



Perspective

Next-generation telecoms CPQ is needed to unlock new revenue growth for CSPs in enterprise services

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1. Executive summary

Communications service providers (CSP) are currently facing a variety of challenges simultaneously. To address their overall stagnant revenue growth, CSPs are looking for new ways to monetise their investments in 5G. Meanwhile, as CSPs consider entering the B2B services market for new revenue streams, they face competition with non-telecoms entities. CSPs are also wanting to upgrade their operational systems and processes to support new services with reduced operational cost.

The configure, price, quote (CPQ) systems, which are a critical component of supporting business services for CSPs, require upgrading to address CSPs' challenges effectively. Many CPQ systems are not able to handle complex services and do not have the levels of automation required to handle high-volume, low-margin IoT services. Next-generation CPQ systems are key in enabling CSPs to offer complex services at scale. These systems also improve the sales experience for customers, responding to changing expectations set by non-telecoms competitors, many of which are more agile and automated than incumbent CSPs.

Next-generation CPQ systems are telecoms-focused and are enhanced through becoming AI-native, capitalising on the latest generative AI (GenAI) capabilities which are enabling hyper automation across the CPQ process. This is critical in reducing the mean time-to-quote and lowering the risk of errors created by manual processes. Next-generation CPQ systems offer the following benefits to CSPs.

- A simpler offering of a wider range of services by using their solution partner ecosystems alongside their own.
- Faster time-to-quote through GenAI-enhanced automations.
- An improved customer experience through faster implementations and consistent sales engagements.
- The expansion of their revenue through better support for reseller partners.

Telecoms-specific next-generation CPQ systems enable CSPs to rationalise and consolidate their internal processes by streamlining previously labour-intensive steps and by instigating standardisation through an abstraction layer to support the complexity of many sales processes.

This perspective examines challenges in the CSP market and highlights how upgrading to next-generation telecoms-specific CPQ systems can enable CSPs to address these challenges and meet their growth aspirations.

2. Changes affecting the CPQ process

In recent years, telecoms revenue has been flatlining while, at the same time, advanced CSPs have been undergoing costly 5G and fibre roll-outs. Due to this, CSPs have been focused on expanding their B2B services to help generate new service revenue to reignite business growth. Going beyond core connectivity services into more general IT and other value-added services has resulted in CSPs competing with traditionally non-telecoms entities. These non-telecoms competitors may offer better customer service and might be more agile while also offering lower prices due to greater levels of automation. Many CSPs have begun to update their BSS, and in particular, their CPQ systems, to address the following challenges.

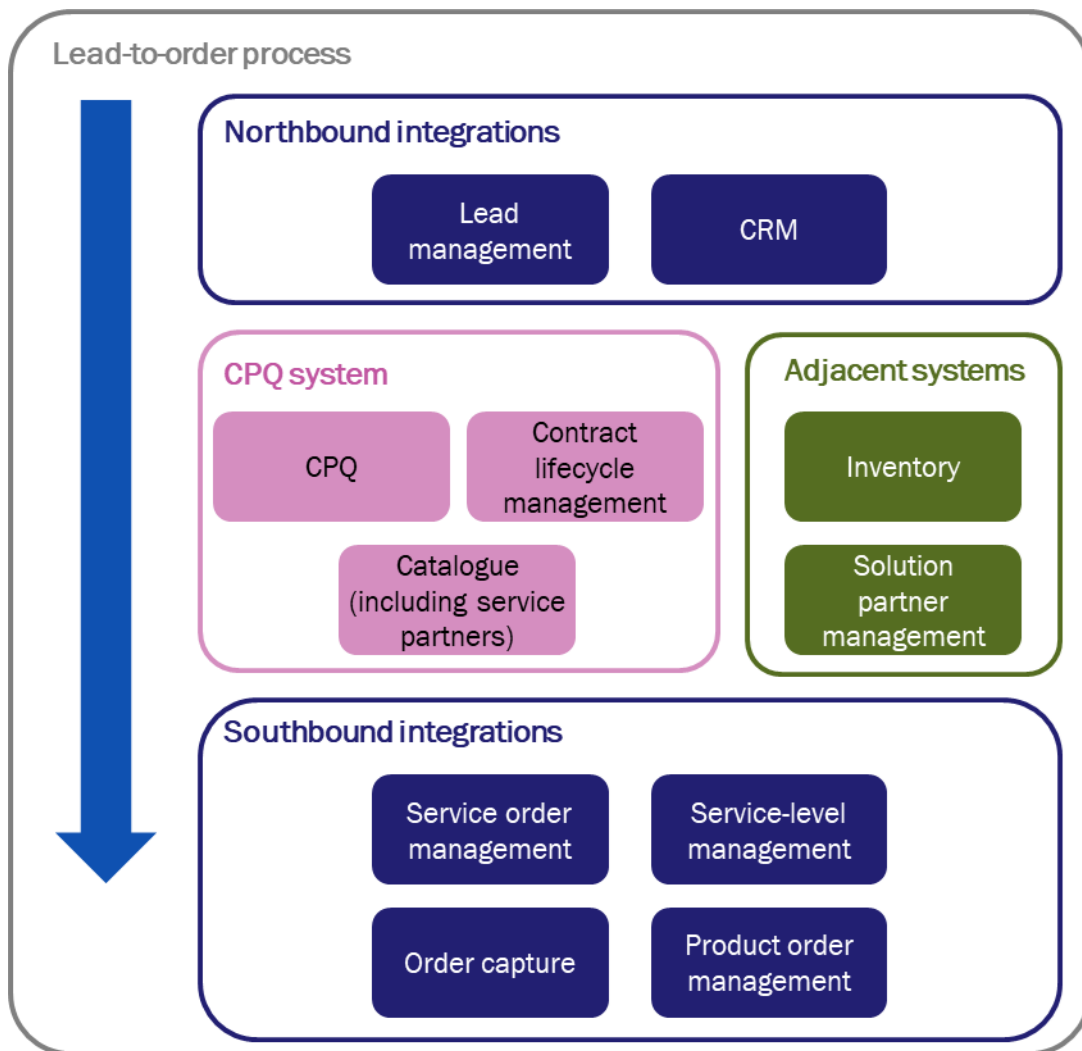
- Providing a better customer experience.
- Addressing the complexity of B2B, advanced 5G, high-volume wholesale and IoT services.
- Providing automations within the CPQ process to reduce costs associated with the pricing and the delivery of B2B services.

3. Currently-installed CPQ systems are unable to handle the complexities of new services

3.1 Definition of CPQ

CPQ solutions are solutions covering the configure, price and quote phases of the sales cycle. Traditionally, CPQ solutions have been deployed using customised workflows adapted from generic tools. These workflows involve multiple catalogues, inventories and connections to customer relationship management (CRM) systems and order orchestration systems, which complete the lead-to-order processes cycles. Previous iterations of CPQ systems have typically involved manual steps with a slow time-to-quote. Traditionally, CPQ systems have not been designed specifically for telecoms services and require extensive configuration to support quoting complex service types beyond basic connectivity.

Figure 3.1: Where the CPQ system sits within the lead-to-order process



Source: Analysys Mason

3.2 CPQ solutions are becoming increasingly integrated

CSPs are starting to deploy all-in-one, single-vendor stacks for BSS for domains in their service offerings. These include business, wholesale and IoT services. This provides a range of benefits for CSPs as they have simpler integrations. The predictable nature of the platform environment means a wider range of processes can be automated by enhancing the ease of data sharing across different operational functions and channels. This has led to software vendors increasingly offering their CPQ solutions as part of a tightly integrated lead-to-care solution but also as a modular solution that can connect to existing BSS through APIs. CPQ solutions are expanding their functionality to cover a wider range of processes rather than just configuration, pricing and quoting. For example, many CPQ solutions now include a catalogue, which acts as a single source of truth for both CSP and partner solutions, indicated in Figure 3.1 as part of the CPQ system. Contract orchestration and partner management are also often included with CPQ solutions.

3.3 Next-generation CPQ solutions are needed

Currently-installed CPQ systems are unable to cope with the outlined market challenges and will place CSPs at a significant disadvantage to their telecoms and non-telecoms competitors. A new generation of CPQ systems that are designed specifically for telecoms is needed, that can handle the complexities of advanced 5G services, as well as partner-based services and wholesale services.

Customer experience

Previous generation CPQ solutions involve too many manual processes, resulting in a slow time-to-quote. This increases the number of order fallouts and results in low deal-closure rates. In addition, engagements between CSPs and their reseller partners need to be addressed to provide consistent and timely quotes with supporting service-level agreements (SLA). Simple B2B services may have been inefficiently catered to by B2C stacks with rigid workflows not allowing for the customisation of services. A new generation of CPQ is needed to aid CSPs in improving their customer experience in the B2B sales process. This will enable them to address increasing customer expectations around deployment time and the simplification of the order processes that have been created by non-telecoms competitors.

Complexity of new value chains

A new generation of CPQ is required to tackle the increasing complexity created by the new services being offered. The driving forces behind complex services include 5G intent-based services, support for reseller partner processes and the ecosystem solution partner offerings. These requirements will need higher levels of automation than previous approaches. CPQ will also need to handle the timely onboarding of reseller and solution partners.

Previous iterations of CPQ will struggle to handle high-volume services with low margins, such as IoT. High degrees of automation are needed to support these services to protect the low margins associated with them. Some complex services offered by CSPs which do not have a CPQ in place and are backed by entirely manual processes. This may result in them relying on spreadsheets, email trails or other manual forms of tracking.

4. What a new generation of CPQ can offer

4.1 AI and GenAI for creating hyper-automations

AI and GenAI facilitate the automation of dynamic and complex processes, which were once only possible with manual intervention as the coding and rules were too complex to programme. Having a CPQ system that is AI-native enables automations and logic to be applied more readily using AI technology. This can be applied either through the CPQ vendor generated algorithms and/or by AI tools integrated to the CPQ systems. The enhanced CPQ process will result in improved customer experience, cost reduction and profit optimisation.

By integrating next-generation CPQ with billing and CRM, AI can draw insights on customer behaviour based on their purchasing history and previous interactions. These insights can then be exposed to the sales agent to aid in pricing and product configurations to make proposals and offerings that are specific to each customer. AI-native CPQ solutions can also learn from previous customer interactions to suggest the most strategic actions for sales and negotiations resulting in profit optimisation, an increase in the deal closure ratio and improved customer experience through the personalisation of the sales process.

AI-native CPQ systems will reduce manual tasks required through the automation of labour-intensive tasks such as order validation or contract generation as well as the mass customisation of services. In addition, sales productivity will be increased by the automated configuration of services based on similar previous requests. A reduction in labour-intensive processes through an increase in automation will result in reduced cost for CSPs.

CSPs will be able to improve the profitability of their services through the deployment of next-generation CPQ that is GenAI-enhanced. By improving sales agent performance and productivity, as well as performing price optimisation, CSPs will be able to improve their deal closure rates and the profitability of each sale.

4.2 Telecoms-focused solutions reduce deployment risks and costs

CSPs require a next-generation of CPQ systems that have been developed specifically for telecoms. This is essential for the CPQ to be able to handle the complexity of advanced 5G value chains to be able to offer services beyond simple connectivity-based products. A next-generation telecoms-specific CPQ will be able to abstract the complexities associated with these services to provide reliable configuration of 5G services at scale as well as support for future 5G services such as edge and slicing.

Telecoms-focused CPQs will enable simple integration into key BSS/OSS systems such as network inventory, billing and CRM, through standardised APIs. The use of a platform that is able to hand off complex B2B orders to the relevant order fulfilment and orchestration systems will be vital for CSPs. Pre-built automations will also provide a benefit for CSPs, covering typical telecoms workflows across both modular and single platform deployments.

4.3 Partner management/ecosystem

Next-generation CPQ systems include integrated partner management. Solution partner management may still happen outside of the CPQ, but close integration will create a wide range of benefits for CSPs. Integration is critical in creating targeted service offerings as the integration of management into the CPQ process enables simpler selling of combined CSP and solution partner offerings. Frictionless onboarding and management are important in recruiting both solution and reseller partners. This will become increasingly automated as configurations and validation of solution partner offerings alongside a CSP's offerings can be complex and includes processes such as compatibility, validation, availability and feasibility checks.

4.4 Platform for simplification

CSPs will benefit from advanced low-code capabilities to enable deeper configurations as well as improved management of their BSS following the deployment of next-generation CPQ. Compared to a multi-vendor solution, it is simpler to deploy automations across a platform. CSPs will also benefit from increased simplicity in the sharing of data across channels and systems to enable self-service and to deliver the benefits of automations using AI with data from a wider range of sources as described in Section 3.1. Integrations with relevant BSS and OSS systems are far easier to achieve through a platform approach and it is also simpler to introduce any changes into the user interface. When not deployed as a single platform, next-generation CPQ systems can benefit from far easier integration into relevant systems than previous iterations of CPQ through industry APIs, such as from the TM Forum. This enables far easier management of integrations and enables CSPs to continue to benefit from regular updates from the software vendor without the added complexity of proprietary integrations needing to be managed and updated.

4.5 Single comprehensive catalogue

Previous approaches to CPQ too often resulted in CSPs using multiple catalogues for their offerings as well as additional catalogues for solution partner offerings. Next-generation CPQ enables a wide range of benefits through the use of a central comprehensive catalogue as a single source of truth for all offerings, with close integration with the CPQ. This enables dynamic pricing and for the CPQ to dynamically ingest changes to components from both the CSP and partners.






B2B2X services are exposed in the catalogue, supporting reseller partners to offer services from the same catalogue. Reliability is improved as all quotes exposed across internal and partner reseller channels will be consistent. Internal processes improve using a single catalogue as part of the CPQ, where operational workflows and business rules can be standardised. In using more reusable components, reduced time-to-market is achieved, and maintenance is reduced through creating consistency across service offerings.

5. Summary of benefits

5.1 Summary

CSPs need to invest in next-generation CPQ systems to underpin their BSS to support their growth aspirations in the B2B market as well as to support new advanced 5G services and wholesale services. They will otherwise face a lack of agility when launching new services and struggle to provide a consistent customer experience at the level expected as well as successfully monetise new services. In addition to supporting new services, next-generation CPQ systems will be vital to unlock the value of B2B at scale while supporting CSPs' growth aspirations due to the increased volume and complexity of these services as well as address the challenges presented in Section 2.

Figure 5.1: Comparison of previous iterations of CPQ systems and next-generation CPQ systems

	Previous iterations	Next-generation
 <p>Automation</p>	Highly manual configuration and validation, prone to errors and slow time-to-quote.	AI to automate typical workflows as well as GenAI enhanced automation of many labour-intensive processes as well as automated configuration of bundles.
 <p>Telecoms-focused</p>	Non-telco-specific CPQ systems. Difficulties handling complex connectivity services.	Support for complex B2B2X services. Support for future services such as slicing and edge. OOTB support for telecoms offerings.
 <p>Partner management</p>	Separate onboarding of partner services as well partner management.	Integrated support for partner offerings and joint development to foster partnership ecosystem.
 <p>Platform</p>	CPQ integrated through proprietary integrations to surrounding systems.	Can be deployed as part of a single lead-to-care platform or pre-integrated through industry APIs to OSS/BSS for fast deployment.
 <p>Catalogue</p>	Multiple catalogues for different offerings. Poor integration with solution partner offerings.	Centralised catalogue working as a single source-of-truth for all offerings, including solution partners.

Improved customer experience

AI-native-CPQ systems enable CSPs to massively improve their engagement capabilities by using insights from billing and CRM to tailor sales engagements and personalise offerings to customers. By improving their automation, CSPs will reduce time-to-quote for their customers which can be a key pain point in the sales process and result in order dropout.

Offering an omnichannel sales experience improves the sales experience for customers. Next-generation CPQ enables CSPs to meet the expectations of customers set by non-telecoms competitors for self-service capabilities

and fast deployment. CSPs can provide consistent engagements for customers through using a single source of truth for service and product data.

Improved handling of complexity

Next-generation CPQ systems enable CSPs to handle the increased complexity introduced by higher service volumes, advanced new service types and offerings involving partners. By abstracting this complexity within the CPQ and further automating the configuration process of complex services, CSPs can focus on monetising their network and offering new services rather than focusing on sales processes that are associated with each.

Cost takeout

CSPs benefit from a cost takeout through the deployment of next-generation CPQ when compared to previous generations. Next-generation CPQ achieves high degrees of automation, especially when deployed as part of a single lead-to-care platform. Telecoms-specific CPQs will have simple integrations with relevant OSS and BSS systems, meaning data can be pulled in far easier, meaning telecoms-specific workflows and processes can be automated. GenAI-enhanced CPQs will be able to automate many manual processes, such as the generation of documents and order validation, resulting in faster time-to-quote and a cost takeout for the CSP. Overall, next-generation CPQ solutions will enable CSPs to sell complex services rapidly, profitably and reliably.

6. Appendix

Amdocs's CPQ Pro is a next-generation GenAI-enhanced CPQ solution. CPQ Pro can be deployed as a modular solution or also as part of a full lead-to-care solution, the Customer Engagement Platform. CPQ Pro sits within the joint Amdocs and Microsoft Customer Engagement Platform which is a cloud-native and open platform. The Customer Engagement Platform combines pre-integrated Dynamics CRM capabilities to provide the lead portion of the sales cycle with Amdocs's CPQ, order orchestration and post-purchase care. The platform enables CPQ Pro to benefit from customer insights derived from Dynamics CRM data and billing insights obtained from Amdocs's BSS and OSS data. This data is also used to provide context for the platform's GenAI capabilities.

CPQ Pro also uses amAIz, Amdocs' telecoms-grade GenAI platform. This enables GenAI-enhanced product configuration, enabling solutions to be created based on a customer's specific requirements. It also includes deal closure analysis and can suggest changes to proposals to improve their likelihood of closing. CPQ Pro also uses GenAI for product validation, ordering and fulfilment which reduces the number of manual processes and reduces time-to-quote. In addition, GenAI works as a copilot to improve sales agent productivity, using relevant BSS data to suggest next-best action.

CPQ Pro supports the creation of complex bundles using both CSP and partner offerings with compatibility checks. Pricing and discounting rules are consistently applied throughout the sales process. CPQ Pro enables CSPs to meet their customer's requirements for a wide range of B2B services, from simple to complex. Labour-intensive processes are reduced through a streamlining and automation of labour-intensive processes.

7. About the authors



Justin van der Lande (Research Director) Justin leads Analysys Mason’s *Applications* practice. He specialises in business intelligence and analytics tools, which are used in all telecoms business processes and systems. In addition, Justin provides technical expertise for Analysys Mason in consultancy and bespoke large-scale custom research projects. He has more than 20 years of experience in the communications industry in software development, marketing and research.



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