

Expert Insights

IBM Institute for
Business Value

The future of trading floors

Compete on cloud platforms
with a remote workforce

IBM

Experts on this topic



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Rethinking trading floor operations and ways of working is a necessity.

Key takeaways

The realization of a problem

Trading practices weakened over the last decade, questioning the capability of existing operations to remain competitive and generate top revenues. Risk-taking ambitions were dampened by the increasing cost of capital, regulatory restrictions, and unorthodox monetary policies affecting the mechanics of quantitative finance with nearly zero or negative interest rates.

Doubling down on talent and technology

Advanced institutions envision the new trading floor as a platform underpinned by two critical innovations. The first is to reimagine culture and ways of working. The second is to develop secured and regulated environments for decentralized modeling and the testing of machine learning to explore new, unconventional trading ideas with alternative datasets.

Decentralized access to trading models

To boost competitiveness and address concerns of operational resilience following the COVID-19 pandemic, trading floors can extend beyond physical rooms and onto new trading platforms. The future of trading is underpinned by virtualized access to strong data and artificial intelligence (AI) foundations on open hybrid multicloud architectures, which can be accessed from decentralized locations.

A mindset shift empowers talent to leverage exponential technologies

Trading practices are among the most complex in financial services. Traditionally, centralized and co-located operations reflected trading desk needs for face-to-face communication, regulatory demand for management control (a first-line defense) in risk management, and technical preferences.

Yet, the pandemic forced many to move quickly “from centralized to anywhere,” which happened without significant disruptions. The short term was doable as regulators—understanding the challenges—eased on their requirements. However, this might not be sustainable for the long term without a fundamental review of trading room practices.

The transformational journey to the trading floor of the future will require the following: (1) flexible workplace norms to attract and retain talent now accustomed to remote work—across all generations; (2) the cultivation of new business approaches and architectures to advance cloud adoption of data and AI services; and (3) a refresh of risk and compliance procedures to keep pace with the virtualization of tasks on flexible operations.

Looking through the lens of time, the future of trading will be very different (see Figure 1). This transformation will allow trading institutions to improve:

- *Agility*. Decouple workloads to run on the most appropriate technical infrastructure.
- *Control*. Create operational consistency across the trading floor based on necessity and preference, with workloads optimized for security, compliance, and latency.
- *Flexibility*. Adapt trading operations to match workload capacity and workforce requirements.
- *Scalability*. Support working conditions to sustain current and future trading volumes and workforce demands.
- *User experience*. Meet customer expectations and create a more responsive engagement with trading floors.

Breaking “out of the box”

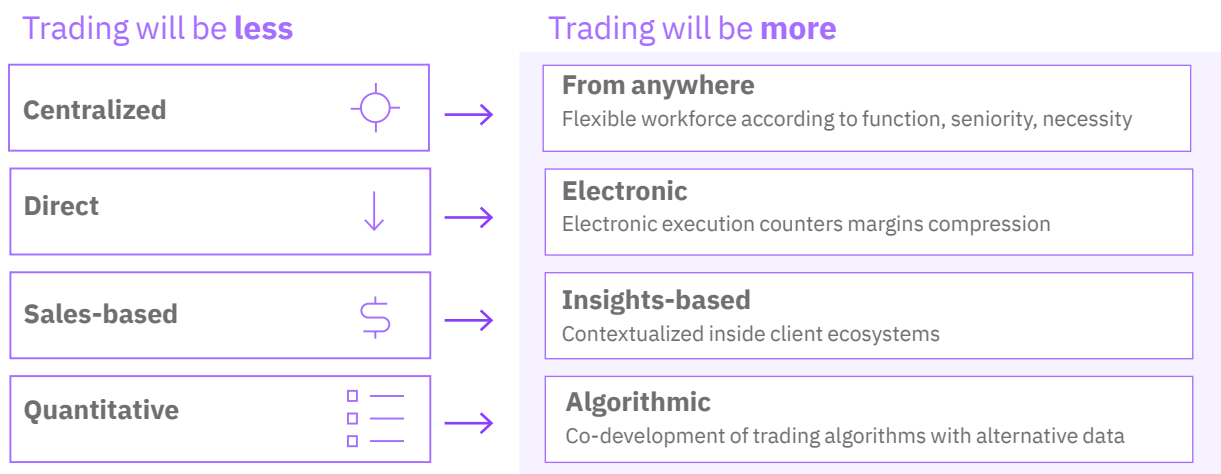
Trading is facing a progressive decline in competitiveness that began with the impact of the 2008 global financial crisis on the structure of capital markets. Trading floors were asked to “confine” their practices to a narrower space in response to tighter business rules, unconventional macro-economic conditions, and disintermediating technologies.

Regulators made risk-taking an unprofitable proposition addressing a more prudent risk management expectation. Unorthodox monetary policies saved the global economy—at least temporarily—but dampened the economics of quantitative desks. The lower-volatility framework narrowed most bid-ask spreads, countering profit-making on growing volumes.

Figure 1

Trading floor transformation

Operations become decentralized, electronic, and based on insights and algorithms.



Source: IBM Institute for Business Value.

To succeed, trading desks need to embrace a cultural shift.

The simplification of pay-offs, and the settlement of over the counter (OTC) operations to centralized clearing houses, contributed to a significant contraction of trading fees. Finally, the ban on proprietary trading constrained profit-seeking and forced most investment banks to scale back operations accordingly. The glamour of Wall Street faded, and talent was lured to Big Tech and start-ups embracing data science and new exponential technologies. Global fintech investment reached \$44 billion in 2020, an overall increase of 14% from 2019.¹

Putting the “tech” in fintech

While the industry started to scale back, trading floors responded by modernizing their trading infrastructure with electronic trading. According to *The Financial Times*, most mainstream government bond trading is now electronic, and inroads into more traditional market segments, such as corporate debt, are now trading electronically. At the end of 2020, 38% of investment grade and 27% of high-yield paper traded electronically, almost double from 2 years earlier.²

For the last half-century, capital markets have grown more institutionalized, while 2020 signaled a sudden reversal from the trend following an increased participation of retail investors riding an all-time high stock market. Fintech innovation and smartphones have made direct trading an all-day-long opportunity, demanding higher regulatory scrutiny of the suitability and appropriateness of digital offers engaging a non-professional population. This has increased the velocity and market relevance of non-institutional trades compared to the previous surge in retail interest preceding the dot.com bubble in the 1990s.

Social media and zero-commission market access have also brought changes in market sentiment. Trading floors are asked to incorporate new behavioral patterns in their trading models amid novel ethical and regulatory considerations.

Quantitative desks have also started embracing new modeling techniques based on machine learning. However, trading floors have found that they often lack enough competencies in data science and access to alternative datasets to gain sufficient time to market for trading of insights. In 2019, Goldman Sachs announced the intention to recruit more than 100 engineers (coders and data scientists) to join the trading floor and help automate part of the bank’s trading business.³

To regain higher competitiveness, traders must break “out of the box.” Financial markets are moving toward more standardized products, which intrinsically will have lower margins. Therefore, to maintain and grow revenues they need to increase the volume traded, which is done by entering new geographies, attracting new clients with fintech channels, and having more cross-asset play.

This cannot be done without fintech innovation. Financial institutions can reclaim the top spot with new value propositions based on flexibility and work-life balance (see Figure 2), contextualization into ecosystems, and higher ethical standards. Enabling a flexible workforce may appeal to new talent, countering the competitiveness of non-banking players.

Re-wiring for client enablement and purpose

Institutional and corporate clients can benefit from embedded trading knowledge inside their ecosystems and be allowed to trade and risk manage when and how they need without intermediation. Transparent access can be offered on digital platforms provided measures are taken to guarantee best execution and protect clients through a rigorous and compliant assessment of their financial knowledge and expertise.

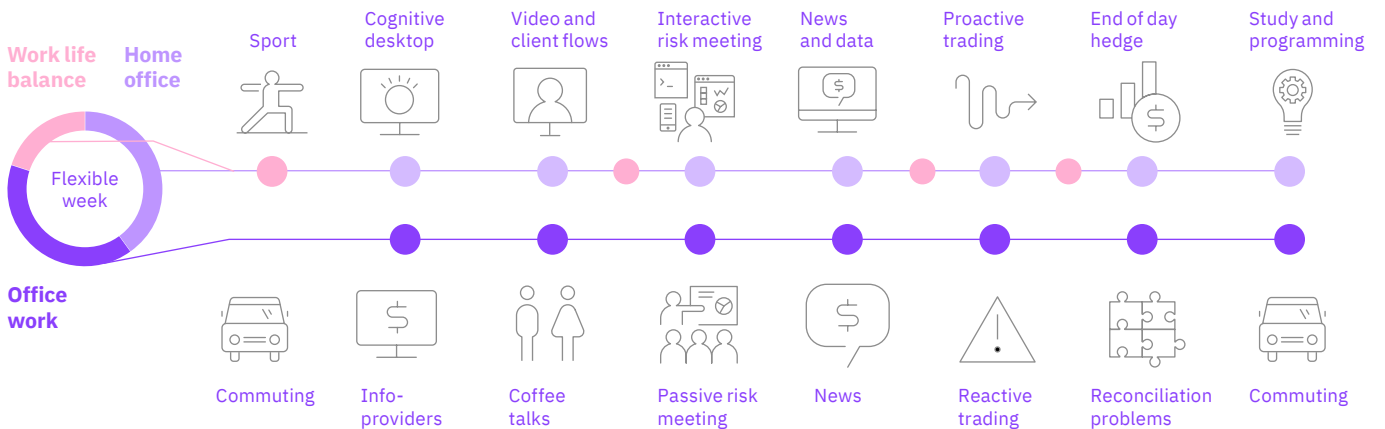
Investment professionals and financial engineers are increasingly asked by investors and regulators to model new trading ideas that incorporate environmental, social, and governance (ESG) criteria, as well as UN sustainability goals. To succeed, trading desks need to embrace a cultural shift guiding them to re-engineer trading and post-trading operations with the aid of exponential technologies.



Figure 2

Work reimagined

The new flexible, virtual working week of a trader.



Source: IBM Institute for Business Value.

62% of employees want to keep their work from home arrangement even after they're immunized.

Learning from the pandemic crisis

Amid all pandemic concerns, the 2020 rebound in capital markets activity allowed investment banks to record significant profit-taking, benefiting from the contingent action of central banks and the velocity of selloffs. At the same time, the rapid turnover of assets challenged post-trading as most of the workforce worked remotely and many operations depended on third-party outsourcing to countries in lockdown.

Settlement failures jumped and settlement chains stretched with a direct impact on infrastructures. According to the European Securities and Markets Authority (ESMA), failures climbed to around 14% for equities and close to 6% for government and corporate bonds.⁴

Although trading venues are now electronic, professional traders work in centralized locations as they face cultural and professional constraints that are rooted in communication habits, compliance concerns, and technical preferences.

Established recovery plans intended to shift trading work to secondary locations were not activated due to social distancing requirements. Instead, the majority of the workforce was confined to work from home.

The short-term recovery with flexible operations was feasible, highlighting the opportunity to reconsider recovery facilities with more cost-convenient, yet secured decentralized virtual access to trading desks. However, this might not be sustainable for the long term without a fundamental review of cultural aspects, trading desk configurations, and risk management practices.

In the short term, the workforce proved to be more focused, and found ways to collaborate, innovate, and resolve complex problems although efficiency was reduced. Evidence suggests that the workforce had a harder time learning new skills and boosting career development, as socialization withered, and leadership faced unexpected hurdles to reach out and lead.⁵

Recent cross-industry studies by the IBM Institute for Business Value (IBV) show that remote working options continue to grow in popularity.⁶ Prior to the COVID-19 lockdown, only 10% of individuals indicated they were working from home. By July 2020, that percentage had quadrupled to nearly 45%.

While employers received mixed reviews on their handling of the pandemic, one thing they can do that would appeal to most employees is to continue offering options to work from home. An IBV survey on employees' post-pandemic motivations and aspirations (across 14,000 adults in age groups between 18 to 70+ years-old, located in nine countries) reveals that 62% of employees want to keep their current work arrangement even after they're immunized.⁷

With more flexible operations on trading floors, investment banks, led by Big Tech powerhouses, can respond to existing workforce expectations and expand the onboarding of a distant talent pool in a competitive marketplace.

Refresh the risk and compliance frameworks with culture and technology

Trading floors might not return to full capacity as world economies are experiencing a new normal with periodic lockdowns. Both maintaining a level of flexibility in employees' choices and granting trading firms the capability to re-design the geography of their operations with a more advanced use of exponential technologies require a thoughtful refresh of risk and compliance frameworks. The scope is feasible.

According to a survey conducted by the Fixed Income, Currencies and Commodities Markets Standards Board (FMSB), the pandemic-induced experience of remote trading proved successful, but new risks emerged.⁸ For example, the risks associated with the misuse of inside information are pre-existing. With the activation of remote trading, the nature of what constitutes inside information may change.

The FMSB identified an approach to integrate pre-existing risk and compliance checks with 9 areas of concern. Below are possible mitigating actions banks can take to address these new and emerging risks.

- *Control limitation.* Virtual collaboration rooms can mitigate the porosity of the first line defense.
- *Execution risk.* Connectivity can be strengthened, and virtual desks allowed to maintain virtual proximity to trading venues.
- *Governance.* The workforce can be trained to learn new methods for remote interaction.
- *Heightened cyber risk.* Traders' access can be ring-fenced by virtualization of trading desks and added monitoring appliances.
- *Staff treatment and productivity.* Flexibility is required to respect all employees' propensity, and training can be organized to support mental health of employees.
- *Sales lifecycles.* Digital platforms can be deployed to create new communication channels that embed into client journeys.
- *Sharing of confidential information.* An investment in culture is first and foremost to mitigate unethical practices.
- *Third-party risk.* Post-trading operations can be restructured on new business architectures based on an open hybrid multcloud that allows for the integration of an internal and external workforce, with elements of intelligent automation.
- *Threats to market effectiveness.* Well-designed virtual rooms allow for new collaboration models.

Shifting work from “centralized” to “virtualized” is based on a well-informed roadmap.

A well-informed strategy

A sustainable shift does not happen overnight and requires a well-informed planning exercise. Shifting work from “centralized” to “virtualized” must be based on a roadmap that respects the characteristics of the workforce.

Employees exhibit a different propensity to decentralized work according to 3 attributes: their business function, personal preferences, and necessity. First, junior traders might benefit more from centralized operations because of their needs to learn “on the job.” They require ongoing coaching and the opportunity for constant supervision. Second, employees have different constraints in their home office capacity, or would simply prefer to work in office environments. Third, personal or business emergency situations might call for temporary access to trading from flexible locations.

Different priorities can be addressed by different strategies and fit-for-purpose technology plug-ins. Trading operations are organized along 7 main functions: market makers, quantitative traders, sales, originators, compliance, risk management, and post-trading. Operational propensities can be assessed and mapped as follows (see Figure 3):

- *Market making desks.* Traders tend to cluster on centralized locations to leverage informal communication during trading hours. This is particularly relevant for market-making operations. A high level of learning by osmosis, group behaviors, instant reaction to events, and opportunities are all part of market-making work habits.
- *Quantitative desks.* Quantitative traders are more inclined to work flexibly from home, especially for the advanced tasks of research and coding enabled on secured and responsive technical access. This flexibility will be relevant for new talent working in data science.
- *Sales desks.* Although sales desks get unfiltered market sentiment from point-in-time conversations with market makers—and appreciate direct interactions of trading floors—most activities can fit a flexible enablement where digital technology helps to better engage corporate and institutional clients.
- *Origination desks.* This work is more relational with regard to the management and preparation of client-specific deal flows, with tasks well suited for remote work.
- *Risk management.* Risk managers operate symbiotically with trading floors, some sitting on same central locations (for example, desk-level risk control units) and others on different premises (for example, central risk management and compliance units). Risk managers leverage intra-day interactions with trading desks and sometimes require performing complex collaborative tasks as trades are open.
- *Compliance.* The work of compliance officers is about rule setting and periodic verification, thus more likely to adapt to a flexible workplace.
- *Post-trading activity.* A specialized task force takes care of the functioning of trading operations well beyond trading hours. These tasks depend on the quality and robustness of all trading configurations. This work can be highly automated with intelligent workflows reducing operational risks and increasing risk management adherence of reporting figures. In particular, intelligent workflows would have mitigated the surge in settlement failures experienced in 2020. There is a fair expectation that working virtually for post-trading activities is likely to be embraced more than in other trading departments.

The flexible trading floor of the future demands new business approaches and architectures.

Figure 3

Propensity for flexible and virtual work

Trading functions have a low, medium, or high assessment for virtual work.

Workforce type	Low	Medium	High
Market making			
Quantitative trading			
Origination			
Sales			
Post-trading			
Risk management			
Compliance			

Source: IBM Institute for Business Value.

The emergence of new cloud-based platforms

Yesterday’s “centralized trading operations” can become a virtual venue. Trading rooms are transforming to future operations from:

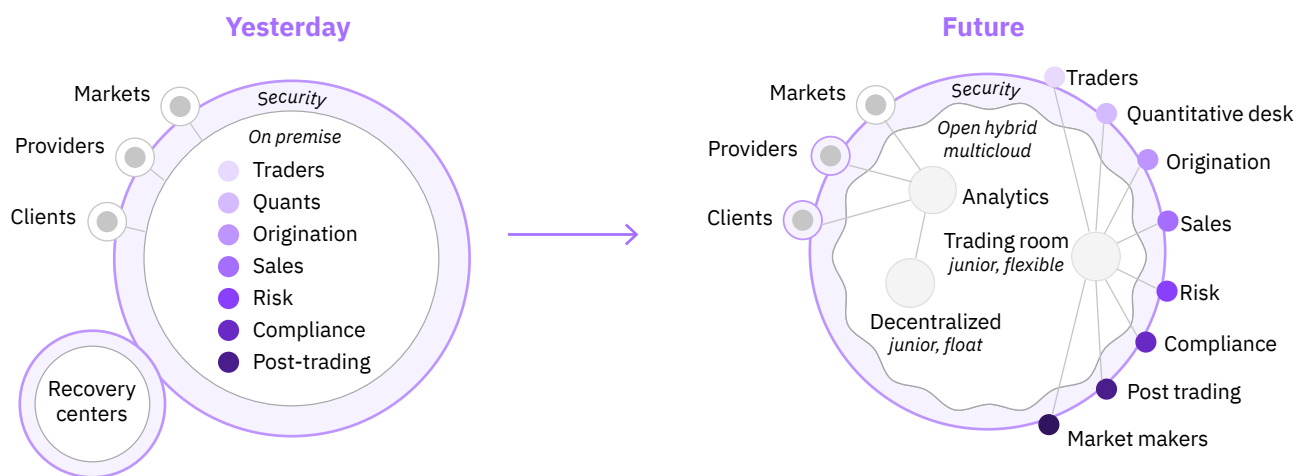
- Centralized trading to flexible access
- Centralized recovery facilities to distributed capabilities
- CPU-intensive desktop processes to cloud-powered data and artificial intelligence (AI) on virtual desktops
- Ultra-low latency with physical proximity to cloud-enabled equivalent proximity
- On-premises interactions to secured virtual collaborations
- Analog relationships with clients to platform-based sales interactions
- Slow onboarding of fintech and providers to fast-tracking services on cloud-integrated collaboration platforms.

To realize the flexible trading floor of the future, a culturally enabled workforce also demands new business approaches and architectures to advance their ability to exploit alternative data and AI strategies on cloud-based accessibility (see Figure 4).

Figure 4

The future of trading

Markets, providers, and clients will operate in new ways.



Source: IBM Institute for Business Value.

Overall, trading floors need to operate like platforms on ecosystems configured on 3 levels: risk and compliance; analytics suite; sales, trading, and post-trading.

- *Risk and compliance platforms.* Regulatory frameworks underpin trading operations on premises and elsewhere. There is a need for a foundational platform setting the cybersecurity ring-fences, with a second platform enforcing transparency for instantaneous and interactive risk controls.
- *Analytics platform.* Trading floors already consolidate analytics to comply with FRTB regulation. Open-analytics platforms facilitate creation for new revenue streams by servicing third parties and external ecosystems with selected APIs (for example, Marquee by Goldman Sachs).⁹

- *Trading platform.* Develop new analytics in a secured coding environment to test, model with AI, and deploy new trading algorithms by enabling the workforce to operate without location restrictions.
- *Sales platform.* Embed financial offers inside corporate and institutional ecosystems, integrating relationship management tasks accessible within client portals (for example, digital CFOs and foreign exchange (FX) hedging inside international trade finance operations).
- *Post-trading platform.* A micro-service driven platform helps provide stable post-trading scalability and enable the needed agility to keep pace with business changes and regulatory requirements. A more efficient interaction with the ecosystem of fintech and independent software vendors (ISVs) will lead to higher operational efficiency (for example, mutualization of electronic know your customer (e-KYC) operations).

Trading platforms based on open cloud technology and advanced analytics can be the virtual venue for resilient operations.

Key technical drivers

Bankers are reflecting on key drivers that affect both the journey and the landscape of the future of trading.

The first set of considerations guides the choice for what can be better performed virtually and assigns a priority to decentralized work with virtual desktops and new collaboration models involving intelligent workflows; virtual collaboration; latency and connectivity through virtual proximity; cybersecurity enhanced with data fusion and AI; and optimized graphics and interactions with edge computing.

The second set of considerations explores the use and applicability for exponential technologies to “augment” trading operations with alternative data generating new trading ideas and scenarios; quantum computing boosting risk and portfolio simulations; and machine learning integrating investment decisions to exploit arbitrage conditions.

The relevance and complexity of each driver—for workforce type—can be classified using the scale below:

- *Must have*. For example, cybersecurity is not optional.
- *High*. For example, trading algorithms based on machine-learning techniques add value to trading operations yet require specialized skills and state of the art technical enablement.
- *Medium*. For example, quantitative trading desks could be prioritized to be enabled from anywhere, compared to market makers (given the complexity of market making, in terms of virtual collaboration and information flows).
- *Low*. For example, post-trading operations might benefit less from access to alternative datasets compared to desks of quantitative trading, although they will highly benefit from better usage of data and AI to activate business efficient intelligent workflows.
- *Not essential*. For example, quantum computing is not immediately relevant for institutional and corporate sales activities.

The level of criticality of each driver—for workforce type—complements the assessment of the relevance and complexity to design a well-informed roadmap that prioritizes operations—like post trading—in the transformation of trading floors.

Call to action: Trading from anywhere

Trading platforms based on open cloud technology and advanced analytics can be the virtual venue for resilient operations and a transformed trading workforce. Well-informed business moves and engaging value propositions can drive an empowered workforce to boost trading competitiveness.

The following actions will enable trading floors to “box-out:”

- Invest in a *mindset shift* that guides trading floors to reclaim the top spot with new value propositions on clients, employees, and society.
 - Build a *well-informed roadmap* calibrated to business functions, individual preferences, or necessity (lockdowns) that prioritize the opportunities to engage new talent empowered by secured cloud access, availability of alternative data and AI modeling framework, and virtual collaboration.
 - Design the trading platform to *secure operational flexibility* that matches emerging propensities in employers and employees to work remotely and upskill the workforce accordingly.
 - Configure a secured, compliant, and *open hybrid multicloud foundation* that accelerates collaborative development with testing and releasing of new trading algorithms.
- Enable a *control center for distributed trading applications* to leverage trading data and AI from central points. This will give trading floors more control and efficiency over the usage of technology and data flows, instead of hyper-segmenting each desktop with a costly proliferation of end-user data.
 - Refresh and revisit the *risk and compliance framework* to better address “first line of defense” controls with virtualizing technology to build trust in trading from anywhere.
 - Re-imagine post trading with *intelligent automation* that leverages platform integration of service providers, ISVs, and fintech.
 - Rethink *user experiences* to meet customer expectations and a more responsive engagement with trading floors.

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