

# Digital Transformation of Capital Market Firms powered by Cloud

White Paper

The ever-changing landscape of the capital markets industry demands new operating models in terms of people, processes and technology. These operating models typically transform enterprises to shape-shift and stay on course with industry standards of sustainability. The evolving models broadly entail four transformations:

**1. Business Transformation:**

For optimizing and rationalizing underlying processes

**2. First-class User Experience:**

For creating best-in-class user experience through products and services

**3. IT Transformation:**

For modularizing applications, then orchestrating the pieces together and enhancing capabilities

**4. Delivery Process Transformation:**

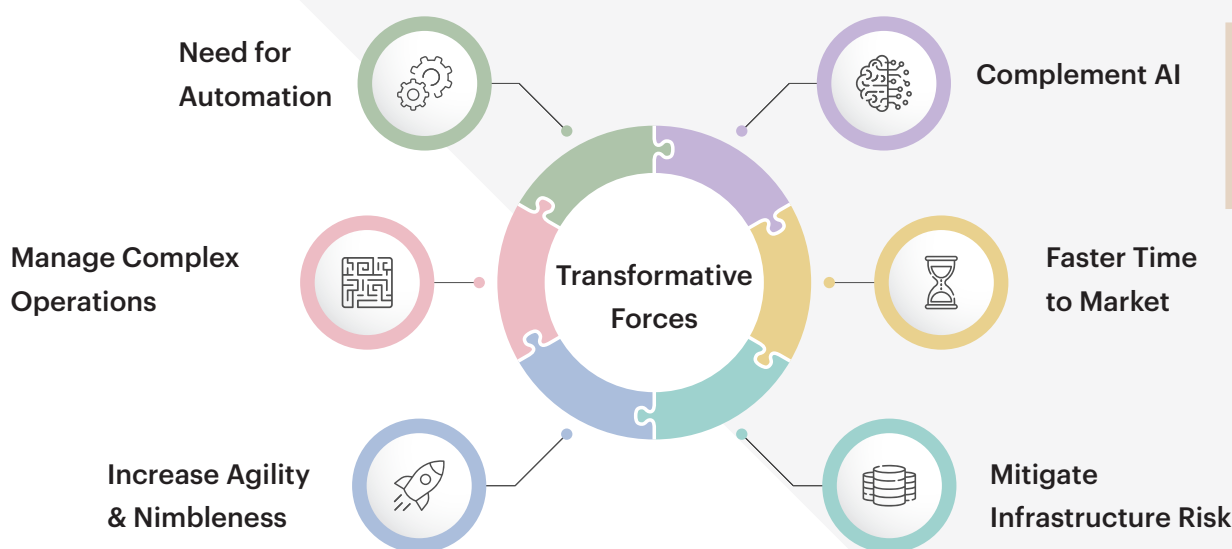
For adopting agile delivery processes under transitional geo political and regulatory requirements

These transformations are becoming urgent as firms expand to new geographies, cater to changes in client demographics and keep up with emerging new asset classes. It's becoming evident that legacy technology infrastructures are insufficient to keep pace with these advancements and infrastructure redesigning is the need of the hour. One of the options is to move the applications to cloud and build cloud native solutions to reduce complexities and achieve time and cost savings for simplifying technology and data management.

A recent analyst survey disclosed that over 50% financial services firms are actively planning cloud migration<sup>[1]</sup>. 30% insurance firms and 40% banks have already deployed their workload over public as well as private cloud. Customers are focused on leveraging the cloud to transform and scale existing businesses and bring innovative solutions to market.

Now let's talk about the transformative forces that dominate future growth of the sector.

# Transformative Forces



The capital markets industry is undergoing fundamental transformation due to a cohort of factors such as product innovation, emergence of fintechs and regtechs, increased AI adoption and the unique demands of the millennials. It is no longer an option to be dynamic in the wake of rapidly evolving technological and financial innovations.



## Need for Automation

Automation of non-core areas such as reconciliation, settlements and asset servicing can significantly reduce the financial and human resource crunch. A firm's decision to digitally transform warrants that management contemplate automation in other potential areas as well.



## Manage Complex Operations

Capital markets are highly volatile in nature, which requires swift decision making. Firms, which indulge in high frequency trading, pricing derivatives in real-time, assessing risk exposures and conducting stress runs at an accelerated pace are likely to emerge as winners. All these processes are entangled and intricate, and hence, require super computing capabilities, which act as a catalyst for digital transformations through cloud.



### **Increase Agility & Nimbleness**

Capital markets firms are considering third party solutions for portfolio management, algorithmic trading, CRM, market data, regulatory reporting and so on. Digital transformation through cloud technology will make wealth management firms far more agile and nimble, and enable them to plug into any cloud native solutions at will. In fact, there are community cloud platforms like the NYSE Community Cloud, where broker-dealers and investors can have on-demand access to NYSE trading platforms, risk management gateways and liquidity centers.



### **Complement AI**

AI is becoming a great influencer in devising new investment strategies that generate alpha, simulate risk algorithms and handle exceptions. Digital transformation over cloud will further augment AI due to its superior computation capabilities and expansive data availability to train and test models.



### **Faster Time to Market**

The number of firms in the capital markets is ever increasing, paving the way for stiff competition and making lesser time-to-market a significant first mover advantage. Cloud native firms can fast-track the launch of digital products/features/capabilities earlier than the competitors to increase their stickiness with clients.



### **Mitigate Infrastructure Risk**

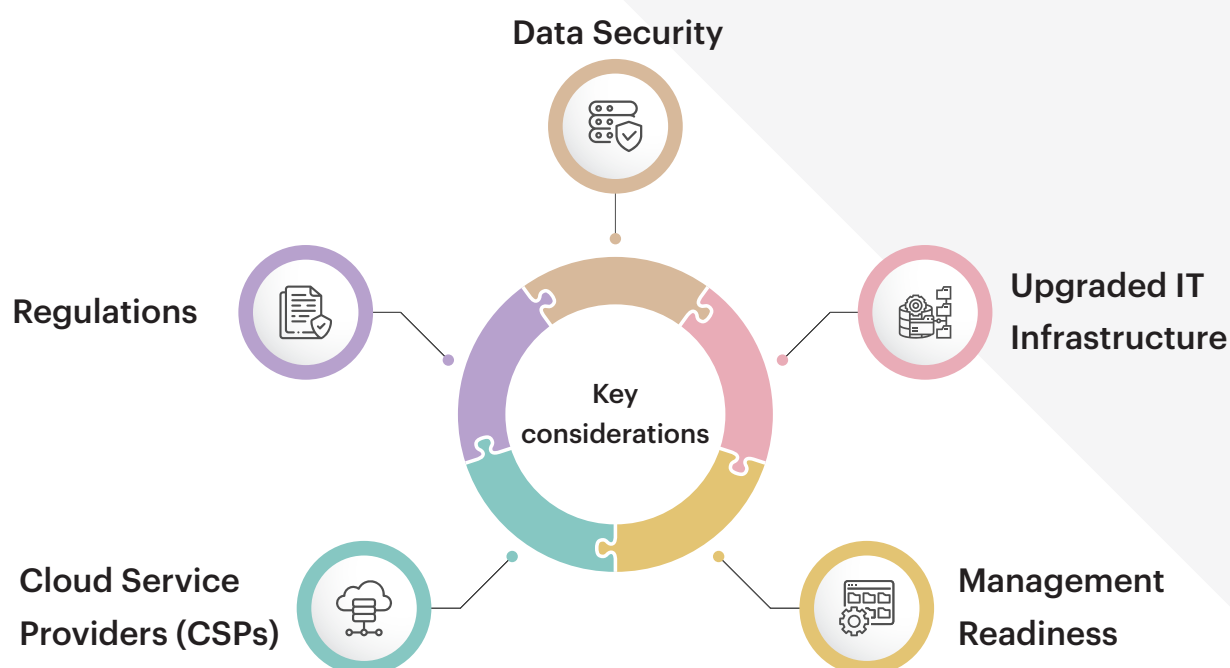
It might be an anomaly, yet, the Covid-19 has undoubtedly exposed inherent vulnerabilities of a centralized infrastructure. Cloud provides the flexibility to access and utilize business infrastructure at multiple locations. It also minimizes the risk for businesses in the event of a localized disruption and ensures operational continuity.

Digital transformation by adopting cloud is very lucrative in terms of its computational prowess, readily available cloud-based solutions, quicker time-to-market, availability of handy AI and automation capabilities. However an organization will have to tread cautiously to circumvent the pitfalls.

# “Watch your step”

## Key considerations

A HBR study quotes 70% of Digital Transformation fail to reach their goals, and one reason is attributed to a failure to realize business strategy<sup>[2]</sup>. While cloud is essential for the future of firms, there are key considerations that firms must understand.



### Data Security

Data breaches negatively impact cost and reputation. Regulatory risks such as loss, leakage or unavailability of data and non-compliance risks related to various geographies are considerably expensive. The fine for data security breach under the General Data Protection Regulation (GDPR) is hefty, and can substantially increase as per the case; Equifax was fined \$575 Million shortly after its data breach in 2017 <sup>[3]</sup>.



## Regulations

Client data is inherently sensitive and migrating it to cloud has prompted the need for worldwide regulations. These regulations are capricious and require tedious compliance procedures. Regulations also vary with geographies. For instance, the GDPR is for the whole EU, however, there are variations of it for the member states. Addressing the regulations is even more challenging for MNCs. Meeting regulatory requirements can reduce return on equity by up to 14%<sup>[4]</sup>. A dedicated team for data governance is a must to mitigate data security and comply with regulations.



## Cloud Service Providers (CSPs)

Hyper scalar CSPs are releasing industry specific solutions for easy cloud adaptation (e.g. Amazon Web Services (AWS) has launched Finspace, Google Cloud Platform (GCP) has launched a plethora of data-driven solutions), due to industry competition. However, it results in vendor lock-ins, which are unfavorable. Additionally, concentration of financial firm's data with few CSPs can lead to systemic problems. These unforeseen problems affecting CSPs, will affect firms as well. To address these issues, firms must strategically engage with multiple CSPs.



## Upgraded IT Infrastructure

For several firms, IT infrastructure needs re-architecture and integration with new technologies for migration. However, it significantly adds cost overheads. The cost of building a private cloud and mitigating data security risk is huge. Public clouds carry variable costs that can increase if requirements aren't planned correctly. Hence, an in-depth financial planning must be conducted before opting for digital transformations.



## Management Readiness

When a firm decides to be cloud-ready; the management must have a strategy to avoid new software builds on legacy systems and train resources with necessary new skills. To reduce operational risk, an awareness with respect to the benefits and risks of digital transformation across the organization will help.

Over the course of the pandemic, more firms have understood this change and the migration to cloud is now expected to be accelerated by 3 years as compared to the previous 8 to 10 years, as per a Harvard Business Review report<sup>[5]</sup>.

# “Reap as you sow”

## Benefits

Capital markets firms must consider the challenges while adopting digital transformation over cloud, however most benefits outweigh underlying risks.



### **Future-proof architecture**

COVID-19 has stress tested the market infrastructure for both retail and institutions, and as a result most CIOs are looking to re-platform their infrastructure to enable agility, scalability, product innovation and client centricity. This will be enabled by modern technology stacks consisting of cloud and microservices<sup>[6]</sup>. Some examples include the Broadridge CommunicationCloud<sup>[7]</sup> for all client communication needs and JPMCs 3+1 Cloud strategy to have majority of its applications run on cloud by 2025<sup>[8]</sup>. Even business critical front office and trading infrastructure will realize the cost and scalability benefit as exchanges also move to the cloud<sup>[9]</sup>.



### **Expansion of Business Revenues**

Capital markets firms looking for newer revenue streams can benefit by investing in technologies that support lightning speed computation and handle complex algorithms used in risk models. Digital transformation provides the agility to seamlessly integrate with the third party applications for rapid availability of products and services, efficiently meeting client's needs and effectively adapting to changing regulatory requirements.

Capital markets firms can surely reap benefits such as cost reductions while preparing their businesses to enrich products and services. Cloud adoption not only provides short and long-term benefits, but also creates a strong foundation for rapid growth and innovation to stay ahead of competition.

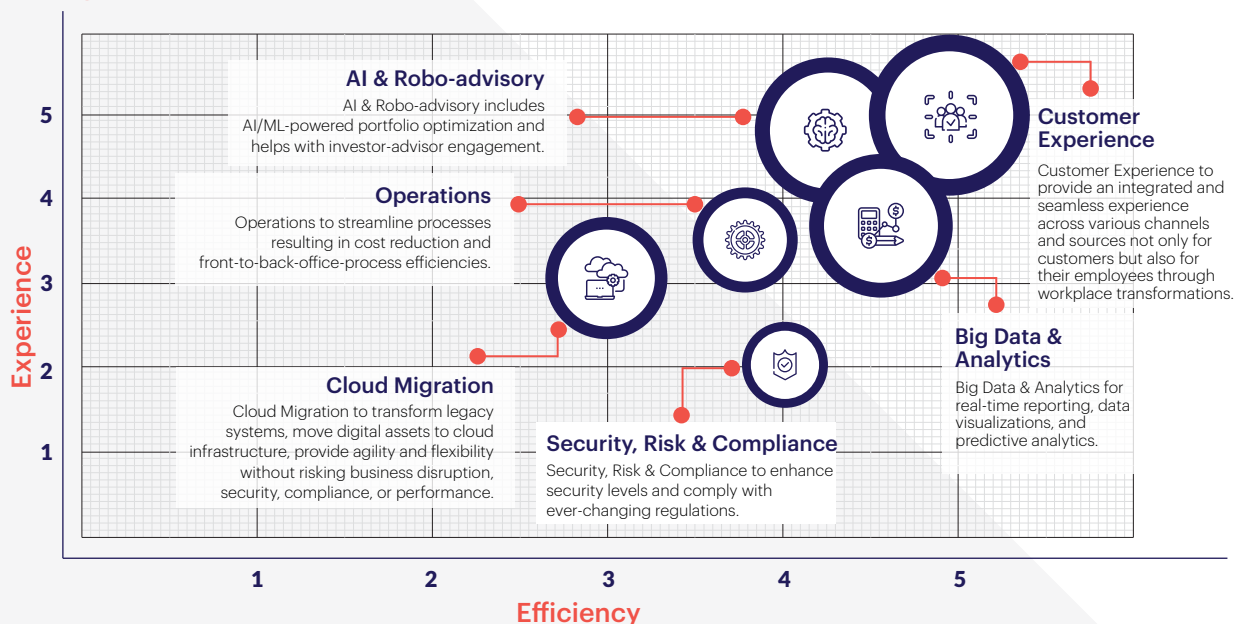
# How are firms responding?

Capital Market firms put more emphasis on experience and efficiency when it comes to investing in different areas in order to grow their revenues. Customer-centricity is essential for every company's growth to remain competitive in the face of increased customer expectations. Consumers' expectations have grown, and hence financial institutions are increasingly looking for ways to improve their service and deepen customer engagement. Historically, it has been observed that providing enhanced experience increases customer satisfaction, reduces cost to serve, and results in higher conversion rates. Hence the need for "experience".

Cloud enables scale, computing power, resilience, and security which translates to agility, long-term efficiency gains and cost reduction. In addition, development and deployment on cloud is more efficient due to automated DevOps. Hence the second most important dimension is that of "efficiency".

Both experience and efficiency lead to higher revenue. Hence, the impact of these initiatives on revenue is the third dimension of interest.

## Digital Transformation programs of Capital Markets firms on cloud and the impact along 3 dimensions Efficiency, Experience and Revenue



### Legend



**Revenue impact**

The size of the circles indicate the revenue impact of the strategic initiative





# The Journey Forward

Capital markets is a highly regulated industry, so it mandates several levels of checks and balances before migrating inherently complex applications. Firms will have to compare and contrast short and long-term objectives as digital migration involves a high initial investment and cost savings happen over time. A rapid assessment of firm's existing financial landscape is necessary in order to gauge cloud-readiness. Collaborations with fintechs can help in rapid assessment and implementation. Firms will also need to focus on standardization, organization wide automation, and cloud-native development.

Capital markets firms need to migrate to cloud and prepare to adapt contemporary, business critical technologies such as AI, distributed ledgers and analytics to improvise various functions. That said, there is no better time for firms to start their digital transformation journey than now.

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