S&P Global
Market Intelligence

CONFIRMATION
Part of Thomson Reuters

WBR INSIGHTS

CMIS Capital Markets Innovation Summit

LETTING GO OF LEGACY IT SYSTEMS IN 2021:

THE ACCELERATING SPEED OF AUTOMATION FOR POST-PANDEMIC CAPITAL MARKETS FIRMS

CONTENTS

CONTRIBUTORS

Stephane Malrait, MD, Head of Market Structure and Innovation, **ING**

Susanne Chishti, CEO, **FINTECH Circle** & Co-Editor, **The FINTECH Book Series**

Will Robinson, Conference Director, **Capital Markets Innovation Summit 2021**

Daniel Kim, Associate Director, Investment Banking, **S&P Global Market Intelligence**

Mark Moss, Director, Investment Banking Product Management & Development, **S&P Global Market Intelligence**

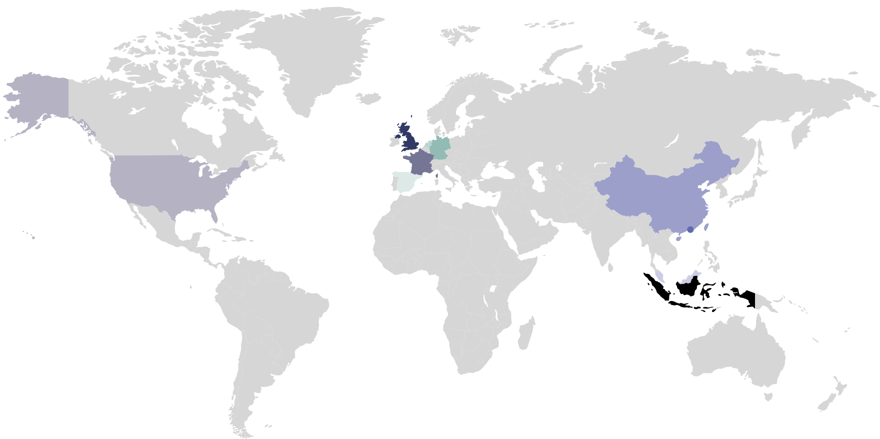
Caroline Winch Commercial Director, **Confirmation,** part of **Thomson Reuters**

METHODOLOGY

In Q1 of 2021, WBR Insights surveyed 100 Heads of Innovation and similar from capital markets firms across APAC, Europe and North America to find out about the challenges they are facing in 2021, due to the impact of the COVID-19 pandemic, and the innovative solutions they are putting in place.

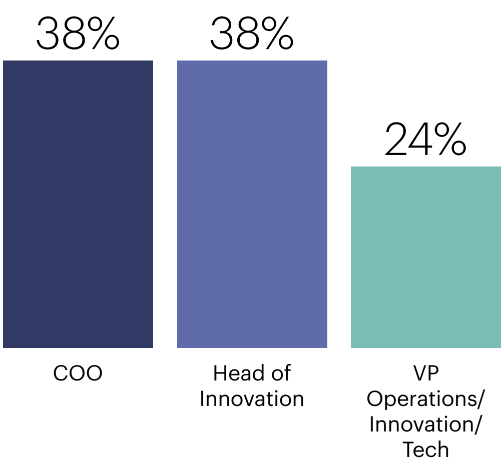
The survey was conducted by appointment over the telephone. The results were compiled and anonymised by WBR Insights and are presented here with analysis and commentary by S&P Global Market Intelligence; Confirmation, part of Thomson Reuters, and the Capital Markets Innovation Summit community.

IN WHICH COUNTRY IS YOUR COMPANY HEADQUARTERS LOCATED?



UK	30%
France	15%
USA	15%
Germany	10%
The Netherlands	10%
Spain	10%
Hong Kong	4%
China	3%
Malaysia	2%
Indonesia	1%

WHAT IS YOUR ROLE?



WHAT TYPE OF ORGANISATION DO YOU WORK FOR?

Tier 1 & 2 global investment banks	75%
Hedge funds	15%
Non-bank market makers	10%

S&P Global
Market Intelligence

Delivering value from data

Accelerating the path from data to decision

Matt Aslett, Research Director, Data, AI & Analytics, **451 Research, S&P Global Market Intelligence**

Data has never been so abundantly available to aid business decision-making. For enterprises, the challenge is ensuring that the sheer volume of data doesn't become a barrier to insight. Effective data management can accelerate the collection, processing, and analysis of the available data to fast-track the return on investment in data and analytics.

Key findings

- Data-driven decision-making has become a business imperative during the fourth industrial revolution as data-driven pioneers have shown that the effective use of data can be leveraged to drive new opportunities, disrupt existing markets and create competitive advantage.
- Prior investments in data and analytics have helped organisations cope with the impact of the COVID-19 pandemic, which appears to be exacerbating the divide between those who are investing to grow their data and analytics initiatives, and those who risk being left behind.
- Being data-driven is easier said than done. It involves cultural and organisational change; the adoption of new products and services; investments in data literacy, and programmes to reduce data silos, facilitate access to data and improve data governance.
- There are multiple challenges associated with successful utilisation of data. These include the rising volume of data and the increased variety of data sources; the time taken to find and prepare data for analysis; configuration and deployment of infrastructure; design and deployment of data analytic pipelines, and the creation and testing of analytic models.
- Reducing the time taken to generate insights from data could deliver meaningful benefits, including increased sales, improved business agility, enhanced customer service and engagement, and more empowered and aligned internal decision-makers.
- Improving data culture in an organisation involves the democratisation of data to ensure that staff across the whole organisation have the skills, tools and access they require to read, analyse, understand, and communicate with data.
- Data management enables one to improve insight and can play an important role in overcoming the challenges to successful data utilisation. It can facilitate the delivery of value from overall investments in data and analytics.
- Data marketplaces can help decision-makers to unlock the value in enterprise data in combination with third-party data. They do this by providing access to prepared data sets, as well as natural language query capabilities, and the underlying data processing functionality, that help accelerate the time to actionable insight.

Matthew Aslett
Research Director, Data, AI & Analytics
451 Research, S&P Global Market Intelligence

For further information, download the full delivering value from data report

CONFIRMATION
Part of Thomson Reuters

The technology imperative realised during COVID-19

Caroline Winch, Commercial Director, **Confirmation,** part of **Thomson Reuters**

COVID-19 has emphasised the importance of adopting technologies that will improve the efficiencies and effectiveness of capital markets, and the *Letting Go of Legacy IT Systems* report strongly reflects that sentiment amongst leading businesses.

This pandemic will not be the last black swan event of its kind that forces us to physically separate whilst continuing to work, and banks are further refining their approach to remote and hybrid working environments to make system security a priority. They are identifying where efficiencies can be made to improve systems - like moving to electronic confirmations - so when that next disruptive event comes along, they can ride it out much faster.

The pandemic brought new opportunities for fraud

When money is involved, someone will invariably try to steal it, and regulators have repeatedly warned how fraud is more conducive to the current environment where teams are scattered. The modern fraudster would much rather face a disparate workforce with multiple points of entry than a single, robust system, and respondents are increasingly conscious of the need to have a consolidated view of their data to shore up their defences and satisfy enforcement officials.

As evidenced in the responses, weaknesses in the management of financial data has been exacerbated by the current crisis, and firms are increasingly conscious of their need to replace laborious, manual processes with superior technology.

Partnering with third parties to accelerate growth

A rise in partnerships with third-party experts, such as Confirmation, part of Thomson Reuters, who provide these solutions, is also evident, because ultimately, capital markets firms want to concentrate on what they do best: generating revenue, serving clients, and enhancing their reputations. They don't want to waste time and resources building their own data management technologies when they can bring in teams who specialise in developing the kinds of platforms that help them achieve their goals.

It's encouraging to see attitudes shifting towards machine learning (ML) and artificial intelligence (AI) as applied to regulatory compliance and security, and the adoption of electronic confirmations as a priority to move on from centuries-old paper and manual processes. Over the last 12 months, video conferencing was the thing everyone became forced into, and that shift has fostered a wider efficiency-race mindset amongst capital markets players who are looking for the next thing that will help them prepare for and ride out future shocks.

Digital foundations aren't built in a day

Capital markets firms have often been viewed as conservative entities that will analyse and evaluate for a long period of time. In comparison to a fast-moving high growth business, banks and accountants have historically taken longer to adopt the latest technologies out there. The data in this report shows that this may no longer be the case.

In taking stock of the current market, respondents have observed the ways in which some businesses sank, and how others were better prepared and emerged stronger, which has sent a clear message to those clinging to outdated, legacy systems.

Purging a business of inefficient, ineffective processes, and adopting technologies that provide the flexibility to deliver in whatever the work environment looks like tomorrow, without compromising on security, is the biggest lesson to be learned from the last 12 months.

Caroline Winch
Commercial Director, **Confirmation,**
part of **Thomson Reuters**

For further information on Confirmation, or to discuss the findings in the report, please contact caroline.winch@thomsonreuters.com.

PART ONE

Automation and improved workflow management

In recent years, several capital markets organisations have been well underway with their automation technology implementation journeys. However, since the impact of the COVID-19 pandemic, the potential for automation technology to reshape workflow management has been underlined.

The pandemic has taught capital markets firms the real urgency of deploying even greater levels of automation technology to help further improve operational resiliency. In the past 12 months, automation technology has become far more embedded within capital markets businesses, as the workforce has shifted to remote working. This has resulted in several firms witnessing an acceleration of their digital transformation, especially with regards to the cloud.

According to our survey results, the majority of respondents' organisations are looking more strategically at implementing automation technology that can streamline the way they work. For some, this means choosing specialist providers with open platforms that allow them to 'plug in' services; meanwhile others will be working from either a hybrid or fully outsourced basis, depending upon which of their operations they need to keep in-house.

Looking ahead to post-COVID-19, data is going to be the fuel of success for capital markets organisations. Today, technological advances are being made in big data management, machine learning (ML) and artificial intelligence (AI). Thanks to cheaper cloud hosting, capital markets firms are seeing the real potential of leveraging data and analytics, which is starting to play a bigger role in their workflows.

As Moore's Law predicted, since the 1970s, the power of computers has doubled every year or year and a half, yielding computers which are millions of times more powerful than their ancestors even a decade ago. This growth in processing power means capital markets firms can dig deeper into their granular-level data than ever before to uncover patterns and use them to stoke up their trading strategies, improve operational efficiencies and client experiences.

Our survey respondents were spread among Tier 1 and 2 banks and hedge funds primarily. Reviewing the data, we saw their plans for leveraging data to improve the operational efficiency of their organisations in 2021 were being motivated by different goals. 'Identifying trends and opportunities' was a consistent theme in their responses, along with 'understanding risks' and 'eliminating confusion and errors'. However, perhaps the most notable response was the desire to: 'create some FinTech-worthy equivalents in operations'.

This survey data is telling. Legacy players who are still operating in, or patching up, their old working practices are only too aware that the genuinely innovative solutions being offered by their FinTech challengers make them no paper tigers. FinTechs don't necessarily have what their institutional incumbents do. Namely, the command of large market franchises and deep financial and technical resources.

However, these FinTech challengers know exactly how to exploit technological innovation and have the knowledge of their customers' behaviour to directly attack and disrupt incumbents. Capital markets firms, there's no denying, have much to gain from leveraging FinTech agility to re-configure their workflow operations and institutional logics and to confront regulatory boundaries.

Enabling change across siloed legacy systems to provide reliable analytics functionalities is no easy task. It requires a willingness to cut through technological 'inertia'. It also demands organisation-wide collaboration, plus a clear line of sight through today's onerous regulations and compliance burdens.

The size of this hurdle was reflected in our survey finding, that 57% of respondents said they ranked the state of play in their organisation between 'very difficult' to 'somewhat difficult' in terms of their capacity for integrating automation technology, to increase best practice workflow management for operational efficiency.

However, their motivation to overcome the challenge was clear. Our respondents prioritised the outcomes from improving workflow management in this order:

- Improving revenue generation and value delivery to clients
- Improving operational efficiency across the organisation
- Safeguarding cybersecurity across the wider organisation's legacy systems

This shows that capital markets firms do have their eyes on the bigger picture and rewards. When done right, they know that automation technology and better workflow management go well beyond improving risk management, reporting compliance, and operational efficiency. Achieving this brings much added value beyond simple workflow management: to drive new trading methodologies, enhanced client experience and better operational efficiency.

We asked our respondents to explain how their organisations are planning on leveraging data to improve operational efficiency in 2021. Here is what they told us.

"We are considering increasing automations to eliminate any confusion and errors that might be going unnoticed."

"Try to use it to create more support systems that can be used in times of need."

"Performance management and comparison will help us make better decisions on improvement in 2021."

"Data holds a lot of answers and we will consider seeking some of those answers in 2021."

"Certain algorithms will be run on this data that we hold to identify trends and opportunities."

"We will use it to achieve more insights on operations."

"Create some FinTech-worthy equivalents in operations."

"We should be able to create more vantage points for operations based on which we can make adjustments this year."

"Data can help us identify hidden trends that can make a difference in operations in 2021. Although volatility still exists, we will try to identify stability in operations."

"No major changes will be initiated this year. Minor tweaks to the operations system may be considered with the assistance of data."

"We will use it to develop better understanding of the risks that operations face in 2021."

"Operations are all efficient but there will be continuous efforts to find new ways to create new opportunities that help make a difference."

"There is something called operations freedom, that we are actively striving for at the moment and certain parts of it will be achieved in 2021."

"We will use it to analyse process performance."

"We can definitely see the acceleration of data usage and rapid changes that are needed in larger organisations to create value from data. I am not surprised that respondents said their organisations are using data to gain a better understanding of their operational risk. Since the number of industry regulations has been consistently increasing over the years, leveraging data to reduce risk will become essential in the future."

Stephane Malrait,
MD, Head of Market Structure and Innovation,
ING

"It does not surprise me that operational resilience and risk were cited as important areas for the respondents' organisations to focus their attention on with regards to leveraging data this year. Both the FCA & SEC are stressing the importance of operational resilience and leveraging data is right at the core of this. Banks need to analyse data to gain visibility of, understand and then mitigate operational risk."

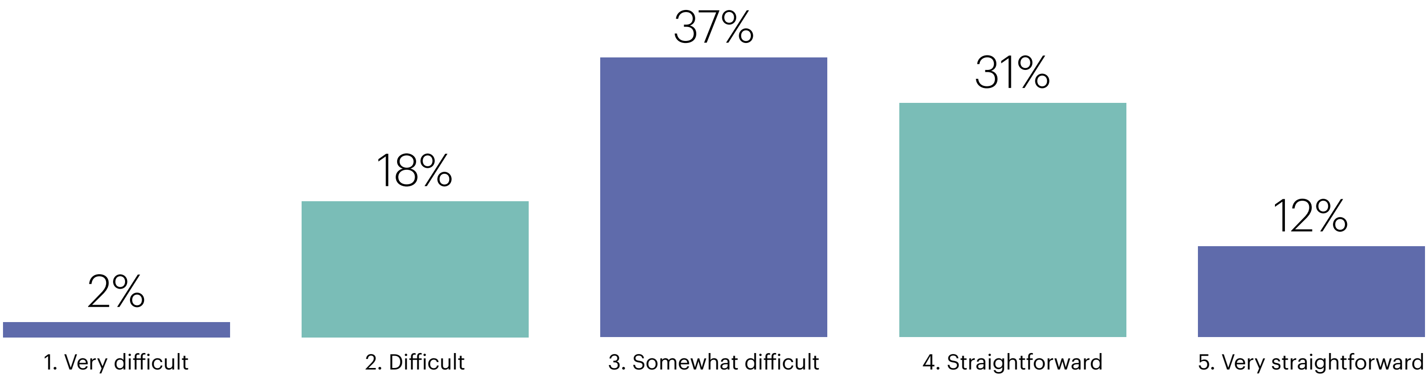
Will Robinson,
Conference Director,
Capital Markets Innovation Summit 2021

"Targeting revenue-generating projects is clearly more of a priority now than, for example, back-end system upgrades for many firms. We're still experiencing the COVID-19 downturn, and while revenue has pulled back or growth slowed, the desire to get back to where we were before is understandable. There is a risk in forgoing maintenance or upgrades; deprioritising the 'dull stuff'. But for some firms, that short-term revenue bounce is more important, and therefore if they do push the button on a data upgrade, they are more likely to bring in outside help to achieve that."

Caroline Winch
Commercial Director,
Confirmation,
part of Thomson Reuters

57% of respondents said they ranked their organisation between, very difficult, to, somewhat difficult, in terms of integrating automation technology to increase best practice workflow management to increase operational efficiency

How would you rank your organisation in terms of integrating automation technology to increase best practice workflow management to increase operational efficiency?



"While automation technology is a key area of focus for most capital markets organisations, there are still some challenges when adopting automation technology, due to the legacy infrastructure complexity. These organisations need to overcome this challenge by looking at the third-party providers and technology solutions available on the market today that can offer interoperability which is already purpose-built as part of its make-up."

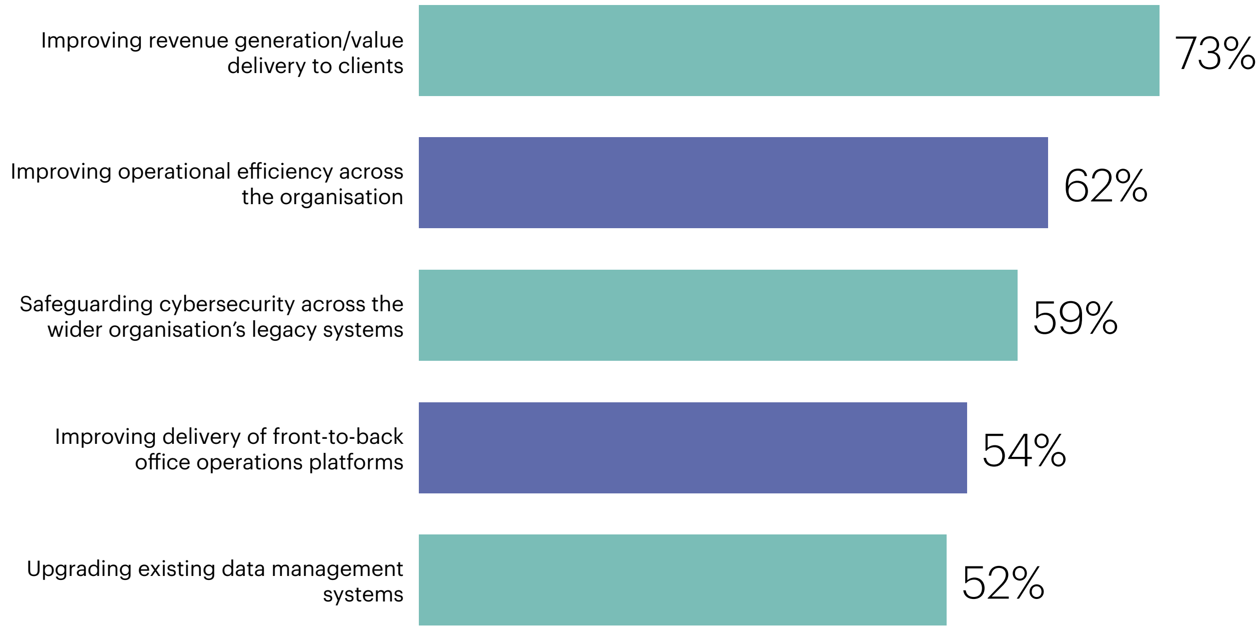
Stephane Malrait,
MD, Head of Market Structure and Innovation,
ING

"One reason why some organisations might find this challenging could be due to legacy systems and interoperability of data. Workflow management tools and other technology solutions that already have that interoperability built in, whether through APIs or other forms of compatibility, are invaluable. Workflow management tools that have interoperability built in, and bypass implementation challenges in the process, are invaluable."

Will Robinson,
Conference Director,
Capital Markets Innovation Summit 2021

Improving revenue generation/value delivery to clients, improving operational efficiency across the organisation and safeguarding cybersecurity across the wider organisation's legacy systems were the top three key areas our respondents' organisations are focusing on this year to improve workflow management

What are the key areas your organisation is focusing on this year to improve workflow management? Please select three



"I am not surprised that the majority of respondents said their firms are focusing on improving revenue generation and value delivery to clients. Following from years of investment in regulatory compliance, most capital markets firms are now in a position and have more capacity to re-focus their technology budget towards business changes that will further improve their revenue or reduce their costs."

Stephane Malrait,
MD, Head of Market Structure and Innovation,
ING

PART TWO

Working with legacy systems in 2021

Capital markets firms can overcome the challenges of their legacy systems, but this cannot be done overnight. For most organisations, this entails the adoption of multi-year and incremental strategies deployed over the longer term. Doing this, while at the same time meeting tougher regulation, increasing cost pressures, aggressive competition and tight margins is a big ask.

For many capital markets firms, systems are dated in multiple ways, with either mainframe-based platforms with spaghetti connections, or legacy software code, or hardware that is still integral to core operations. The upsides of upgrading legacy applications or legacy software are obvious. However, equally so are the difficulties involved.

Invariably, it is not just the systems that need digital transformation. New talent and new knowledge may be required too, to drive business model renewal, challenge current practice, introduce advanced technologies, modernise legacy systems and increase agility. Despite these challenges, most of the respondents from our survey do have a defined digital strategy in place, even if some are less advanced than others.

A critical strategic decision for capital markets organisations is whether to create their own digital platform or partner with existing third-party platforms. 'Partnering with third-party providers' was the organisational strategy for technology transformation for the majority (38%) of our respondents, with 19% using 'a hybrid system'. However 25% said they would be 'upgrading existing legacy systems'. These respondents are likely to be from smaller firms because this would not be feasible for bigger enterprises.

The accumulation of applications, multiple tech stacks, and hard-coded solutions will have created Frankenstein-like IT environments that are costly to operate, vulnerable to failure, unlikely to be understood from end-to-end, and detrimental to speed, flexibility, and agility.

Many capital markets firms clearly have big obstacles to overcome. For example, our respondents said: 'Even the transaction approval system is a bit outdated'; 'The trading desk needs digital upgrades' and 'There are a lot of paper process that still exist from a compliance point of view'.

35% of our respondents said their organisation needs technology 'to mitigate risk in manual processes' as the most urgent improvement, with 14% anticipating that cloud would be the solution. This makes sense because new technologies are now built using cloud architectures and approaches, while options available to legacy systems are continuing to narrow. Plus, cloud is not just about infrastructure, but also value-added services.

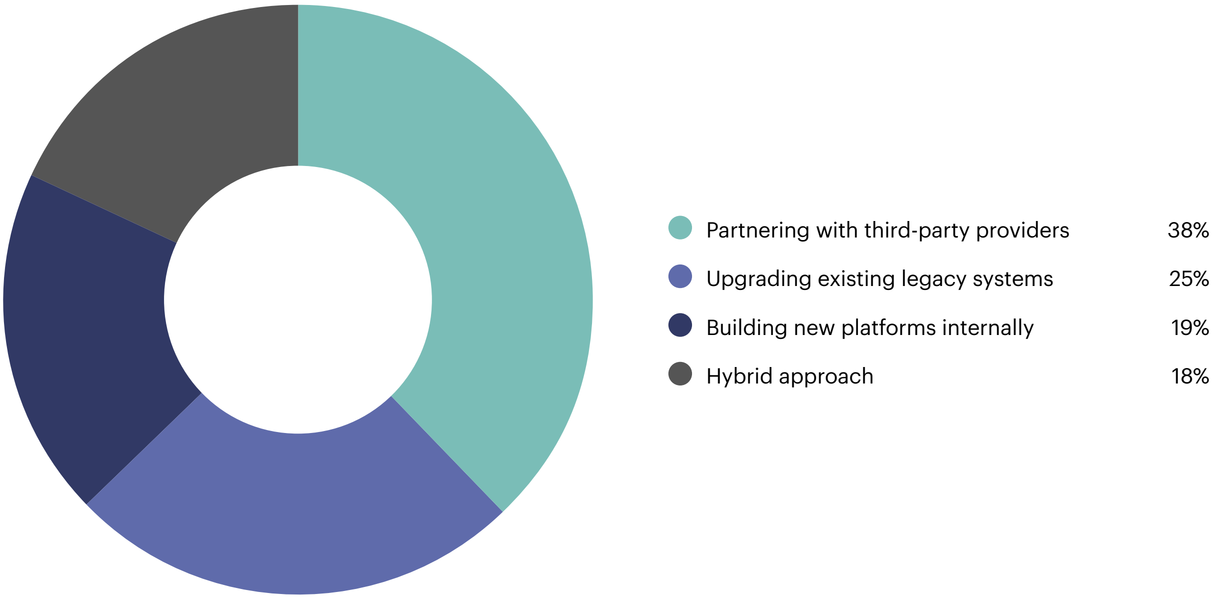
Regardless of the chosen approach, the benefits of cloud mount up quickly. They include accelerated implementation, reduced time to market for new products or services, and usually a lower cost of applying and maintaining the technology.

37% of our respondents said their organisation was seeking and finding the new solutions via an innovation hub to drive the development and application of their new technologies and business models. A further 23%, however, were relying on the talents of their IT department to institute change, while 22% were taking a more organisation-wide collaborative approach 'where everybody contributes ideas'.

Metrics of success also differed broadly between firms, from usability to value creation to speed of implementation. Functionality and cost were the biggest factors in their decision-making, with respondents citing the following as most influential: 'The level of customisations that the new system will provide us'; 'How easy the system is to integrate' and 'How much we will save by replacing the legacy system'.

The majority of our respondents said partnering with third-party providers is their organisation's strategy for technology transformation

What is your organisation's strategy for technology transformation?



"What is interesting to see from the respondents here is that there is less and less reliance on building everything in-house and there is instead, more of a focus on forming partnerships with FinTech companies. The existing systems will also have a role to play here, as they can take the opportunity to innovate their legacy infrastructure at the same time as partnering with third-party providers."


Stephane Malrait,
MD, Head of Market Structure and Innovation,
ING

"The era of COVID-19 has tightened the market, and businesses are cutting resources to make the best use of their people and capital. The data shows they want to focus on their core offering and leave the technology builds to outside experts like Confirmation. In upswings, firms often try to create things internally, but they soon find out the cost isn't in the original build but in the ongoing maintenance, upgrades, security enhancements and the like, which becomes harder to justify the spend during a downturn. That's why it makes sense to partner with third parties."


Caroline Winch
Commercial Director, Confirmation,
part of Thomson Reuters

"It is interesting that partnering with third-party providers came out higher than upgrading existing legacy systems. Often the way to upgrade legacy systems is to work with a third-party provider that can offer the organisation better levels of interoperability and 'plug and play' services and solutions that sit on top of legacy systems.

Building new platforms internally and the hybrid approach versus partnering with third-party providers, for the most part is about scale. For those larger organisations, in many instances, building new platforms internally could actually make more sense, because you have economies of scale and a global footprint. In these instances building proprietary systems can make sense"


Will Robinson,
Conference Director,
Capital Markets Innovation Summit 2021

"By collaborating with third-party FinTech providers, capital markets organisations can benefit from their technological advances as well as enjoy a seamless customer experience. In recent years, there has been greater levels of FinTech's and sell-side banks using platform-based business models that can offer good results for the end-client but without the necessity of being tied into a large financial commitment."


Susanne Chishti,
CEO, FINTECH Circle &
Co-Editor The FINTECH Book Series

We asked our respondents what processes or systems their organisations still have in place that could be considered outdated and "legacy". Here is what they told us.

"There are certain data input processes and documentation processes that need to be automated if possible."	**"Certain transactions process that cannot be automated as yet."**	**"The client onboarding system."**
"The state of our infrastructure and legacy systems that we have developed is quite upgraded and modern."	**"The advisory system can do better."**	**"The trading desk needs digital upgrades."**
"There are a lot of paper process that still exist from a compliance point of view."	**"The account opening process is still a bit outdated I would say."**	**"Contract management system. Even the transaction approval system is a bit outdated."**
"Traditional systems are accounting related."	**"The legislative process and system still has outdated and legacy parts to it."**	**"Outdated would be a strong word for us because we don't have outdated systems."**
"Transactioning and settlement technology is seeking new momentum."	**"I don't see any systems or processes like this in our organisation."**	**"Data models and data analysis models still function in a traditional way."**

"It is very hard for financial institutions to talk about their main technology challenges on legacy infrastructure because some are quite old but still continue to work quite well with the newer technology that has been implemented more recently. For example, in the back office, there are some areas where other systems are more recent but they will still need regular upgrades, such as client facing technology."

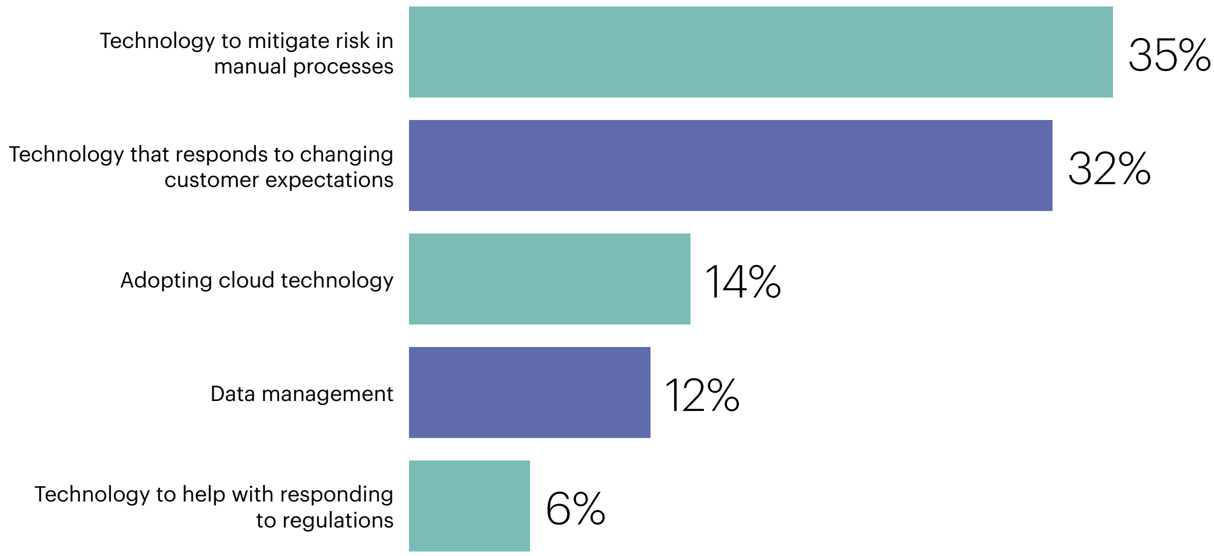
Stephane Malrait,
MD, Head of Market Structure and Innovation,
ING

"At the end of the day, this will depend on the bank and priorities of the organisation, the budgets available and the challenges and opportunities the banks see as well. You can't automate everything because it takes an investment of time and capital to automate these processes, implement the technology, train up the staff and ultimately drive the change. An ROI needs to be determined and is not always there."

Will Robinson,
Conference Director,
Capital Markets Innovation Summit 2021

35% of respondents said their organisation needs technology to mitigate risk in manual processes as the most urgent improvement

Which area of your company's technology infrastructure needs most urgent improvement?



"Reducing the risk in manual process has great benefits because it will enable capital markets organisations to reduce the level of human-caused manual errors, increase the speed of execution and improve the levels of regulatory compliance while reducing cost. However, that said, it is better to focus on the areas of technology infrastructure which have higher risks and to make a start with small-scale experiments first, before completing a large-scale roll-out."

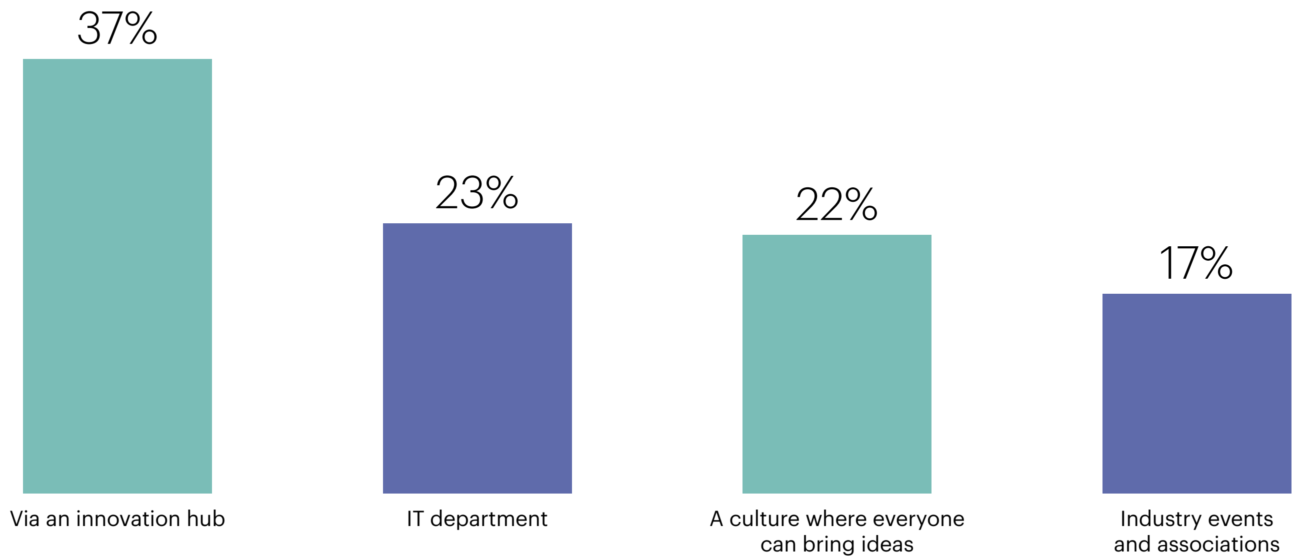
Stephane Malrait,
MD, Head of Market Structure and Innovation,
ING

"It is interesting to see that most respondents said the area of their organisation's technology that most needs urgent improvement is technology to mitigate risk in manual processes. Many capital markets firms have implemented AI and Machine Learning technology to help automate manual workflow processes to help free up time, reduce costs and mitigate risks. However, those processes that are still manual are open to risk by human error. There is a need for banks to prioritise investment in this area in the future to be able to see long-term benefits."

Susanne Chishti,
CEO, FINTECH Circle &
Co-Editor The FINTECH Book Series

37% of respondents said their organisation finds new solutions to the relevant parties via an innovation hub

How do new solutions find their way to the relevant parties?



"If well organised, an innovation hub can bring great benefits to the organisation by having faster iteration processes, greater links to FinTech companies and a different methodology to solve problems without being in priority competition with existing backlogs."

Stephane Malrait,
MD, Head of Market Structure and Innovation,
ING

"To see innovation hubs take on such a central role in banks' innovation strategies is very exciting. Only a few years ago they were only of tertiary importance and are now evidently at the core of many CIBs' FinTech engagement strategies and novel technology adoption processes."

Will Robinson,
Conference Director,
Capital Markets Innovation Summit 2021

"An important part of connecting new technology solutions to capital markets firms is via innovation hubs. FinTech firms are bringing new players forward and are disrupting the dynamic of the sell-side financial services sector. Innovation hubs provide a good space to gain an understanding of what new technologies are waiting in the wings and how they can benefit capital markets organisations via their solutions and services."

Susanne Chishti,
CEO, FINTECH Circle &
Co-Editor The FINTECH Book Series

We asked our respondents how they are measuring success around replacing outdated legacy systems. Here is what they told us.

"How easy the system is to integrate and what levels of savings we can achieve with the legacy system."

"We have a specific measurement that takes all into consideration and provides us a value that is then compared against a benchmark."

"We measure the challenges we could face and how long it would take for us to fix those challenges."

"The speed of integration is what matters and eventually the costs we would be saving."

"How much we would have to pay for this integration and how much we will save by replacing the legacy system."

"Right now it can only be measured by the level of digital integration that we consider."

"The total cost and length of time for replacement and of running the new system."

"In modern day business it's the speed factor for us."

"We only measure with parameters around digital technology."

"The level of customisations that the new system will provide us."

"How strategically sound the new implementation is."

"The level of modernisation that we will achieve with the new system."

"We rarely consider this because our systems are quite updated and new on that front."

"Testing the system and measuring how many times it fails."

"I think success should be linked to business objectives measures in new revenues or an increase in client satisfaction. Internal system cost reduction could also be a great measure of success as well."

Stephane Malrait,
MD, Head of Market Structure and Innovation,
ING

"It's taken the industry and the regulators a little time to catch up with what we do, but the signs are encouraging that the market recognises there is a better way to do things; we can use technology to improve these 100-year-old paper-based manual processes. The regulators are now driving this through as a priority; they want firms to move on from manual processes that are inherently inefficient, open to error or fraud, and they want firms to adopt technology that leads to fewer errors and better fraud control."

Caroline Winch
Commercial Director, Confirmation,
part of Thomson Reuters

"Speed is mentioned several times here, and it's the speed to do things like replace or build on top of outdated legacy systems quickly which means the success or failure of these kind of projects.

The faster banks can get to the business of driving value for clients and the demands of competing in a highly competitive industry, the better. Operational transformation projects need to be completed as quickly as possible in a way that doesn't result in wasting time, resources or money. Only then will the real ROI from these projects be realised."

Will Robinson,
Conference Director,
Capital Markets Innovation Summit 2021

PART THREE

Driving ROI from digital transformation projects

Capital markets firms have heavy (and growing) regulatory responsibilities and many of these regulations, not least the advent of MiFID II and PRIIPS, have direct implications for the way data is stored, managed, and communicated. The Basel Committee on Banking Supervision (BCBS) 239 compels banks to adopt new data management principles focused on supporting risk management reporting and governance.

Regulators now require a clear audit trail for data underlying operational decisions, such as risk analytics or regulatory reporting. This imposes the obligation for data to be tagged with metadata to prove lineage and provenance of individual items.

Our survey revealed that most capital markets firms were now re-evaluating their internal data management strategies and that they were informed about their data strategy shortcomings and pain points. 52% of respondents said they were now prioritising ML and AI to facilitate their regulatory compliance and operational efficiency (57%).

The two dominant areas that represented the biggest challenge for our respondents were data quality, and discovery and onboarding. These are serious issues for capital markets organisations and can have a negative impact on business performance. 'Dirty data' that is inaccurate, incomplete or inconsistent can expose CEOs, CFOs and CDOs to regulatory disclosure risk.

Data-quality metrics such as accuracy, completeness, timeliness, integrity, consistency, and appropriateness of individual data items are now critical – for operational, regulatory and client experience reasons. Effective data aggregation demands a consistent manner of storing and managing data over time, which is difficult for many firms to manage across silos.

So, unsurprisingly, 21% of our respondents said that achieving enterprise-wide data consistency as a single source of truth was a major hurdle for their firms. This is not a challenge that can be ignored. Without a consolidated view and an understanding of data's shortcomings, data managers will be permanently frustrated in their efforts to support their business.

Capital markets firms are not so far ahead on the client experience curve, but our survey showed that they are now discovering new opportunities. They are also re-thinking and re-designing how data technology operates within their organisations. Traditional firms, even those with monolithic and legacy architectures, are clearly aware of the need to boost 'client stickiness' and adapt to clients' digital preferences.

In the face of increasing competitive pressure from new entrants, diversified needs of their younger customers, and a rapidly changing economic and sociological landscape, the most forward-thinking Heads of Innovation are taking a leaf out of the FinTech book and asking themselves the question: "What do our clients really want from us?"

This was reflected in our survey in which our respondents told us they intended to 'redefine our relationships, goals, strategies and even decision execution for our clients with digital transformation', to create 'more products and solutions for our clients' and to 'to attract new and younger clients'.

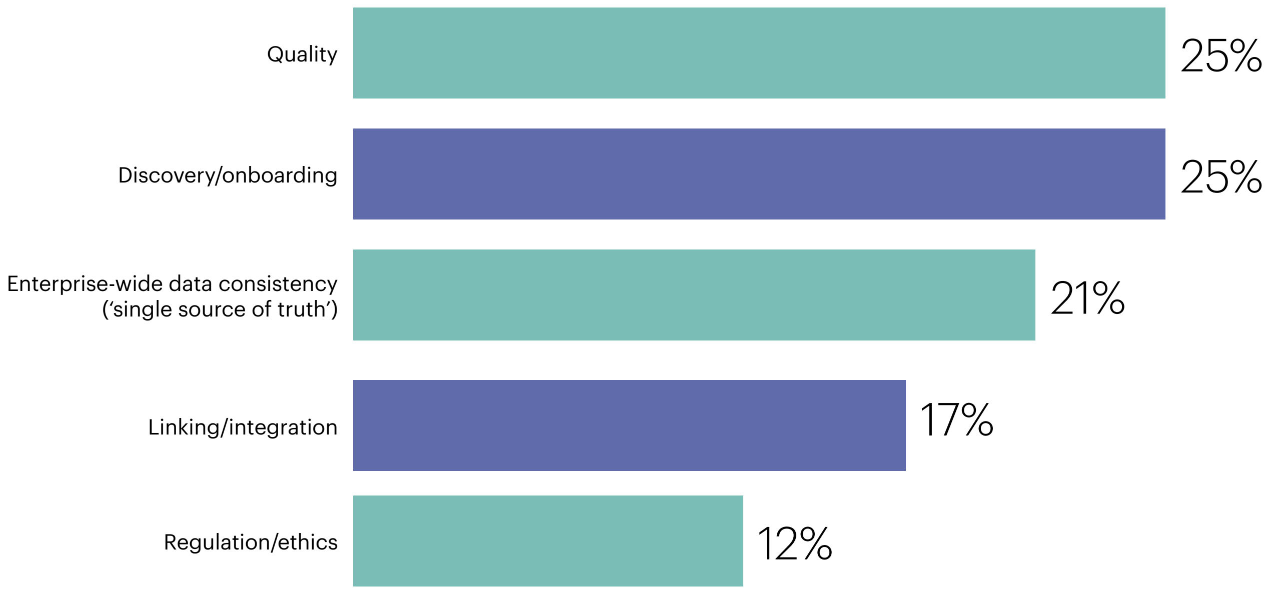
Cloud was clearly seen as the route to the future for most of our respondents. 36% of respondents said 'a flexible data cost model where they pay for storage and processing as required' was the biggest expected benefit for their firm when looking at cloud adoption. Another major benefit was holistic – the consolidation of data in one place. 29% of our respondents said the major appeal of cloud for them was enterprise-wide data consistency into a 'single source of truth'.

The other sea change is the use of alternative data. These data sets are not derived from the financial markets but instead are spawned by the global data explosion of the digital era, generated by the activities of businesses of all types. They invariably come in unstructured format (unlike most traditional data sets) which makes them challenging to integrate and to consume. Knowledge is money in capital markets and 72% of our respondents said unstructured and alternative data sets were now 'important' to their firm's data management strategy.

Hedge funds have been the pioneers in using alt data for alpha returns generation. They were the first to launch a fund based on tweeter data sentiments. Other leading financial services firms are already harnessing AI and alternative data for investment research, and specialist firms are even reported to be using neural networks for asset allocation decisions. As expertise increases, so will the trend and eventually, alternative data many no longer be seen as an 'alternative'.

50% of respondents said data quality and discovery/onboarding were the biggest challenges to their organisation's data strategy

What is the biggest challenge to your data strategy?



"Financial institutions have a lot of data but too often it is distributed in different systems and with poor quality making it hard to reconcile or to use on a global scale. The good news is that new AI-driven technologies can help capital markets to improve their data quality or give meaningful insight even with medium-quality data."

Stephane Malrait,
MD, Head of Market Structure and Innovation,
ING

"An effective data strategy will be key to successful enterprise digital transformation. As demand for data grows exponentially to power new analytics for competitive advantage, firms will need to counterbalance this with robust data governance to make sure projects remain compliant with regulations and data ethics standards. It is noteworthy that data discovery and data quality collectively account for the biggest challenges firms face with their data strategy. These are issues that data providers will need to keep at the forefront as they bring their solutions to market."

Mark Moss,
Director, Investment Banking Product Management & Development, S&P Global Market Intelligence

"The quality, consistency and the interoperability of data is evidently a challenge here, and building these solid data foundations is crucial to success. Any of the 'sexier' automation, RPA, AI and ML projects that use this data require these solid foundations. Finding ways to bring huge disparate data sets together and ensuring they are of the right quality and consistency sets the cornerstone for all of the more advanced technology that sits on top.

I am quite surprised to see discovery/onboarding of data is very challenging. There's a myriad of vendors vying to sell data to these banks. So, maybe it is the onboarding process that is most challenging here."

Will Robinson,
Conference Director,
Capital Markets Innovation Summit 2021

"Getting data quality right is of great importance to capital markets organisations to enhance their decision-making processes. Often, it is legacy systems that stand in the way and this is the root cause of challenges associated with data quality and delivering the most relevant data to the organisation. Investing in data architecture is a positive step towards increasing the overall quality of data for the business."

Susanne Chishti,
CEO, FINTECH Circle &
Co-Editor The FINTECH Book Series

We asked our respondents how their digital transformation strategies translate into enhanced client value. Here is what they told us.

“We can achieve a cost effective model that can help us create a better managed balance of relationship with our clients.”

“We should be able to meet client demands faster and more dynamically.”

“Creation of more products and solutions for our clients.”

“Client management becomes cheaper and we can probably reduce the fees and help them save more.”

“We will be able to translate client requirements faster with digitisation and develop a stronger relationship with them.”

“We can modernise consistency and customer relationship further with additional digitisation.”

“We should be able to attract new and younger clients and supply enough experiences for our current clients.”

“We will redefine our relationships, goals, strategies and even decision execution for our clients with digital transformation.”

“Digital technology will help us to move closer to our clients and their demands.”

“We would be able to provide more security of performance to our clients and communicate with greater excellence and efficiency.”

“By modernising our relationship.”

“Providing highly customised solutions will be one way of doing this.”

“We should be able to commit to our clients and deliver on those commitments with better accuracy.”

“We should be able to create a more tangible and cooperative environment for us and our clients.”

“A successful digital transformation strategy has to start with the client in mind, what you are trying to solve for your client (internal or external). Then it is not only a technology challenge but it is also a business-driven challenge with new products, new processes, new KPI. A nice webpage on top of an outdated technology stack will bring minimal benefit to the client and to the financial institution.”

Stephane Malrait,
MD, Head of Market Structure and Innovation,
ING

“I am not surprised that the majority of respondents said that digital transformation strategies would have a positive impact for delivering value to their clients. From working to become more cost efficient to attracting younger clients, there are many positive outcomes that can be explored.”

Susanne Chishti,
CEO, FINTECH Circle &
Co-Editor The FINTECH Book Series

“The most obvious ways are in the cost and quality of service to the client and in the shift in margins for the bank. The automation of certain processes can drive significant cost savings for a CIB which can either be absorbed, passed on to clients, or likely a combination of the two.”

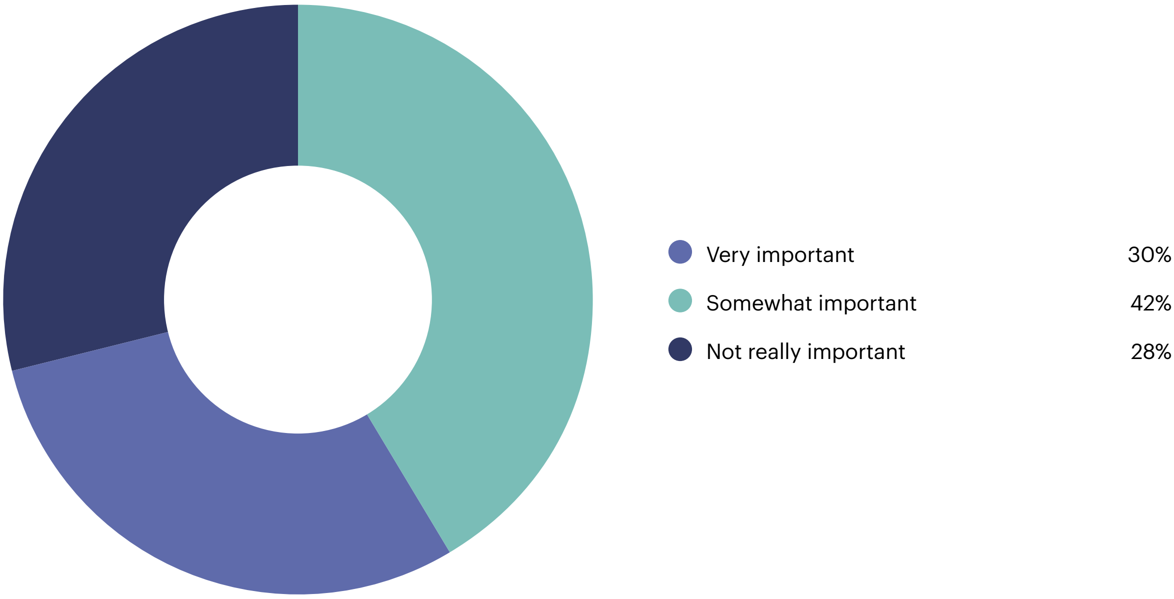
Will Robinson,
Conference Director,
Capital Markets Innovation Summit 2021

“One of the primary drivers for firms to invest in digital transformation is to enhance the value they bring to their clients, which can take multiple forms. Firms are seeking a deeper understanding of their clients to be able to offer more bespoke solutions. They are also seeking greater agility to become more proactive in responding to new developments and manage client relationships on more of a real time basis. Furthermore, firms are keen to realise cost savings through digitising operations, which could, in turn, be passed on to clients in the form of lower fees.”

Mark Moss,
Director, Investment Banking Product Management
& Development, S&P Global Market Intelligence

72% of respondents said unstructured and alternative data sets are important to their firm's data management strategy

How important are unstructured and alternative data sets to your firm's data management strategy?



"Unstructured and alternative data usage for financial institutions are still at a very early stage of adoption but we are starting to see some good interest and potential use cases in this field."

Stephane Malrait,
MD, Head of Market Structure and Innovation,
ING

"Increasingly, we are seeing more capital markets organisations sit up and take note of the importance that unstructured and alternative data holds for the future. This data is becoming increasingly more mainstream across the financial services industry, particularly as more 'exotic' data sets are becoming readily available. The benefits that alternative and unstructured data can provide capital markets firms is wide-ranging.

However, then comes the challenge for these organisations to sort, process, evaluate, integrate and store this new data which is no mean feat. There could be regulatory compliance and privacy rules in place that affect when, where and how this data can legitimately be used, as well as having the infrastructure internally that is able to manage this additional data."

Susanne Chishti,
CEO, FINTECH Circle &
Co-Editor The FINTECH Book Series

"This shows a big difference in the last two years. Alternative data and big unstructured data sets have not generally been utilised in the past because banks have not had the capabilities to import and leverage them successfully. So, the fact that almost three quarters of respondents have said that it has some degree of importance and almost a third of respondents are saying it is really important, shows that the leveraging of this data is moving forward and banks are taking advantage of these large external data sets and importantly, banks now have the capability to do so."

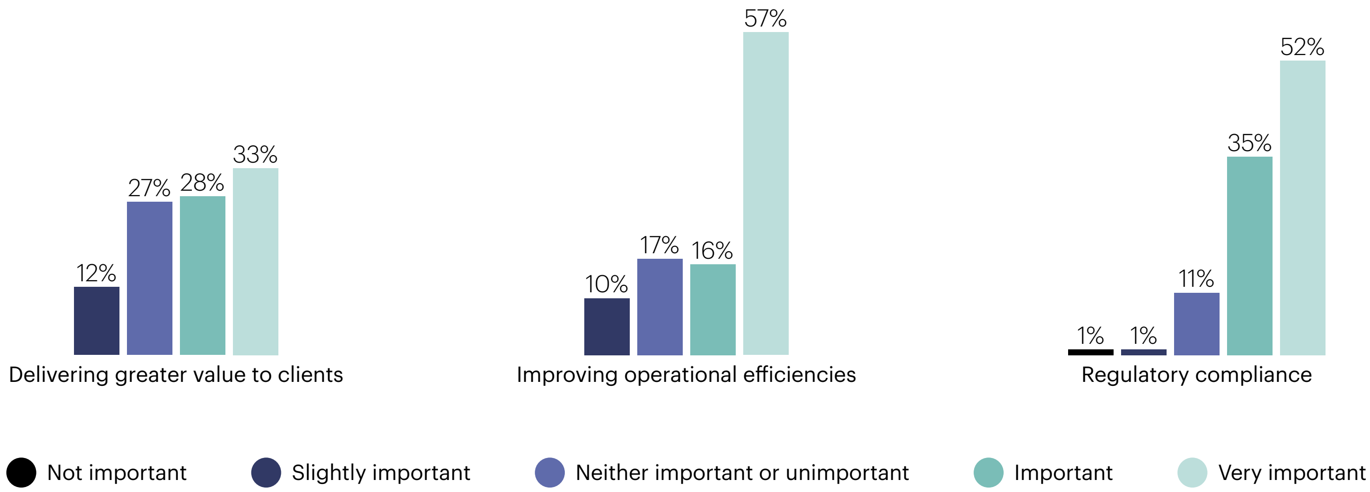
Will Robinson,
Conference Director,
Capital Markets Innovation Summit 2021

"Often the issues have little to do with failures of desire but when firms dig into their data in an attempt to draw up a strategy, they often don't realise what they have in there. It can be difficult to undertake a project that concerns data deeply embedded across an organisation. It's another example of how companies are more successful when they stick to what they do best - be it banking, insurance, accounting. Those who do leave the digital creation to outside experts and then leverage what these experts provide tend to get the best results."

Caroline Winch
Commercial Director, Confirmation,
part of Thomson Reuters

Our respondents ranked improving operational efficiencies and regulatory compliance as very important as a strategic priority for artificial intelligence and machine learning adoption

How would you rank, in order of importance, the following strategic priorities for artificial intelligence/machine learning adoption?



"As AI was still new to the capital markets industry, the effort was mainly spent on using it for internal and non-client facing use cases. However, with great results and more acceptance of the value of AI, new AI-driven services will arrive in the future to help improve the client experience, similar to what you see on Netflix for recommendations based on your personal preferences."

Stephane Malrait,
MD, Head of Market Structure and Innovation,
ING

"I do not think these answer options are mutually exclusive. The way that banks are able to deliver better value to their clients is not by becoming more efficient themselves. Looking at improving operational efficiencies, if a bank can drive down their own operating costs and remain compliant, and make their organisation with a particular level of income more profitable, they can in turn deliver greater value and pass cost savings on to their clients."

Will Robinson,
Conference Director,
Capital Markets Innovation Summit 2021

"The technology impact can have a revolutionary impact on our profession. But we need to make sure we're using it in the right way and that our auditors and regulators have the ability to analyse the algorithmic decision-making process. Is it being used appropriately? What are the risks? The implications of the technology and how we audit it should be in mind, and clearly from the responses, it is."

Caroline Winch
Commercial Director, Confirmation,
part of Thomson Reuters

"I think it is interesting that there were a large number of respondents who said using AI and ML for regulatory compliance was very important to their organisations. Whilst AI and ML technology do not in themselves reduce the risk of a significant market event, for example, a crash or deep recession, they can reduce the risk of human error by automating time-consuming manual processes among other things.

AI and ML technology can help capital markets organisations build an auditable regulatory compliant IT solution, identify non-compliant behaviour from both an employee and a client and alert compliance officers more quickly. What's more, the regulatory bodies and market infrastructure firms are also adopting these technologies to make their organisations run more efficiently."

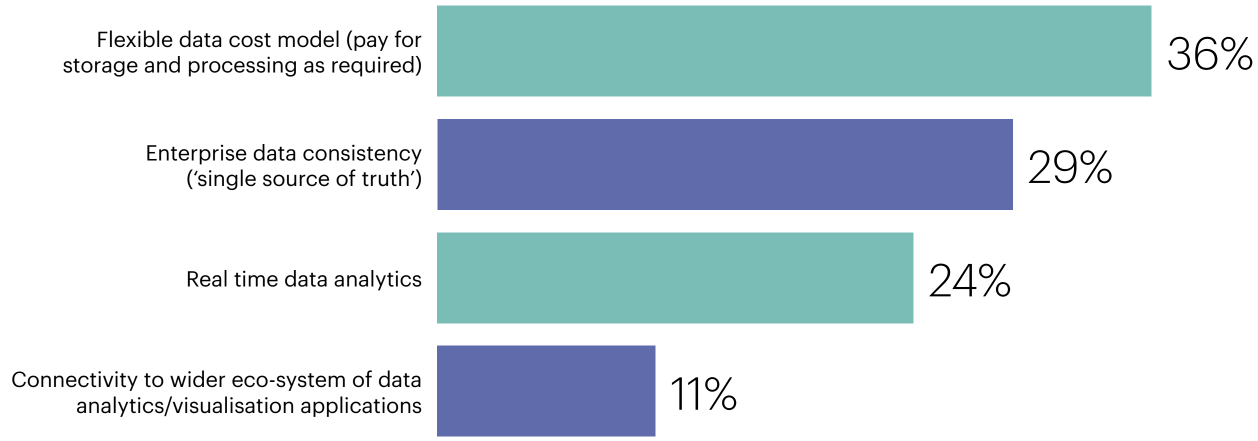
Susanne Chishti,
CEO, FINTECH Circle &
Co-Editor The FINTECH Book Series

"Firms are leveraging AI and ML technologies to help them service their existing clients more efficiently and for regulatory compliance, but also to capitalise on new business opportunities. Using solutions developed with sophisticated machine-learning models enables firms to link organisations, people, places, and events with data in their internal systems to create a fuller picture for marketing purposes. It also enables them to analyse large amounts of unstructured text to generate sentiment scores, which lets them gauge their clients' perceptions about the firm. This helps pinpoint capabilities that can be further leveraged, as well as areas for improvement, creating additional value for both existing clients and prospects."

Daniel Kim,
Associate Director, Investment Banking,
S&P Global Market Intelligence

36% of respondents said a flexible data cost model where they pay for storage and processing as required was the biggest expected benefit for their firm when looking at cloud adoption

What are the biggest expected benefits to your firm from cloud adoption?



"Cloud adoption in capital markets organisations is accelerating fast due to the increase in the amount of data, and computation power needed. This flexibility will help firms to better manage cost 'on demand' and also enable them to develop scalable solutions at a rapid pace."

Stephane Malrait,
MD, Head of Market Structure and Innovation,
ING

"A flexible data cost model is certainly one of the most important benefits from cloud adoption. This technology saves firms time and resources by eliminating the need to onboard and maintain data in an on-premises database. Partnerships have been formed between cloud platforms and well-respected information providers to bring together a single source of ready-to-query data. This can be accessed by an unlimited number of concurrent users at near-infinite scalability for faster queries at lower costs. Firms can analyse a library of proprietary and third-party information and directly integrate this data in internal views and applications to streamline workflows and support more timely and informed decisions."

Daniel Kim,
Associate Director, Investment Banking,
S&P Global Market Intelligence

"It is interesting to see here that the majority of respondents said that the biggest expected benefit of cloud adoption is a flexible data cost model, allowing organisations to only pay for data storage and processing as and when it is required. In recent years, capital markets organisations have been hampered by legacy infrastructure that is unable to keep up with the everyday challenges arising from using and storing data.

Investing in the cloud presents these organisations with an opportunity to redesign how technology and legacy systems interlink and operate within their firm and to identify new opportunities that will ultimately benefit their clients. Using cloud technology also enables capital markets firms to assist in mission-critical data series, address time sensitive key trends that can impact investment decisions and faster fraud and risk detection."

Susanne Chishti,
CEO, FINTECH Circle &
Co-Editor The FINTECH Book Series

CONCLUSION

Clearly, capital markets firms are realising that providing exceptional customer experiences will be increasingly non-negotiable in the future and a true differentiator in the market.

Looking ahead, legacy infrastructure won't be able to keep pace with today's rate of digital transformation and changing regulatory demands, let alone increasingly dynamic market conditions and growing client experience expectations.

Far-sighted capital markets firms can see the opportunities that come with cloud and the speed of FinTech solutions and are redesigning operating models and implementing cost-saving measures to increase efficiency. They are now working with a data-first mind set – knowing that unlocking the trapped value of data will do much more than save their organisations operational and efficiency costs, it will also create entirely new products and services for future growth.

The future looks bright for those capital markets firms who are all of this: intelligent and automated; data-led and client-centric; open and accessible; agile and resilient, and simple and homogeneous. However, organisations need to move fast to put this into practice and they cannot afford to take their foot off the pedal. The pressure is piling on: from clients; from regulators and shareholders and, worse, their competitors.

Those capital markets organisations that are slower to adapt to new automation technology will soon see their rivals accelerate beyond their reach.

About S&P Global Market Intelligence

S&P Global
Market Intelligence

At S&P Global Market Intelligence, we understand the importance of accurate, deep and insightful information. We integrate financial and industry data, research and news into tools that help track performance, generate alpha, identify investment ideas, perform valuations and assess credit risk. Investment professionals, government agencies, corporations and universities around the world use this essential intelligence to make business and financial decisions with conviction.

S&P Global Market Intelligence is a division of S&P Global (NYSE: SPGI), the world's foremost provider of credit ratings, benchmarks and analytics in the global capital and commodity markets, offering ESG solutions, deep data and insights on critical business factors. S&P Global has been providing essential intelligence that unlocks opportunity, fosters growth and accelerates progress for more than 160 years. For more information, visit www.spglobal.com/marketintelligence.

About Confirmation, part of Thomson Reuters

CONFIRMATION
Part of Thomson Reuters

Confirmation, now part of Thomson Reuters, is the digital platform and global network trusted by audit firms, banks, and law firms to quickly and securely verify financial data. Confirmation invented electronic confirmations 20 years ago, reshaping the audit confirmation process. Today, Confirmation helps 1.5 million users across 170 countries confirm more than $1 trillion in financial data every year. For more information, visit www.confirmation.com.

About WBR Insights

We use research-based content to drive conversations, share insights and deliver results. Connect with our audience of high-level decision-makers in Europe and Asia from industries including: Retail & eCommerce, Supply Chain & Procurement, Finance, as well as many more. From whitepapers focused on your priorities, to benchmarking reports, infographics and webinars, we can help you to inform and educate your readers and reach your marketing goals at the same time.

Contact us to find out how your business could benefit from:

- Year-round access to our network of decision-makers and industry-leaders
- In-depth research on current fast-moving issues and future trends
- Lead generation campaigns that fit your priorities
- Promoting your organisation as an authority in your industry

To find out more contact:

Emma Donaldson
CMIS Commercial Director
T: +44 (0)20 7368 9761
E: emma.donaldson@wbr.co.uk