



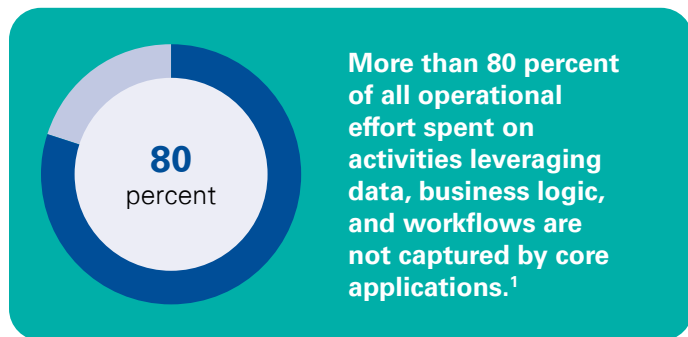
Connected Operations

**Digitize human intelligence to accelerate
your transformation roadmap**

An operational conundrum

Even with the abundance of automation and data across trading, key gaps and disconnects remain—constraining operations’ ability to efficiently react to market volatility and adapt to new innovations.

Capital markets infrastructure supports millions of transactions with great efficiency and minimal fanfare every market second. It is worth noting, however, that the underlying framework that makes it all possible comprises a complex web of broker-dealers, market utilities, and participants with robust but inflexible mainframes and connected but fragmented architectures. Perhaps most notably, this ecosystem is highly dependent on securities operations professionals performing a broad array of business-critical manual processes.



Technology advancements have largely been prioritized in the front office pretrade and trade execution space, which has benefited over the past decade from electronification, growth in volume and revenue, and reductions in headcount. In sharp contrast, post trade functions, such as trade processing, clearing, settlement, and custody, remain rife with federated legacy technologies and highly manual processes reliant on operations professionals who manage exceptions and perform risk, reporting, and compliance activities.

Straight-through processing (STP) rates are generally high industry-wide. However, given the absolute trade volume

in today’s market, the number of trades that require human intervention at various points in the trade lifecycle necessitates the involvement of thousands of operations professionals at typical large broker-dealers and custodian banks.

As trading volumes continue to grow, nonscalable, human-error-prone manual processes pose operational and potential systemic risks, particularly during times of market volatility. Indeed, according to the Depository Trust & Clearing Corporation (DTCC), “a focus on innovation will be required, as well as an openness to embrace collaborative approaches, common processes, and target operating models that meet the needs of a high numbers of market participants.”²

Market participants within this ecosystem are acutely aware of this dynamic, and as such, they are incented to address these inefficiencies not only as good stewards of our capital markets, but also for their own individual commercial viability.

We suggest organizations take a more connected approach to automation, talent, and interactions across the trading ecosystem. For example:

- **Promote collaboration** to share data and meaningful insights across technologies in an effort to prevent common errors.
- **Develop common processes and dynamic data sources** to drive more seamless interactions across hybrid technologies and trading partners.
- **Target operating models** that leverage automation, talent, and judgment to adapt at market speed.

This publication outlines several practical insights to help organizations operationalize these strategies, accelerate digital transformation, and drive better outcomes.

¹ KPMG LLP (U.S.) internal research.

² DTCC, Managing Through a Pandemic: The Impact of COVID-19 on Capital Markets Operations, April 2021.

Meet today's operational challenges with business logic and data

The reality today is that capital markets infrastructure carries inevitable risks associated with aging architecture and inefficient manual processes that may result in systemic failure of critical functions at times of market stress.

Fragmented and outdated technologies and a reliance on manual operational processes pose several organizational challenges:



Inability to meet client and business needs

The inefficiencies of old technology and manual processes are the result of decades of tactical responses to market and regulatory demands, and a lingering hangover from costs associated with acquisitions. The resulting ecosystem is highly inflexible and unresponsive to new client and business needs that typically are costly and slow to implement, and, at worst, contribute to a loss of business.



Operational resiliency

Manual processes generally result from fragmented systems, gaps in functionality, and operational processes that exist to plug these gaps. The result is myriad data and business logic that is captured on spreadsheets, collaboration software, and end-user computing systems (EUCs) that are loosely governed. During periods of market stress or volatility, manual processes are difficult to scale, and in over-capacity scenarios organizations often resort to risk-based prioritization to manage backlogged work. For example, in early 2021, to ensure sufficient collateral while trades cleared, several prominent online brokerages restricted activity in a number of securities that were experiencing unprecedented volume.



Workforce disruption

Workforce demographics are changing. For example, millennial and Gen Z employees are far less likely to be attracted to the repetitive and “low tech” nature of operations processing. What’s more, demand is increasing for experienced operations professionals among nontraditional competitors like FinTech and Big Tech, which are looking to disrupt this space. Considering this dynamic, traditional securities operations organizations are facing high attrition rates and loss of subject matter experts (SMEs).



Drag on digital transformation

Decades of complex technology debt and the “shadow” processes that exist outside core technology applications is proving prohibitively costly to decompose and unwind when organizations attempt digital transformation. Whether it is change necessitated by regulatory mandates or forward-looking digital initiatives, critical challenges typically include a lack of quality data—the cost of new technology, and SME constraints.

The common denominator of these challenges is the absence of reliable and reusable repositories of what these operational processes entail, and the underlying business logic, data, and workflows that not only govern the ecosystem, but are critical to informing and facilitating the desired digital transformation.

Digitize SME knowledge and workflows to accelerate transformation

The future of operations will be technology driven operating in near real time, fueled by data and insights, and capable of reacting to business and client demands with agility, efficiency, and at scale.

Systems will be “intelligent” and perform not only transactional processes, but also cognitive functions through advanced speech, text, pattern recognition, and other artificial intelligence capabilities. These “learning” capabilities will also facilitate human in-the-loop interactions through intelligent digital workflows.

Operations professionals will spend the majority of their time performing value-added risk oversight activities—and limited manual tasks—to augment system capability gaps. While many organizations share this vision and have future-state technology blueprints to enable it, progress has been anemic.

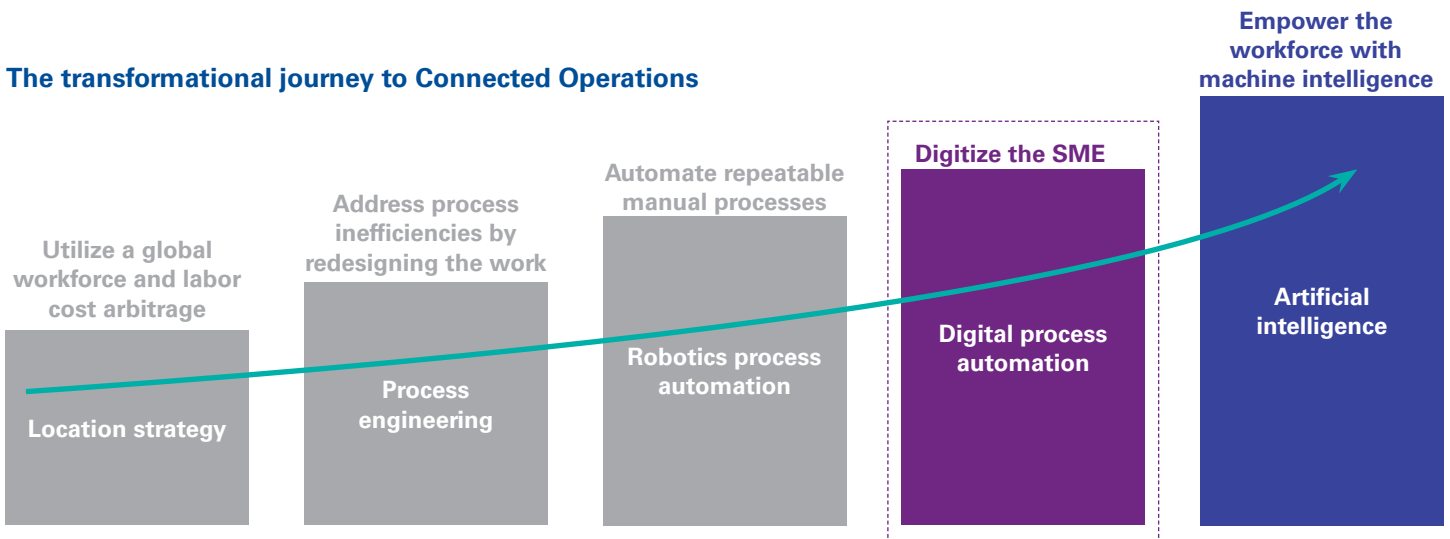
There are various reasons for the slow rate of progress, from a lack of appetite for strategic investment—front-to-back modernization is not inexpensive—and competing nondiscretionary requirements, such as regulatory projects, to a general paralysis regarding technology upgrades, and concerns about cloud and data security, among others. In the end, meaningful progress has been constrained primarily by a failure to prioritize the digitization of foundational operational data, business logic, and workflows.

Operational functions across banks, custodians, and shared services providers have exhausted business process location and reengineering strategies. Although attempts at employing robotic process automation (RPA) and artificial intelligence (AI) have been slow to yield large-scale success, the promise of these strategies is great if leveraged appropriately.

With advancements in workflow and analytics process automation (APA) technologies, as well as deliberate techniques at extracting intelligence, organizations can tackle complex problems with increased effectiveness.

Data and SME constraints are cited as key reasons limiting transformation velocity. KPMG Connected Operations focuses on digitizing human intelligence and the interaction with data as a foundational prerequisite for true digital transformation. Indeed, all the technology in the world can't help if the work is in your SMEs' heads. Digitizing SMEs by harnessing the data, business logic, and workflows will significantly accelerate the journey to a modern Connected Operations function

The transformational journey to Connected Operations



Unlock organizational capacity, reallocate talent, and operationalize a high-value agenda

By establishing a foundational automated interaction model for operational activities, including the digitization of SME knowledge, organizations can scale and accelerate delivery of intelligent workflows, improve customer capabilities, reduce risk, and accelerate their change trajectory.



Business and client agility

Eliminating manual processes and moving business logic online can enable organizations to effectively respond to new business and client needs by leveraging configurable workflows and analytics protocols, as opposed to implementing onerous change initiatives. Additionally, when a majority of operational processes are digital, organizations can benefit from meaningful and near-real-time data-driven analytics and insights.

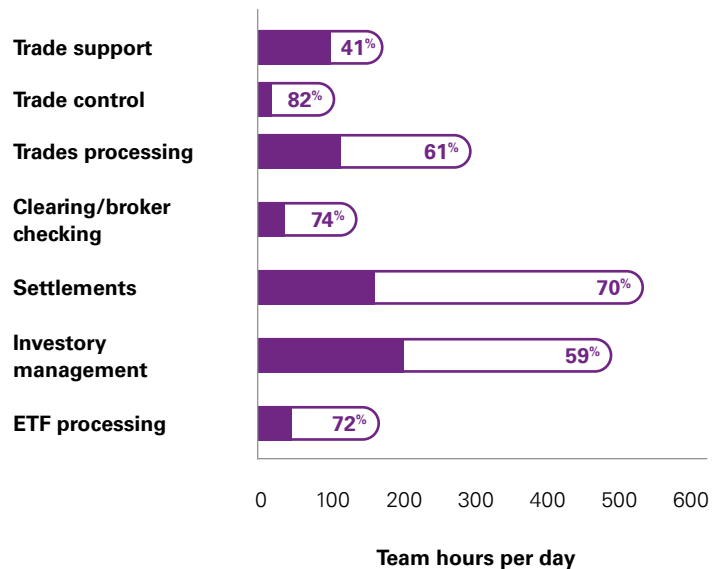


Operational efficiency

Many existing back-office activities are cumbersome and time consuming, such as identifying, routing, investigating, and resolving work items by accessing multiple systems and screens; performing off-line data analysis; and making logical inferences about organizational data. The majority of these largely manual workflows can be replaced by digital technology, unlocking significant organizational capacity.



Broker/dealer efficiency gains* attributable to automation by function



*Efficiency gains as measured by time savings as a percentage of daily team effort. Estimates based on time studies of functions depicted for cash equities operations. Time savings based on automation of identification, analysis, and manual workflow steps such as prioritization handoffs, resolution etc.



Operational resiliency

Heavy reliance on SMEs is a key risk as people-oriented trends—retiring baby boomers, mobile millennials, and digital Gen Zs, for example—continue to disrupt organizations. By transferring SME knowledge and automating workflows, organizations will be better prepared to manage systemic stress and unforeseen market-driven events that historically impact resiliency.



Reduced cost of change

Tactical or strategic, discretionary or mandated, most if not all operations and technology change initiatives begin with a study of the current state and the articulation of future-state requirements. For operational processes, this process entails reference to existing documentation, and consultation with SMEs to assess impact and identify the necessary changes. Digitizing the SME's thinking enables the firm to capture, catalog, and reuse this critical information via digital data glossaries, business rules catalogs, and automated testing without overreliance on SME availability—most importantly, based on operationalized business logic and workflows.



Talent enablement

Current and future generations live their everyday lives in a digital ecosystem and will demand similar experiences in the workplace. To attract and retain the best talent, organizations will need to behave like the technology firms they claim to be. Enabling employees to become citizen developers and execute the Connected Operations journey and the resulting redirection to higher-value activities will present organizations with the opportunity to harness the true power of their talent base.



Accelerated transformation capabilities

By significantly reducing reliance on manual processes, Connected Operations empowers organizations to reskill and reposition the workforce to develop and execute the transformation agenda as business engineers. Digitized workflows and analytics will inform strategic technology investment decisions around processes to either enhance or eliminate. Integration with external utilities and alliances will also benefit from higher-quality, automated operational data sets.

A focus on Connected Operations can yield significant benefits



reduction in manual processes³ as majority of existing operational processes are improved by business rules codification and workflow augmentation



lower cost of change⁴ attributed to reduced analysis, design, and testing efforts as SME activities are digitized, readily referenced, and reusable

³ KPMG LLP (U.S.) internal research. Defined as operations effort spent on reviewing and interacting with multiple system screens and desktop applications, and engaging in communications to identify, investigate, and resolve work items.

⁴ KPMG LLP (U.S.) internal research. Estimated saves achieved through acceleration across the software delivery lifecycle (SDLC) where underlying current-state processes are online and digitized thereby reducing analysis, design, build, and test efforts.

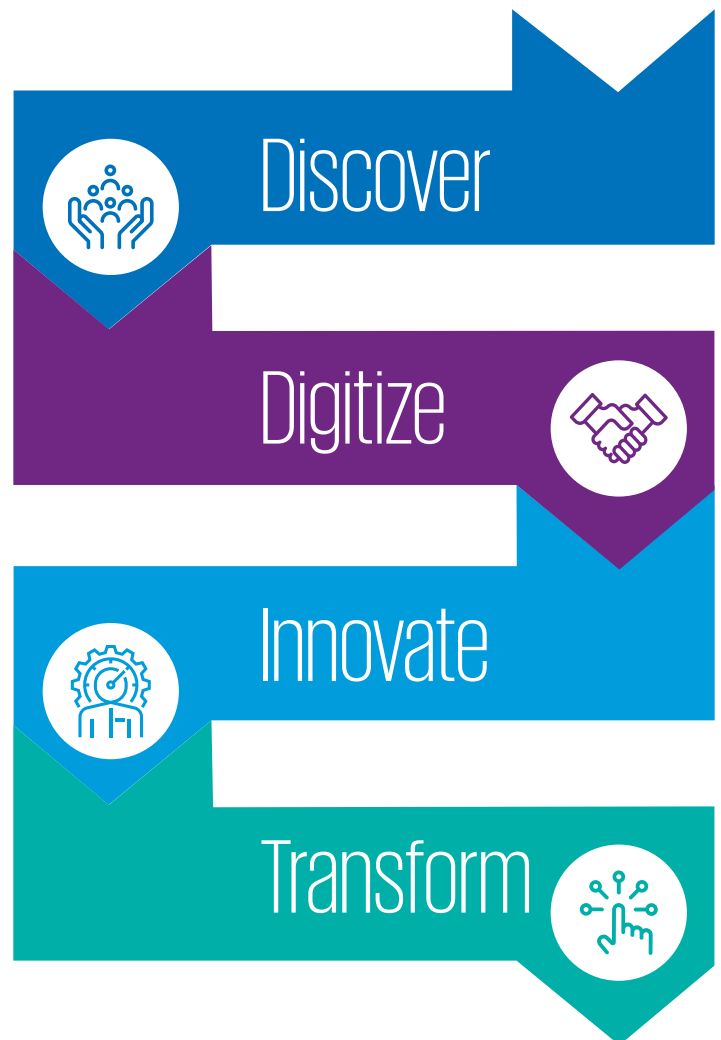
Connected Operations value proposition

	Current reality	Connected Operations
Is the organization focused on high-value business and risk management activities enabled by technology?	Primarily focused on manual processing of trade lifecycle exceptions	Primarily focused on technology-enabled risk monitoring augmented by key talent/roles to be more responsive to market dynamics
Do our technology capabilities enable us to operate effectively and at scale?	Federated systems and data require multiple system touchpoints and nondigital application of business and institutional knowledge	Interactions with a unified digital workflow, powered by enhanced machine-driven business decision capabilities, enable teams to operate at scale
Do we have ready access to analytics and insights to serve our customers?	Ad hoc KPIs and data analytics performed through spreadsheets and point-in-time efforts as needed	System-driven capture and insights drive preemptive and post-event analytics and decisions
Are we able to adapt and respond to business and regulatory changes?	Complex technology and operational landscape create lengthy and costly timelines for strategic change	Digitized, configurable, and modular business logic and workflow layers can facilitate efficient business and regulatory change
Are we positioned to gain competitive advantage by being leading adopters of innovation?	Fragmented data and flows, SME constraints, and costly legacy technology hinder integration with emerging solutions and services (fintech, SaaS etc.)	Validated foundational data models and business logic layer enables experimentation and integration with or despite legacy and evolving strategic architectures

Next steps: Put your plan into action

Connected Operations represents an opportunity for organizations to augment and solidify their back-office capabilities and accelerate digital transformation across the value chain. Consider the following steps to get started:

- 1 Operational intelligence mapped and measured**
Map events, data, workflows, and offline business logic to inform digitization strategies.
- 2 Digital workforce enabled by intelligent automation**
Implement intelligent workflow solutions through codification of offline business rules and workflows.
- 3 Strategic enablement powered by digital data**
Leverage online data harvested from digital workflows to inform insight-driven strategies and actions that better integrate business and operational technologies.
- 4 Connected front-to-back enterprise operating models**
Reshape operations with intelligent automation and insights to enable more seamless pre and post trade activities and accelerated transformation.



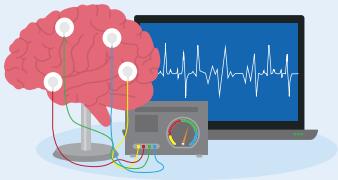
How KPMG can help

Our mission is to help capital markets firms to not only accelerate their digital transformations, but also their vision for a new, more efficient and flexible operating model.

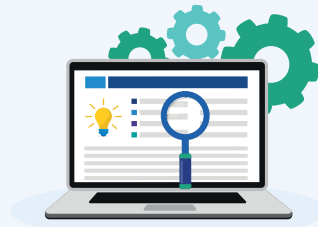
Domain-centric, real-world tested

The KPMG Connected Operations framework is designed to accelerate value realization in months—not years. Leveraging an integrated operations domain data model and taxonomy, and technology-enabled accelerators across the software development lifecycle (SDLC), we can accelerate the identification and digitization of human intelligence as a foundation for your broader transformation roadmap.

Key features



Connected mind mapping
operational intelligence mapping and codification framework



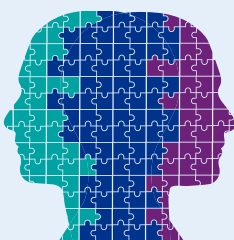
Connected domain model
securities operations domain data model and taxonomy



Connected metrics
benchmarks for operational key performance and risk indicators (KPIs/ KRIs)



Connected-driven process models
business process model and notation (BPMN) and decision model notation (DMN) integration



Connected build
low code analytics and prototypes



Connected testing
automated test and migration harnesses

Contact us

For more information on connecting insights, automation, and reshaping the work of securities operations, please visit us at <https://advisory.kpmg.us/articles/2022/capital-markets-firms-faster-realization.html> or contact:



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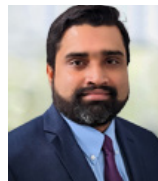
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