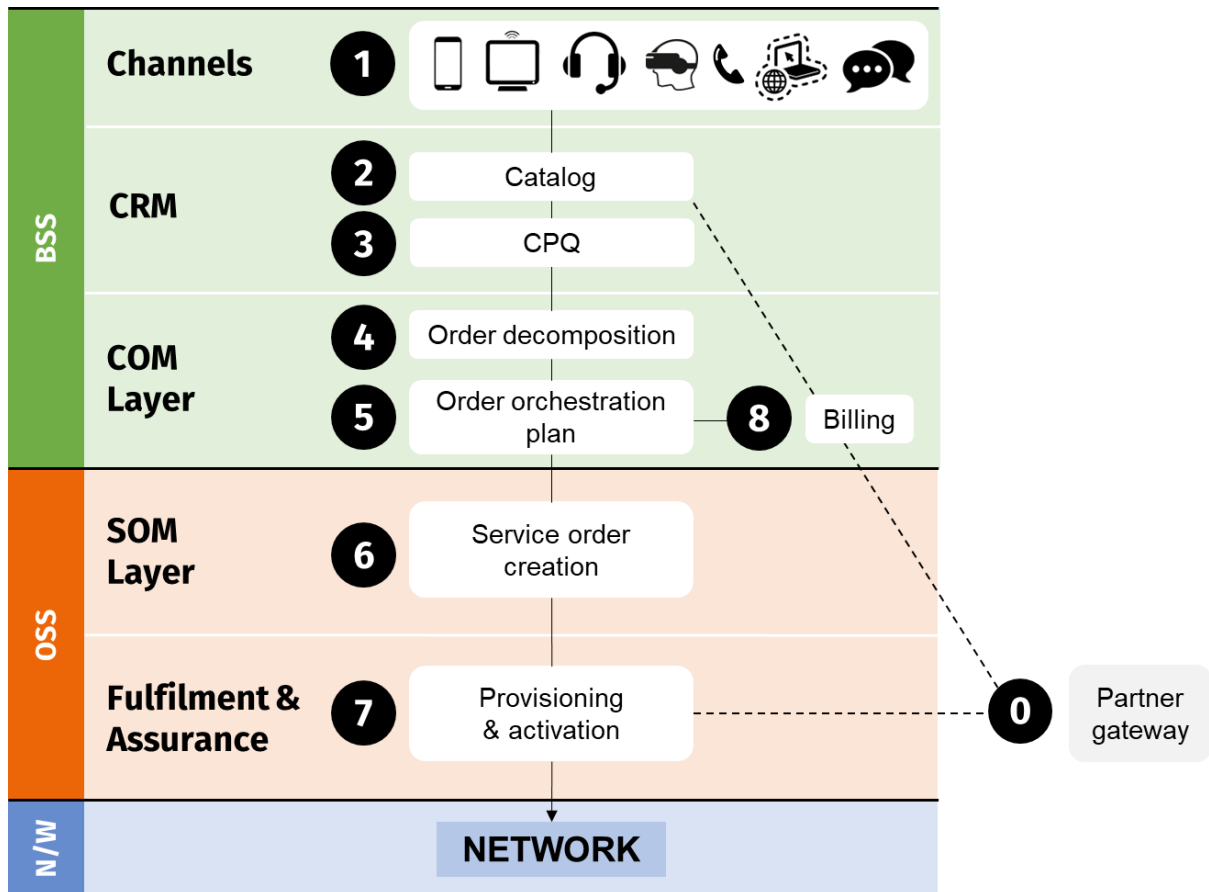
The table below captures the most consequential challenges of incumbent legacy systems when used for modern commerce functions:

No	Issue	Description	Impact analysis
1	Complexity due to dependency on multiple legacy systems	Incumbent multi-vendor legacy systems exist as disparate silos with proprietary interfaces.	• High costs • Poor customer experience • Missed selling opportunities
2	Overlapping responsibilities and rigid team structures	Separate teams/ departments maintain exclusive control over specific systems or data sets	• Low accountability • Poor datasets • Inaccurate forecasts and planning
3	Lack of capability to manage telco specific requirements	Systems, processes, or personnel are not adequately equipped to handle the unique needs of the telecommunications industry. This issue often arises when telecom companies try to adopt generic business solutions.	• Proprietary interfaces • Expensive customizations • Delayed time to market
4	Primitive catalog capabilities	Limitations in the catalog which can hinder CSPs ability to efficiently create, manage, and sell products and services.	• Limited partner engagement • Huge IT overheads • Delayed sales cycles
5	Limited support for advanced financial capabilities	Systems and processes lack the sophisticated financial tools and features necessary to optimise costs and support complex business operations and revenue models.	• Limited support for emerging value chains • Delayed time to revenue • Slower partner engagement
6	Incomplete/ broken self-care process	Inadequate digital automated systems for customers to manage their accounts, services, and issues without direct interaction with agents.	• Poor customer experience • High support costs • Lower digital sales penetration
7	Multi-vendor environments	Complexities in managing and integrating various systems, equipment, and software from multiple vendors across CSPs network and operational infrastructure.	• High support and maintenance costs • Limited flexibility to upgrade or add new features • Risk of disruption to operations
8	Lack of support for legacy transition	Challenges CSPs face when trying to move from older, established systems and technologies to newer, more advanced ones.	• High risk of disruption/ broken SLAs • Extended timeline for transformation closure • Delayed benefits

THE CASE FOR TELCO-SPECIFIC SOLUTIONS

Telecom infrastructure and operations are known for their exceptional complexity, which some argue is excessive. A typical commerce transaction must navigate through three distinct software layers, each governed by its own protocols and standards and managed by different teams within CSPs (figure 3). The process is further complicated by the need to seamlessly integrate, order, and fulfill external partner services.

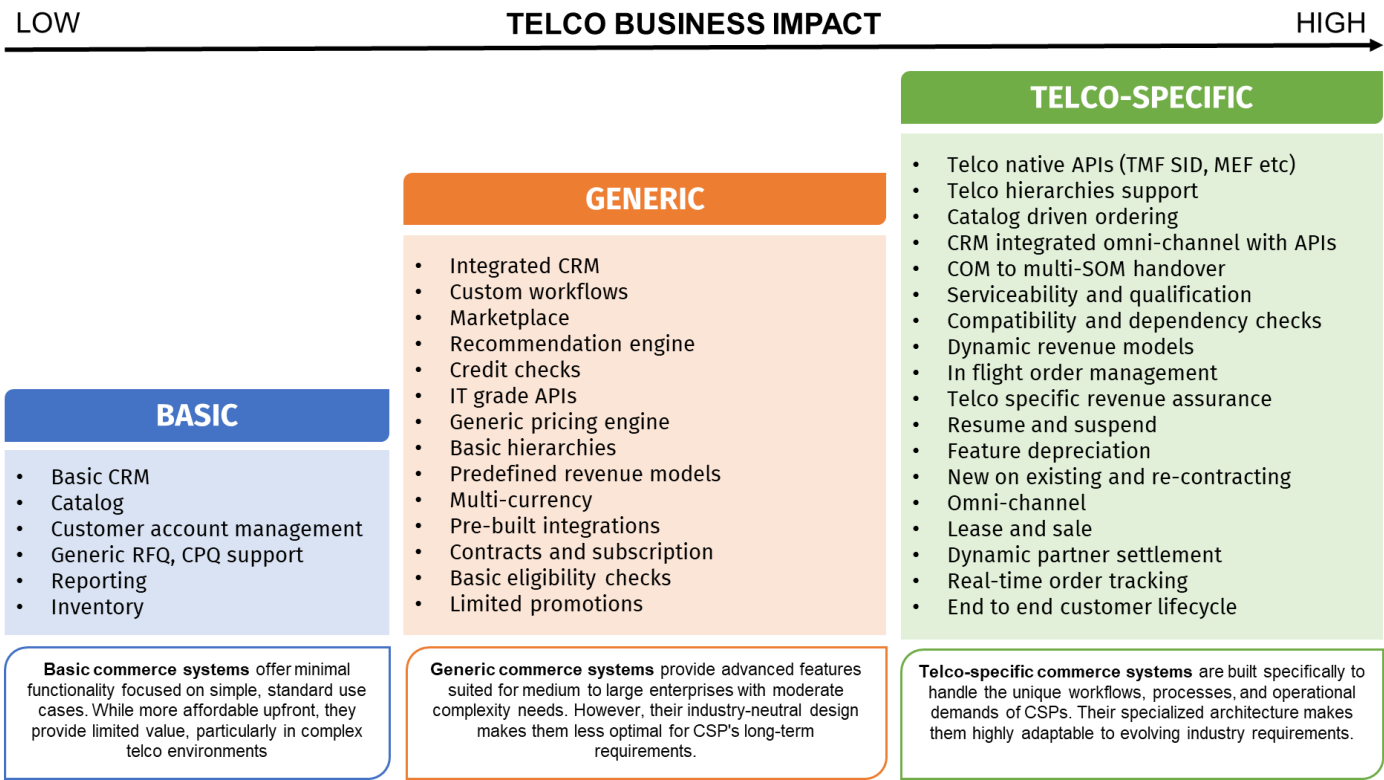
Figure 3: Overview of a typical telco B2B commerce process flow



Source: Appledore Research

This complexity creates two major challenges for CSPs: delivering a seamless B2B commerce experience to customers while efficiently managing internal processes and operations. Generic solutions from other industries inevitably fall short in this environment, as they weren't designed to handle the unique complexities of telecommunications systems. The telecommunications industry's unique requirements far exceed the capabilities of these general-purpose systems (figure 4).

Figure 4: Key differences in capability between common types of B2B commerce systems



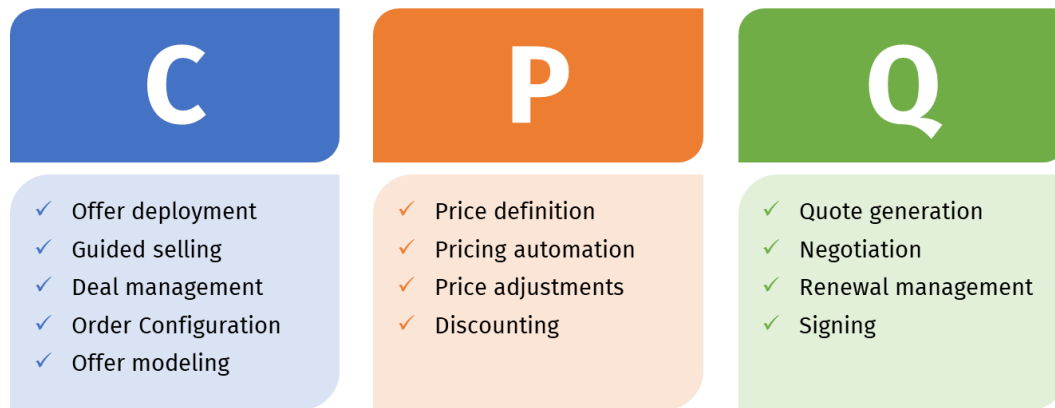
Source: Appledore Research

The complexity of telco products and services, which often combine physical devices, virtual services, and multi-layered connectivity packages, requires a commerce platform that can handle intricate product configurations and dependencies.

THE VITAL ROLE OF CPQ IN B2B COMMERCE

CPQ (Configure, Price, Quote) systems (figure 4) are essential tools that enable telecom sales teams to verify service availability, calculate accurate pricing, and create customer quotes in real-time. CPQ systems were developed to streamline the sales process, from initial proposal request through to quote generation. Prior to CPQ, sales agents faced significant inefficiencies, having to consult multiple systems and tools: a time-consuming process prone to errors that often delayed sales completion.

Figure 5: Overview of core functions of CPQ solutions



Source: Appledore Research

In the mid-2010s, telcos tried adopting universal CPQ solutions that worked across different industries. While these generic systems effectively bridged front-end and back-end operations for many sectors, they proved inadequate for telecom's unique challenges. Telecom CPQ systems must operate within a complex ecosystem of multiple operational layers, each defined by distinct technical architectures, business processes, specialized support teams, and industry-specific regulations.

To build a sustainable B2B commerce strategy, CSPs should invest in telecom-specific CPQ systems rather than generic alternatives. Though these specialized systems require larger upfront investments and more sophisticated integration work, they're ultimately worth the cost. Their ability to handle the telecommunications industry's unique complexities makes them a more valuable long-term solution than generic CPQ platforms.

KEY CONSIDERATIONS FOR ASSESSING VENDOR SOLUTIONS

Evaluating solutions for telecom commerce functions can be a challenging task that involves multiple factors especially given that telco are seeking to sell more than just comms (partner offerings, utilities, financial products, white-labelled goods etc.) to old and new customers. Key aspects to assess include scalability to handle high transaction volumes, ability to manage complex billing scenarios, robust CRM tools, integration capabilities with existing systems, support for diverse payment methods, and modern security features to protect sensitive customer data.

Appledore Research considers the following three criteria to be non-negotiable in order ensure a long-term viable telco commerce platform:

1. **Telco-specificity** – This refers to the degree to which the solution has been designed specifically for telecom application, versus a generic solution that has been finetuned to meet telco requirements. The ability to speak the language of the telco is one of the biggest factors that impacts how future-proof the commerce function is. Generic, cross-industry solutions have been found to be wanting over a period of time, often requiring expensive

customizations to meet new requirements. No other industry vertical comes close to telco complexities in terms of supporting multiple network topologies, legacy multi-vendor environments, restrictive policies based on physical assets deployed, multiple industry specifications, distinct regulatory compliance policies etc.

2. **Pre-integrated full stack** – This refers to the choice available to the CSP to expand the scope of the solution in the future. Most telco transformations are phased to mitigate risk and also to stretch investment cycles. CSPs seldom have clarity on how the solution deployment and usage will evolve, which makes it essential that they have choices available in the future to change the direction of the deployment with ancillary systems.
3. **Cloud and AI framework** – This refers to the ability of the solution to be future-proof in terms of support for cloud architecture frameworks and telco-specific Gen-AI evolutions. The future of telco cloud systems are in the cloud; however many CSPs are unable to embrace a fully cloud approach in the near term due to the state of their incumbent systems and progress of wider transformation initiatives. Vendor solutions should exhibit architectural agility to flexibly support hybrid or full-cloud deployment models. Gen-AI is also a crucial factor, and solutions that are better positioned to understand telco context and address telco process frameworks should be prioritized.

A sample list of checks for each of these factors is listed in the table below:

Assessment criteria	Indicators	Description
Telco specificity	Catalog driven architecture	Catalog-driven architecture forms the foundation of modern telecom commerce systems by centralizing product, pricing, and configuration rules in a single source of truth. Assessment criteria can include time to launch new offerings, ability to manage complex product bundles etc.
	Telco-native APIs	Assessment criteria can include alignment with industry standard APIs (such as TMF, Camara, MEF etc.), support for telco domain functions, implementation maturity etc.
	Legacy integrations	Assessment of proven integration patterns with common legacy systems, solution's track record of successful implementations with similar legacy environments, along with its ability to handle data transformation between modern and legacy formats.
Pre-integrated full stack	COM to SOM orchestration	Ability to orchestrate seamless transitions from COM to SOM through standardized decomposition rules and configurable orchestration workflows. Capabilities could include handling complex order decomposition patterns, managing technical feasibility checks etc.
	Partner Mgmnt	Ability to support diverse partner business models including revenue sharing, wholesale relationships etc. through standardized integration frameworks. Other criteria could include the solution's capability to manage partner catalogs, handle complex commission structures, automate settlement processes etc.
	Billing	A full-fledged billing system should be able to support multiple business and revenue models and handle complex billing scenarios

Assessment criteria	Indicators	Description
		like usage-based pricing, recurring charges, and multi-level hierarchical billing structures through pre-built connectors and standardized APIs.
Cloud and AI	Architecture	Assessment criteria could include the solution's cloud-native compliance, decoupling of commercial and technical layers, ability to handle high transaction volumes etc.
	Telco-aware data model	Understanding of telco context is foundational for telco AI practice. Assessment criteria can include measuring understanding of telco domain definitions, out-of-the box support for telco systems, roles and relationships models etc.
	Gen-AI	Assessment criteria could include solution's ability to leverage generative AI for dynamic bundle creation, automated configuration validation, predictive pricing optimization etc. while maintaining compliance on regulatory and telecom-specific requirements.

CONCLUSION

The telecommunications B2B commerce segment stands at a pivotal moment of growth. After years of underinvestment, CSPs are now prioritizing enterprise business as a strategic imperative. Their timing is strategic - communication services already form the backbone of mid-sized and large enterprises, and CSPs possess growing capabilities through their advanced network infrastructure and expanding ecosystem of partners. CSPs are now looking to capitalize on this foundation by moving up the value chain and entrenching itself into new business models beyond basic connectivity services.

However, telcos aren't yet equipped to meet these demands. Most CSPs' enterprise-focused systems are either missing or fall short of the experience of digital-first competitors also targeting business customers. CSPs must act quickly to modernize their B2B commerce platforms. To ensure long-term viability, they should invest in industry-specific solutions from vendors with a track record of successful legacy system integration. Additionally, they should select platforms with a clear roadmap to incorporate generative AI capabilities.

Investing in a modern B2B commerce platform will enable CSPs to quickly capitalize on new market opportunities while competing more effectively against digital-native rivals. Solutions incorporating generative AI will multiply these advantages, allowing CSPs to rapidly adapt their offerings to meet changing customer needs.

ABOUT THE AUTHOR



With over 16 years' experience in the telecom industry, John leads Appledore's **Digital Enablement & Monetization** program. Previously he was at Analysys Mason for 11 years where, as Principal Analyst, he led the Digital Experience research segment. He has experience working with a varied client base on topics ranging from digitization benchmarking and procurement for CSPs; strategy and go-to market for vendors and commercial and technical due diligence for financial institutions.

Earlier as a consultant at a BSS vendor, he led requirements gathering, solution definition and implementation at multiple tier-1 telcos in Asia and Europe. John holds a bachelor's degree in computer science from Anna University (India) and an MBA from Bradford University School of Management (UK).

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