Whitepaper

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The CXO guide to telco B2C Commerce

Carrier-grade commerce systems for seamless customer experiences

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EXECUTIVE SUMMARY

The telecom commerce landscape has evolved beyond recognition over the past decade. The changes have been particularly significant in recent years as an explosion of new product and service offerings have exponentially expanded the scope of telecom commerce. CSPs today stand on the cusp of a once-in-a-generation opportunity to entrench themselves within a rapidly expanding multi-dimensional value-chain that promises significant upsides in revenue and recognition.

B2C commerce is fundamentally straightforward: it enables businesses to market and sell their own products and services, as well as those of their partners, to both current and prospective customers.

Yet the intricacies in enabling a seamless buying experience spanning all telco offerings and revenue models can be highly demanding and extraordinarily complex and very distinct compared to other verticals such as retail or entertainment requiring verticalized solutions.

To achieve excellence in B2C commerce, CSPs should prioritize rebuilding core systems rather than implementing cosmetic improvements. Given the rate of change, and the scale and nature of future requirements in this area, we further recommend the following actions for CSPs:

1. **accelerate plans to transform B2C commerce systems**. CSPs who delay transformation risk falling further behind while incurring increasing technical debt.
2. **prioritize built-for-telco commerce platforms over generic, industry agnostic ones.** While generic commerce platforms may work initially, purpose-built systems will always deliver stronger long-term results as these are better equipped to manage the highly intricate nature of telco operations frameworks.
3. **seek vendors who excel in both comprehensive, pre-integrated solutions and legacy system integration**. By choosing such vendors, CSPs can modernize at a pace that aligns with business strategy and market requirements, while maintaining critical legacy functions.

This paper reviews the key considerations for CSPs as they plan for reviving their B2C commerce initiatives.

THE EVOLUTION OF TELCO B2C COMMERCE SOLUTIONS

Over the past three decades, telco B2C commerce systems have undergone significant transformation, evolving from simple billing platforms into comprehensive digital ecosystems. The evolution of telco commerce mirrors the rapid advancement of technology especially in recent decades which represents a profound shift in how communication services are monetized and sold.

From its inception as a utility-like service with straightforward billing for voice calls, the telecom industry has transformed into a complex marketplace of diverse products, services, and revenue models.

Figure 1: Summary of evolution of telco commerce and impact on key functions

EVOLUTION OF TELCO COMMERCE	1990s Single Service	2000s Limited Bundles	2010s Partnerships	2020s Ecosystems
DISCOVERY & BUYING	Direct channel, fully assisted, single offering	Direct multi-channels, fully assisted, selected bundles	Multi-channels, direct and some unassisted, pre-defined bundles	Omni-channel & catalog driven, stand-alone self service
DELIVERY	Manual interventions in all processes, token system, no ETA or tracking	Manual order decomp, provisioning & activation	Manual activations, telco hierarchies, non-unified flows, manual handovers	Automated decomp and SOM handovers, real-time tracking even for partners
PARTNERS	n/a	10s of partners, mostly sell-through, not integrated	100s of partner, integration with large companies, rev share models	10,000s partners, multi-dimensional multi-step value chains
PAYMENTS	Once per bill cycle	Separate bills, non real-time, not pro-rated, no support for family and friends	Digital stapling of separate bills, limited payment streams	Configurable biz models, dynamic settlements, multi-stream payments

Source: Appledore Research

This evolution has made traditional telecom commerce systems obsolete, requiring CSPs to implement solutions that combine telco-grade capabilities with modern digital commerce features.

The table below captures the essentials of what CSPs need for accelerating growth in their B2C commerce.

Table 1: What CSPs need to grow their B2C Commerce

Need	Reason	Benefits
Coherence in assisted and unassisted channels	If customer service and sales channels operate independently of each other it can lead to inconsistent customer experiences.	Predictable customer experience Improved conversion rates
Simplified architecture framework that allows for free flow of information between systems	For many CSPs, incumbent systems exist as disparate silos often in multi-vendor environments interconnected via proprietary interfaces.	Improved customer engagement through better understanding of context personalization and sales conversion rate Lowered costs due to reduced need for 'data repetition'
Clearly defined roles and responsibilities in line with modern commerce frameworks	Disparate silos and legacy frameworks have led to overlapping roles and responsibilities and high reliance on IT that limits business led innovation and delays in roll-out of new offerings.	Can boost rate of innovation due to fewer barriers to decision making and improve quality and accountability of strategic initiatives.
Ability to support telco specific team structure, process flows, technology frameworks and standardization techniques	Industry agnostic solutions, which are not 'telco-specific;' can become a handicap when it comes to providing timely support for CSPs core businesses.	Faster turnarounds, lower TCO, reduced compliance risks, better prepared to plug revenue leakages etc.
Support for advanced financial capabilities	Incumbent systems and processes lack the sophisticated financial tools and features necessary to optimise costs and support complex business operations and revenue models.	Granular cost attribution for services, customers or partners, tools for complex bundling and pricing scenarios, native support for telco risk management and financial compliance.
Self-sufficient and automated self-care process	Without automation and self-care CSPs will be unable to scale new launches as assisted channels may be unable to provide timely support. This is also key for digital onboarding.	Providing customers greater control over their interactions leads to improved satisfaction and reduced direct support costs. Robust self-care is also an important factor in improving brand image and loyalty.
Support for multi-vendor environments, common in most CSPs, can improve agility and accelerate turnaround times	Multi-vendor environments can be a significant bottleneck, as CSPs relay on proprietary interfaces to interoperate across different legacy solutions.	Reduced dependency on legacy frameworks, Faster deployments and time to revenue
Catalog driven ordering	Limitations in the catalog which can hinder CSPs ability to efficiently create, manage, and sell products and services.	Improved agility in responding to market demands in a time and cost-efficient manner. Also helps improve personalization across various segments.

Need	Reason	Benefits
Support for phased legacy transition	CSPs face considerable challenges when trying to move from older, established systems and technologies to newer, more advanced ones. Complexities in legacy transition are among the leading reasons for failed or delayed transformations.	Timely shift to modern system and process frameworks, which accelerates time to market and time to revenue
Seamless partner integration	Due to the high costs and complexity of partner onboarding, many CSPs limit their partnerships to a select few companies. CSPs must adopt an inclusive approach to partnerships rather than being selective, as they need to collaborate with all potential partners to remain competitive.	Partner-enabled services will drive new revenue streams and enhance customer engagement.
Hyper-personalised experiences	Generative AI-powered personalization will transform how businesses engage with customers and deliver experiences, particularly in the realm of commerce.	Highly personalized experiences will strengthen customer loyalty and increase conversion rates, ultimately driving revenue growth.

RETHINKING B2C COMMERCE

A primary reason why CSPs deliver subpar customer experiences in their B2C commerce is because they design their processes around their outdated, existing systems rather than customer needs (Table 2). Instead of asking 'What do our customers want?', they ask 'What can our current systems do?' This system-first approach inevitably leads to clunky, disjointed experiences that fall short of the seamless interactions offered by digital-native companies.

Table 2: Key distinctions between system-first and customer-first approaches as it impacts CX

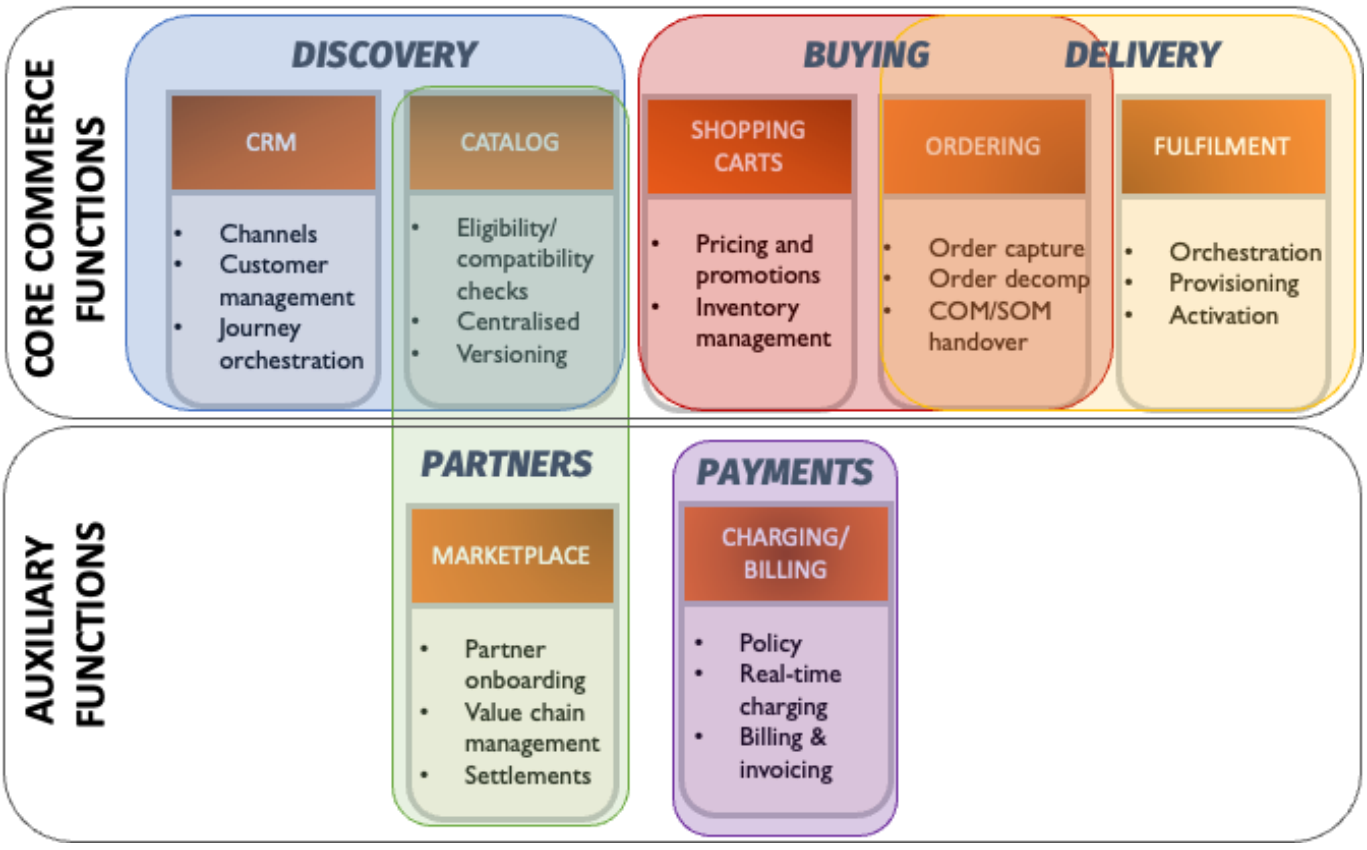
CX parameter	System-first approach	Customer-first approach
Channel support	Multi-channel without context carryover	End-to-end omnichannel
Personalisation	Multi-variable segment of 1000s	Hyper-personalized segment of 1
Automation	Some automation present, still requires numerous human interventions	End-to-end automation with zero-touch and self-learning that require minimal interventions
Lead/response times	Near real-time, measured in hours or days	Real-time, measured in seconds or minutes
Self-service	Coverage of selected functions, limited to few process flows	Comprehensive self-sufficient self-service
Customer understanding	Limited to pre-determined variables and selected context	Comprehensive 360º view of customer

CX parameter	System-first approach	Customer-first approach
Usability	Moderate usability, marked by multiple friction points	Intuitive design, friction free experiences

To compete effectively and offer an experience comparable with digital-natives, CSPs must invert their perspective. They should start by understanding customer preferences and expectations, then build or adapt their systems to deliver those experiences. This approach ensures that innovation is driven by genuine customer value and experience rather incumbent technical capabilities.

To achieve excellence in B2C commerce, CSPs should prioritize rebuilding core systems rather than implementing cosmetic improvements. To that extent, a particular challenge for CSPs is the highly intricate nature of their portfolio which necessitates the creation of hundreds if not thousands of SKUs. Also, CSPs have to rely on an array of disparate legacy systems that are incapable of supporting progressive business models. Figure 2 shows the seven key systems that telco B2C Commerce functions need to engage with in order to provide a seamless end to end experience, which falls into give functional categories.

Figure 2: Overview of the key systems essential to telco B2C commerce



Source: Appledore Research

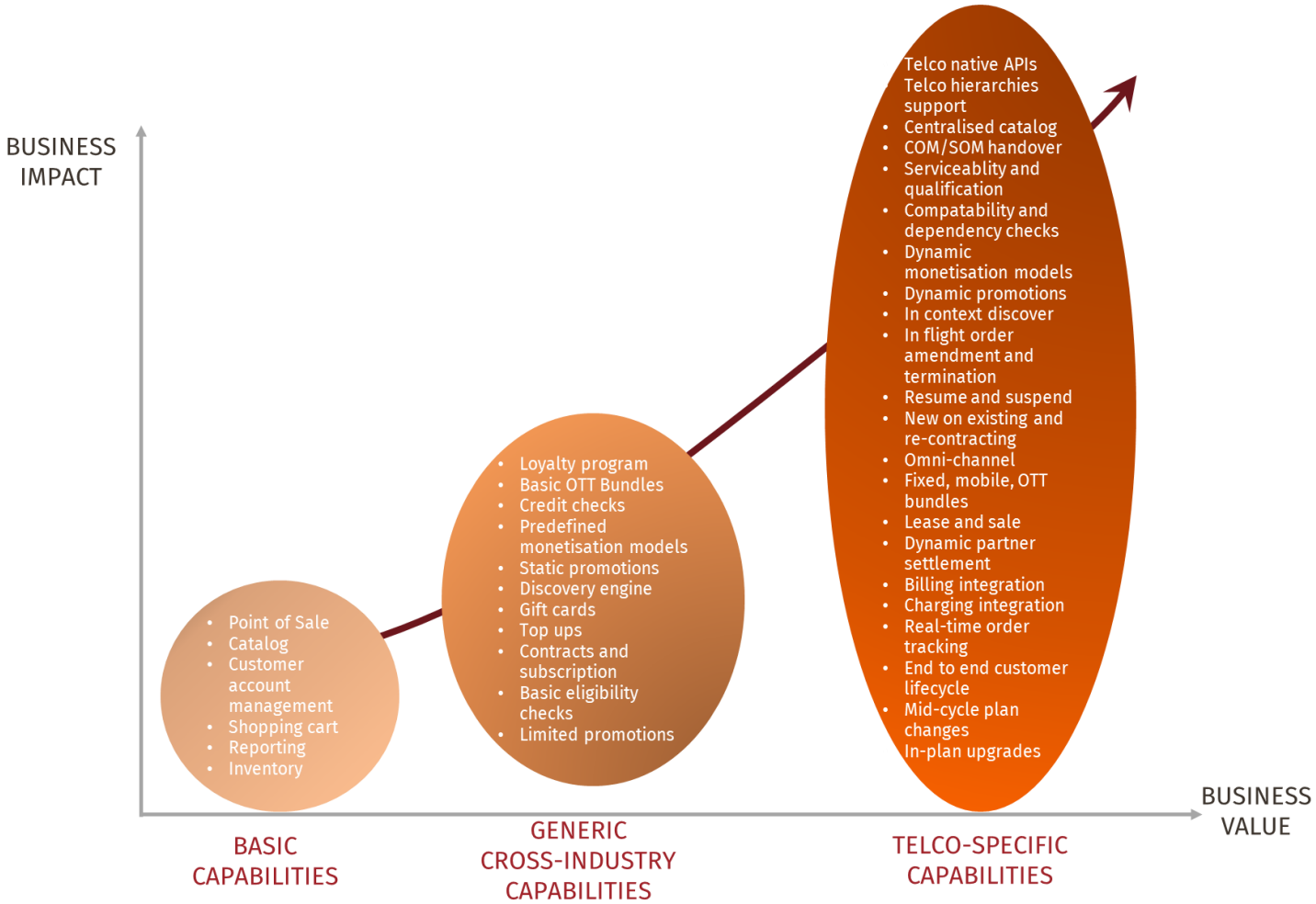
Most CSPs have multiple versions of these systems from multiple vendors in use at the same time. Moreover, many of these systems rely on proprietary and customized interfaces which make it even more challenging to extend their capabilities, to the degree where many CSPs shy away from expanding their scope of commerce offerings.

CSPs have attempted to navigate the evolving landscape of telecommunications commerce through one of two common strategies:

1. expanding their existing legacy systems, or:
2. investing in generic, industry-agnostic commerce platforms.

While these approaches may yield benefits in the short-term, they are likely to prove inadequate in the medium term. The limitation lies in the fact that neither legacy systems nor generic commerce solutions can effectively address the intricate demands of telco-grade commerce in this digital era without extensive, costly, and time-consuming customizations. The telecom industry's unique requirements far exceed the capabilities of these general-purpose systems (Figure 3).

Figure 3: Selected differences between capabilities of B2C commerce systems



Source: Appledore Research

To rapidly scale B2C commerce revenues across both current and future product and service offerings, CSPs will need to adopt purpose-built, telco-grade commerce systems. These specialized platforms will be crucial for providers aiming to stay competitive and capitalize on emerging opportunities in the telecommunications market.

The breadth and scope of the capabilities required to enable seamless end-to-end telco B2C commerce makes it an order of magnitude more complex than for other industry verticals. CSPs have a portfolio that is a complex mix of services delivered over mobile network, fixed lines, terrestrial networks in addition to content delivered as OTT and devices and accessories sold through retail channels. Technology, content and infrastructure partners may also be involved in the delivery of these services depending on the type of offering. It is becoming more common for CSPs to expand beyond their traditional services to offering an array of new products that fit different segments such as home security systems, business network solutions, insurance packages, device leasing options, and software subscriptions.

As CSPs continue to explore and engage with new revenue streams, it is imperative that they have in place a framework that will enable a positive ROI, which for many CSPs is beyond reach at present due to inherent gaps in their systems capabilities. However, predicting which of these services will become the next breakout offering is challenging, which means CSPs must be prepared to support all of them.

Appledore Research's key recommendations for CSPs are summarized below.

1. **CSPs should accelerate their plans to transform B2C commerce systems.** The imperative for transformation is driven by several critical factors such as declining margin in core services, competition from digital natives, and opportunity in partner ecosystems. At the same time there are significant customer experience gaps such as complex and fragmented buying journeys and operational inefficiencies through high costs and limited scalability. CSPs who delay transformation risk falling further behind while incurring increasing technical debt.
2. **CSPs should prioritize built-for-telco commerce platforms over generic, industry agnostic ones.** These solutions better handle both current operations and future growth, offering capabilities uniquely suited to telecom services. Apart from being more telco-aware and purpose-built for telco offerings, they are also far better suited for telco business workflows and telco-specific regulatory requirements. These systems also offer out-of-the-box support for telco-specific pricing models and catalog driven ordering. While generic commerce platforms may work initially, purpose-built telecom systems will always deliver stronger long-term results.
3. **CSPs should seek vendors who excel in both comprehensive, pre-integrated solutions and legacy system integration**. This approach delivers three essential benefits: flexibility in choosing where to begin modernization efforts, a cohesive architectural framework, and seamless integration with existing systems to create streamlined customer journeys. By choosing such vendors, CSPs can modernize their infrastructure at a pace that aligns with their business strategy and market requirements, while maintaining critical legacy functions.

KEY CONSIDERATIONS FOR ASSESSING VENDOR SOLUTIONS

Evaluating commerce solutions for modern CSPs requires a sophisticated assessment framework that goes beyond traditional telco capabilities. Today's CSPs are evolving into digital marketplaces, offering everything from core connectivity and devices to partner products, financial services, utilities, and digital lifestyle solutions. This expansion demands commerce platforms that can support diverse business models while maintaining telco-grade performance.

Appledore Research considers the following three criteria to be foundational to ensure a long-term viable B2C telco commerce platform:

1. **Telco-specificity** – The degree to which the solution has been designed specifically for telecom applications, versus a generic, industry agnostic solution which needs to be recoded and customized 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 proven to be insufficient to support telco business processes and revenue models in the medium term, often requiring expensive and time-consuming customizations to meet telco-specific commerce demands. 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, multiple industry specifications, distinct regulatory compliance policies etc.
2. **Pre-integrated full stack** – Full-stack, pre-integrated telecom commerce solutions provide significant operational and competitive advantages by seamlessly combining channels, catalog, customer management, billing, and order fulfillment into a unified platform. Rather than piecing together disparate systems, these end-to-end solutions reduce integration complexity, accelerate time-to-market for new services, and minimize the risk of compatibility issues between components. This will help accelerate the end-to-end process from ideation of new offerings to designing the discovery and shopping experience through to readying billing and fulfilment. A consolidated data model and workflow automation improves visibility of customer lifecycle and reduce manual interventions and TCO. Most importantly, it also provides CSPs the ability to determine their own starting points and transformation paths without being constrained by complex integrations or data model compatibility requirements.
3. **AI and scaling** – Future-proof solutions are inherently AI-native, leveraging generative artificial intelligence to dynamically recommend service bundles, anticipate customer requirements, and create hyper-personalized marketing content to specific segments. GenAI capabilities will extend beyond customer engagement to enable real-time pricing optimization, automated contract management, and zero-touch service provisioning. However, successful implementation demands a robust foundation built on telco-specific data models, taxonomies, and semantic frameworks that can accurately represent complex industry relationships and hierarchies. These solutions must also embrace composable architectures to support the vast array of telecom applications, underpinned by

sophisticated scaling frameworks that can dynamically adjust across multiple dimensions to meet the unique demands of telecom workloads.

An effective B2C commerce platform must seamlessly handle the entire lifecycle end-to-end, enabling CSPs to sell any product through any channel to all types of customers. Table 3 below provides a sample list of assessment criteria and indicators for evaluating B2C commerce solutions for CSPs.

Table 3: Selected key criteria for assessing telco commerce solutions

Assessment criteria	Indicators	Description
Telco specificity	Composability	Composable systems can combine different components to expand scope of the system. Composability can be evaluated by architecture assessment (microservices compliance, modularity etc.), integration capabilities (standards API compliance) etc.
	Configurability	Configurability denotes the degree to which system functioning and process flow can be modified without involving code change from the vendor. Assessment criteria can include low code/no code framework adaptability, workflow flexibility, access controls 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.
Pre-integrated full stack	Catalog	Key assessment criteria can include centralized and unified catalog with support for consolidating multiple catalogs in real-time, Catalog driven ordering etc.
	Ordering	Key assessment criteria can include order capture integrity, order decomp completeness, support for COM to multi-SOM handovers etc.
	Monetisation	Key assessment criteria can include support for flexible revenue models, real-time charging, dynamic settlements, real-time bill itemization, support for flexible promotions and bundles etc.
AI and scaling	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.
	Multi-dimensional scaling matrix	Scalability refers to not just compute and storage, but also support for dynamic revenue models, applications, parameter-based extensions etc. Key assessment criteria can include support for parametrized scaling, seamless traffic scaling, support for legacy traffic surges etc.

CONCLUSION

CSPs have made significant investments into network transformation and customer experience initiatives, yet telecom commerce has mostly been addressed through tactical solutions, creating a patchwork of systems that lack the agility required for modern digital commerce. To build successful digital commerce platforms, communications service providers need specialized telecom solutions that include industry-specific data models, and scalable architectures designed for future growth.

CSPs who prioritize B2C commerce transformation initiatives stand to gain significant competitive advantages through improved customer experience, operational efficiency, and revenue growth. The opportunity cost of inaction is substantial – CSPs who delay their commerce transformation risk falling behind more agile competitors and losing market share to digital-native providers. Success will depend on selecting the right partners who combine deep telecom domain expertise with modern commerce capabilities, and who understand the complexities of navigating legacy environments while building for the future.

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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