



Expert Insights

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# AI and automation pay big dividends for telecom

Cost savings could transform the industry by allowing new investment in customer-friendly technology

IBM Institute for  
Business Value



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Transform telecom processes, driving more predictable business outcomes, greater productivity improvements, faster order cycles, quicker speed to value and profound cost reduction.

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## Talking points

**We're at a key inflection point, moving from a world of processes run by humans supported by technology, to processes run by technology supported by humans.**

A customer centric, agile design married with an intelligent automation platform will transform telecom processes.

### **Replace tedious tasks**

Robotic and cognitive process automation used in combination can reduce excessive costs tied up in low value processing.

### **Deliver meaningful change in just months**

Business benefits are amplified beyond what is achievable by over extending a single technology.

## Radical change ahead

Today's telecom operators are squeezed to grow network capacity to meet amplified customer demands, yet pressed by shareholders reluctant to direct spend in areas other than the network. In a hugely competitive global industry, operators must balance ongoing customer satisfaction against reducing operating costs. Too often, subscale technology investments are made for meager benefits, and automation is bolted on cumbersome processes supported by decade-old systems. Worse still, automation is often implemented without revisiting the underlying customer experience or evaluating what artificial intelligence (AI) could do to improve productivity. We propose bringing together AI and robotic process automation (RPA) to create cost savings, increase output and deliver more value to telecoms.

## Reimagining the customer first

The traditional lead-to-cash process is a key enabler for telecom imperatives, including a positive customer experience at the point of sale, rapid response to change and reducing costs. It's often highly complex, internally focused and rigid. Closely coupled with multiple legacy systems, lack of transaction visibility and long cycle times, the traditional process often leads to poor service and customer dissatisfaction. Slowed by the process, customers are disincented to stay loyal, looking for a better offer elsewhere.

A customer-centric, agile design married with an intelligent automation platform can transform telecom processes, driving more predictable business outcomes, greater productivity improvements, faster order cycles, quicker speed to value and profound cost reduction.

The telecom industry runs rife with highly manual, voluminous, repetitive and complex rule-based transactions – things such as order validation, service fulfillment, service assurance, billing, revenue management and network management. Process automation can transform mundane but time-consuming and error-prone business tasks to automated ones and streamline for simplicity. We're at a key inflection point as

we move from a world of processes run by humans supported by technology, to processes run by technology supported by humans. Advancements in AI have created intelligent automation, changing the way enterprises operate by using machine learning to optimize processes and personalize the customer experience.

For telecoms laden with manual processes, moving beyond basic robotics to intelligent interactions, or RPA, can replace tedious tasks and deliver cost savings and greater workforce productivity by:

- Creating smart processes to automate back-end activities, such as data entry, validation, and reconciliation.
- Enabling customers to self-serve so that sellers can focus more time on complex orders.

- Cross-selling and up-selling through assisted sales and creating recommendations so that all sellers know what the best sellers do.

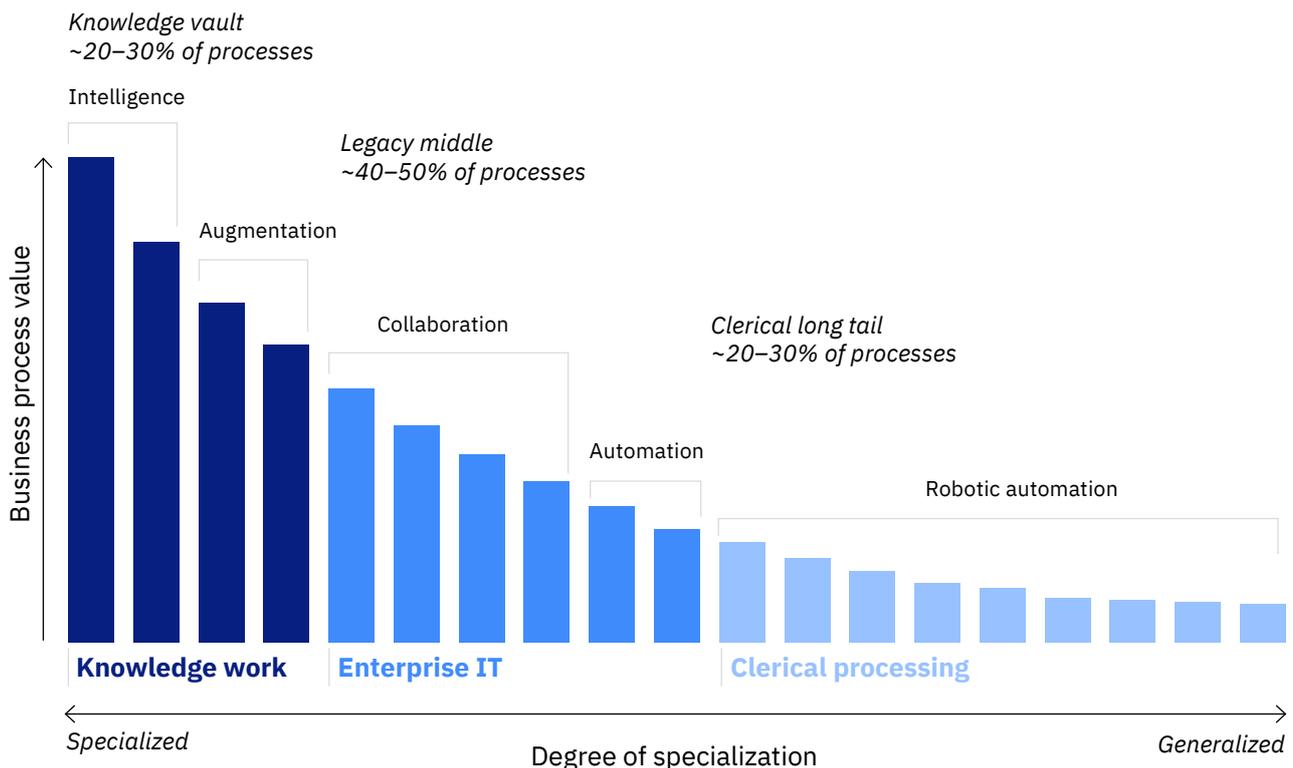
Robotic and cognitive process automation used in combination can reduce excessive costs tied up in low-value processing and drive greater value (see Figure 1). These automation and AI skills are best developed and delivered through a Center of Excellence, aligned with the company's Shared Service Organization.

## The right tools for the job

Entirely new user experiences can be achieved by taking an over-the-top (OTT) approach. The idea is to preserve the legacy system's (also known as systems of record) capabilities to be the custodians of the business transactions. By interfacing with the "systems of record" through existing APIs or microservices, one can redefine the user experience more freely and use a combination of capabilities ranging from business rules engine, business process and management (BPM), AI, RPA and blockchain.

**Figure 1**

Exact costs with intelligent back-office automation



Where two or more systems work together without being directly connected in an IT environment is a state of decoupling. This allows for the creation of modern digital experiences and justifies future investment in transformation.

Using these tools in conjunction, and playing to the strengths of each of them, business benefits are amplified beyond what is achievable by overextending a single technology. This enables transparent and flexible automation of the business process in response to business needs. Technologies embedded with RPA can provide autonomous decision making, enable reasoning and remembering, and provide new insights and data discovery. For example, using AI and RPA technologies as part of a sales order management process can guide the seller to improve data accuracy by making recommendations that improve over time (see Figure 2). A structured approach provides a cohesive process automation platform with documented components, methods, and tools in which to reengineer the experience and implement an automated lead-to-cash process. The cohesive process platform is loosely coupled to IT, interacting with existing IT without having to alter or reengineer it. The aim is to provide a uniform and enhanced experience to users and leveraging full potential of a proven portfolio of legacy capabilities.

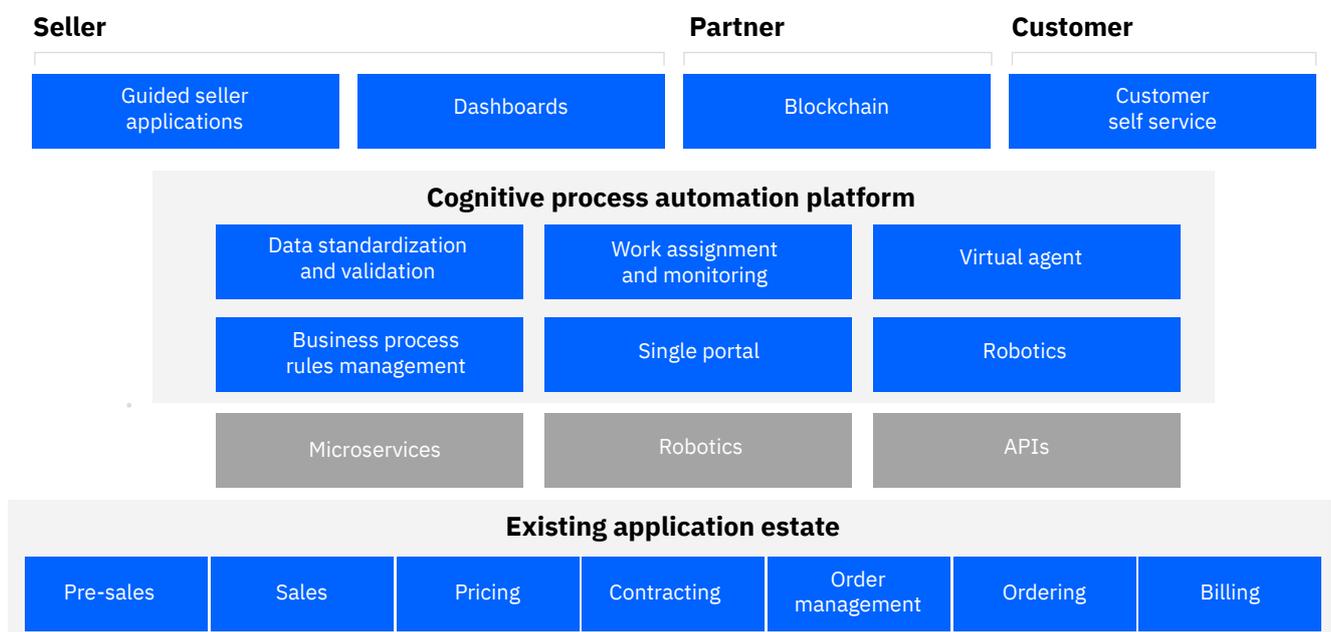
## The model for change

Large business support system (BSS) and operations support system (OSS) transformation programs have a poor track record in the telecom industry. BSS transformations can take years and cost millions; 68 percent of telecom operators are aware of large transformation failures, and 40 percent have seen projects fail at a cost over USD 20 million.<sup>1</sup> Operators have built up a complex landscape of legacy systems and processes that no longer serve the agile world and that are arduous to overhaul. Overruns and doubled budgets, program failures and elongated processes plague telecom change. More than half, 70 percent, of digital transformation projects are expected to fail.<sup>2</sup>

Our focus is on what works, and an alternative way to drive an optimized business process. Providing short-term, radical productivity gains is possible. It also creates the breathing space, defined by time, resources and budgets, IT organizations need to make fundamental technology investment decisions and execute their system transformation strategy.

**Figure 2**

Decouple existing applications from customer experiences



## Developing technical debt

In the rush to automate, the role of robotics is being overused and overextended to cover not only repetitive tasks, but the codification of business process and rules. This is especially true where RPA is coded up by users with little to no experience of business architecture and software engineering principles. Complex code-bases are being extended with RPA often done in haste. Future agility is being sacrificed to deliver short term efficiency.

## Thinking blockchain in telecom

Since many telecoms deal with billing and financial settlements globally, the ability of blockchain to handle complex transactions across multiple participants is a natural fit into an automated process platform. Blockchains can increase transaction speeds by reducing clearing and settlement time, and more than one-third of CSP executives say they are already considering or actively engaged with blockchains.<sup>3</sup> And 35 percent said blockchains will help them simplify and automate business processes, as a blockchain provides the opportunity to rationalize various aspects of their operations.<sup>4</sup>

Change doesn't have to happen in one fell swoop, but rather in incremental sprints. Shifting from traditional multi-year IT transformations to an agile delivery approach and Minimum Viable Products (MVPs), telecoms can power new experiences in small steps within a flexible and coordinated roadmap. Consequently, with technology increasingly becoming consumable "as a service," the costs to iterate ideas are coming down dramatically. Delivering meaningful change in just months is possible. There are many dimensions that form an MVP, including batching pain points, automation platform functionality, process steps, products and market segments. For example, an MVP might:

- Take order requests from various structured, semi and unstructured sources such as email text, tables, and electronic spreadsheets or PDF attachments to interpret contracts automatically.
- Read and understand inbound customer requests such as text, tables, and electronic forms, as well as email attachments about orders, disputes, complaints or service requests.
- Standardize, validate and enrich this input and perform a triage to help make sure that the most suitable back-office agent automatically processes the transaction.

A process automation platform that sits "over the top" of existing IT can achieve radical cost savings, faster order fulfillment, lower operations costs and vastly improved productivity. This platform interacts with IT but doesn't require significant change. It lets telecoms design the customer experience they want, then implement the transformed process to support that experience.

Since intensive manual intervention isn't required, the benefits of creating the process and experience supported by a process platform have positive impacts on productivity, cycle time, cost and customer satisfaction.

Transform processes beyond lead-to-cash and deliver bold and better business outcomes based on a customer-centric design.

## Potential to massively reduce operational expenditure

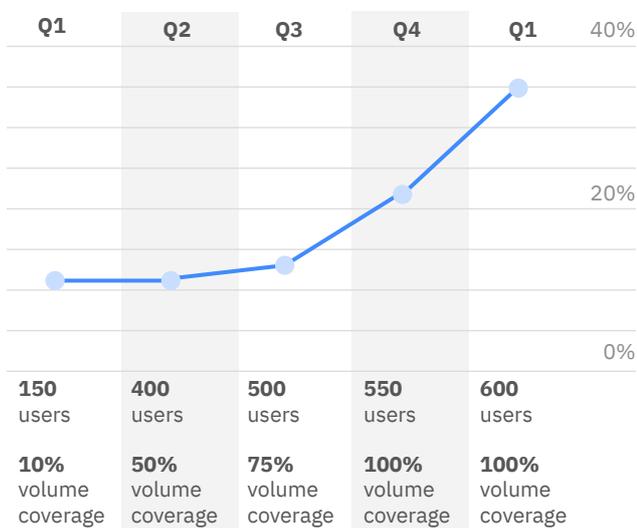
Faster order fulfilment at half the cost, more self-serve options so sellers can pay more attention to complex orders and intelligent lead-to-cash processes that steers the back-office towards more areas of value are key to change for telecom (see Figure 3).

How do you get there? We propose the following areas of focus:

1. Build a business case with the line of business or shared services that will see the greatest gains and align incentives to make collaboration happen. Start with relieving pain points and improving the user experience. And start early in the business process to optimize the benefits of data quality improvements downstream and reduce fallout.
2. Decouple legacy from a new user experience. Don't rebuild IT but breathe new life into interactions with older, legacy applications to provide much-needed budget relief.

**Figure 3**

Example of operator transformation business case



3. Create a center of competence that includes design thinking approaches and build AI and robotic content libraries and extensive industry-specific process flows and business rules. Consider AI process platforms to automate perceptual and judgment-based tasks through the integration of capabilities such as natural language processing, machine learning and speech recognition.

## Key questions to consider

- » Which areas do your customers need to address first? Cost reduction? Productivity improvements? Order fallout rate? Order cycle speed? Speed to value?
- » Where could you decouple existing applications from process management to create completely new user experiences?
- » Do you understand the need for a structured approach, and simply not just diving into using robotics alone for everything?

## About Expert Insights

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### Notes and sources

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