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The smart data challenge:

How are financial services firms using data to drive innovation and keep up with the digital disruptors?



Introduction & Methodology

Introduction

At a time of economic disruption and changing consumer expectations, financial services firms are looking to data-driven technologies and cloud-based applications to speed up time to market for new products and services with the aim of keeping pace with the digital challengers.

But amid the rush to deliver more **seamless, personalised customer experiences** across digital channels, financial services (FS) providers are encountering numerous challenges, with complex data architecture and legacy IT systems combining with **compliance, privacy and security risks** to slow down development cycles and ultimately impact the customer experience.

FStech and MicroStrategy conducted a brief survey to assess the **role of data access in digital transformation** across financial services.

The survey shows that FS providers are well aware of the opportunities offered by **data-driven technologies** including AI, machine learning and advanced analytics. Many are under pressure to implement these technologies to improve the customer experience by leveraging key insights and making applications more agile and responsive.

However, **data governance** issues including access to disparate data sources, legacy technology and data transparency is proving a perennial problem, while **data privacy and security risk** are also emerging as key pain points on the journey to both data and cloud transformation for FS providers.

“Amid the rush to deliver more seamless, personalised customer experiences across digital challenges, financial services providers are encountering numerous challenges”

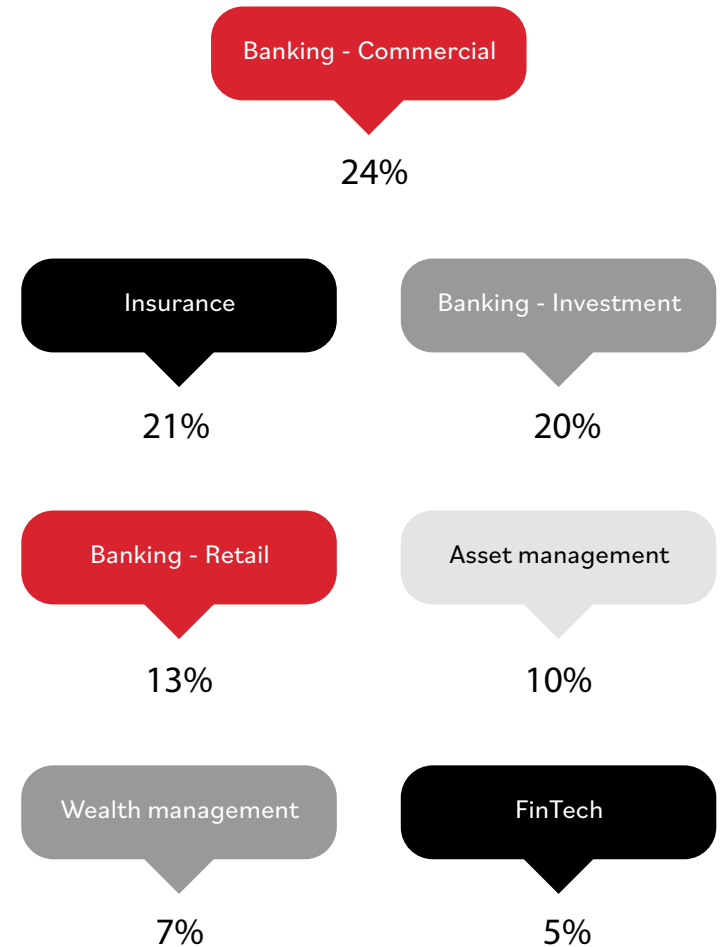
Methodology

FStech and MicroStrategy surveyed 105 financial services decision makers in the UK and Europe working across a range of sectors including asset management, banking, FinTech, insurance and wealth management. All results have been rounded to the nearest decimal point. Respondents were able to select one, two or three options.

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Financial services sector breakdown



As consumers switch to digital channels, FS providers are under immense pressure to undertake digital transformation strategies, with just over a quarter identifying this shift as a key driver. However, many are tackling a number of challenges simultaneously.

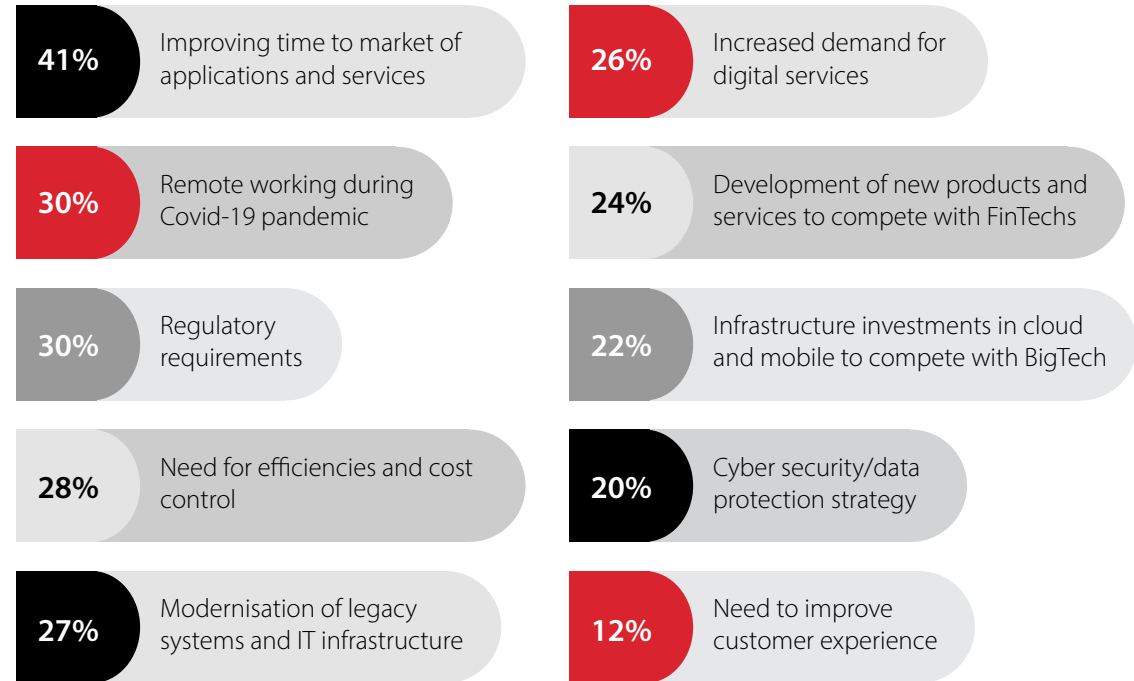
The results show that the need to deliver applications and digital offerings quickly is paramount, with two fifths identifying this agility as a key driver in their digital transformation efforts. Accelerating time to market is reliant upon developers, product managers, compliance officers and other workers having instant access to the data they need to do their job efficiently at different stages of the development lifecycle.

Responding to changing regulatory and compliance requirements also requires agility of systems and access to data, with nearly a third highlighting this as a priority, while two fifths are focusing on controlling changing cyber threat and data privacy risk through their digital transformation efforts.

At the same time, a combined 50 per cent of FS providers said that the market challenge posed by FinTechs and BigTechs is driving investment in new products and services as well as adoption of agile cloud infrastructure and mobile applications. This drive towards modern infrastructure is also highlighted by more than a quarter who cited legacy IT- and the siloed data they contain - as a key driver of digital transformation.

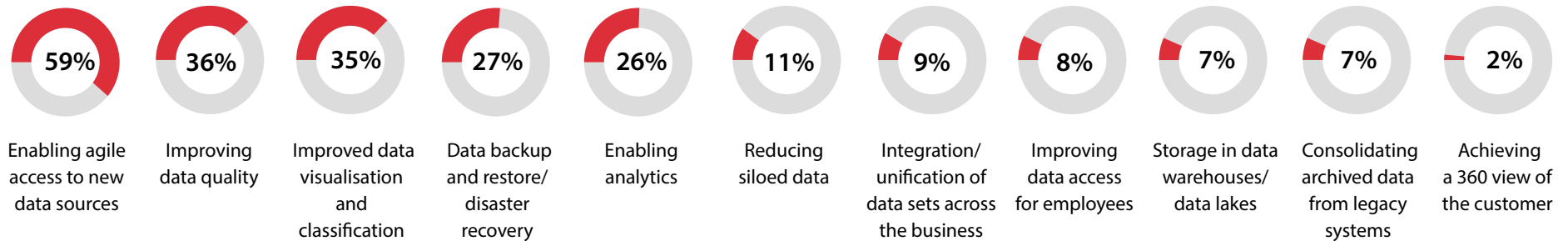
The need to provide seamless and personalised digital customer journeys is baked into several other drivers for transformation, such as the drive to keep up with FinTechs and improve time to market. Just over a tenth identified this as a top priority for transformation, suggesting front end processes such as app interfaces may be less of a priority at present than addressing long-standing structural hurdles to digital transformation such as legacy IT infrastructure and data privacy or compliance concerns.

What are the key drivers for digital transformation within your organisation?



(Respondents were able to select up to three options)

What are the major data management priorities for your business?



(Respondents were able to select all that apply)

Data has become the lifeblood of the financial services ecosystem. But as the volumes mount, many financial services firms are struggling to consolidate legacy and archive data whilst managing an influx of real-time data from disparate sources, creating a series of obstacles to leveraging the insights and value locked within.

The survey shows that many financial services are actively engaged in addressing the initial stages of their **data transformation journey**, with an

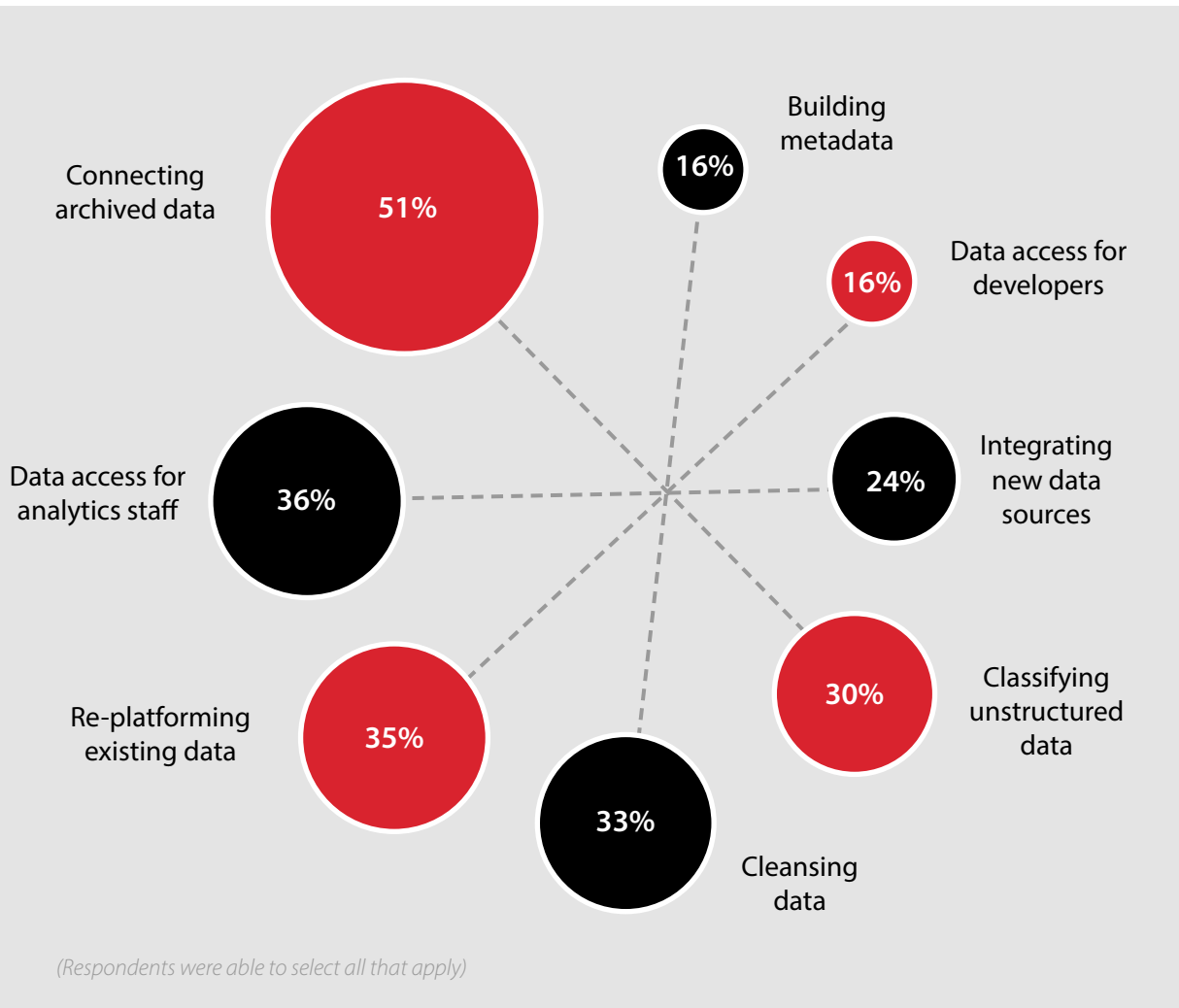
overwhelming majority underlining the need for more **agile access to new data sources**.

More than a **third said they are prioritising better data quality** and a further third are focused on **improving data visualisation** and classification - emphasising the urgent need to locate, consolidate and visualise data before it can be leveraged in AI and machine learning- based systems.

Those at the second stage of this data transformation

curve are looking to analytics and AI-based platforms to **draw insights out of their data** to provide more personalised products and services for the customer and improved business intelligence for employees. Ensuring operational resilience in the form of data backup and recovery is also emerging as a key data management challenge, as regulators step up their scrutiny and the cyber risk landscape becomes increasingly complex.

Which of the following data-related tasks are most resource-intensive for your organisation?



Financial services organisations are battling a number of data management and consolidation challenges, not least due to disparate data sitting in legacy technology systems, which can present a major blocker to transformation efforts. The survey highlights the particular challenge of disconnected and archived data for more than half of respondents, with many **struggling to unify the data they need to begin their transformation.**

A key concern for more than a third of FS providers is ensuring **staff tasked with analytics tasks have access to the data** they need, while re-platforming of existing data was also cited by more than a third of respondents, suggesting that the location and availability of data are taking up valuable time and resources which could be put to better use in developing other areas of the business such as digital propositions for customers.

Using **manual processes to track down and join up disparate data sets can be extremely time and resource-intensive** for financial services organisations, with many data-led initiatives stalling at the first hurdle. A combined 65 per cent of respondents said **re-platforming efforts and classifying unstructured data are proving challenging**, while a third said that cleansing data was among the processes taking up the most time.

The high incidence of manual data processing tasks here points to low uptake of modern data platforms and technologies which can automate the process of **joining up disparate datasets and drive operational efficiencies.**

What are the key data governance priorities for your organisation?

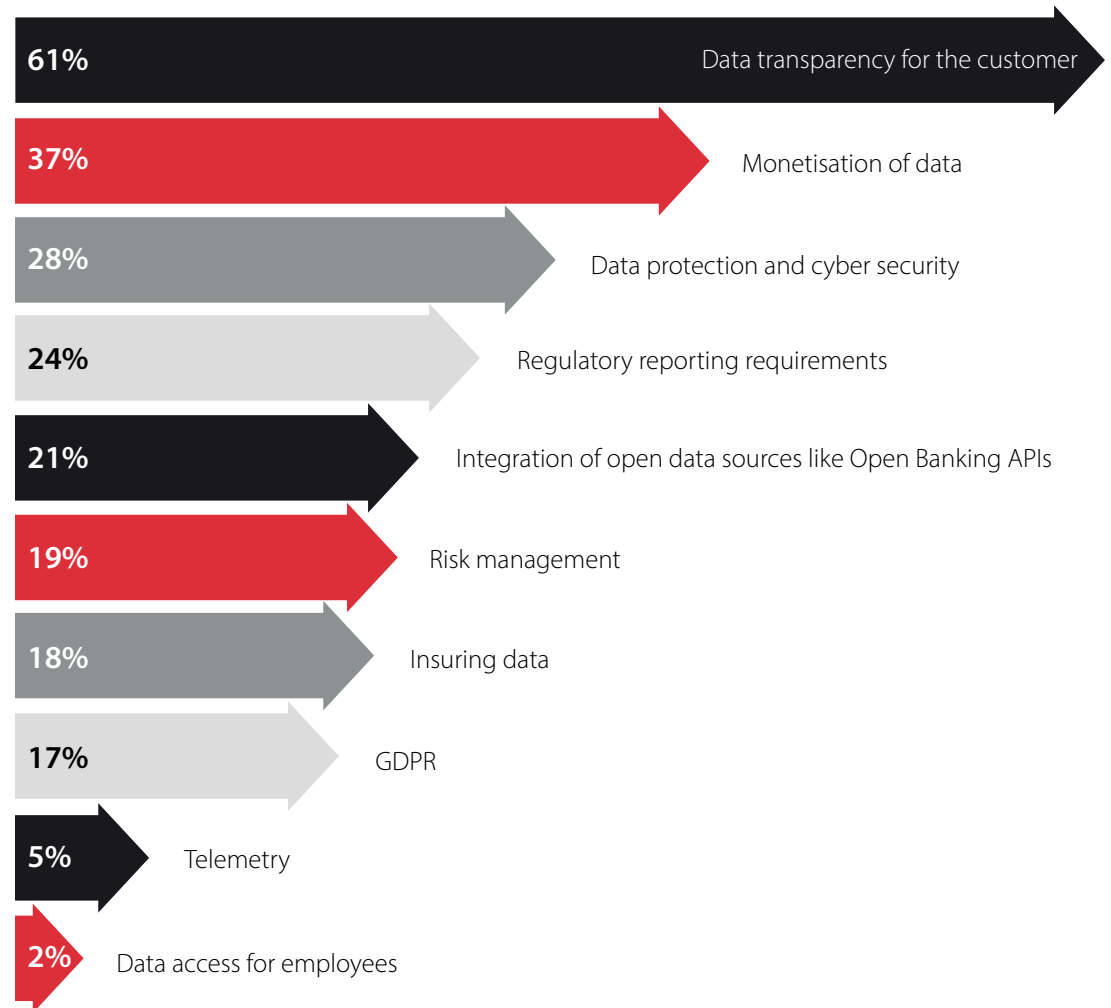
Data governance is not a new challenge for FS providers working in a highly regulated environment. But the rapid deployment of digital applications and cloud-based services, as well as the disruption of the COVID-19 pandemic, have brought **data privacy and compliance under the spotlight**, with FS firms scrambling to ensure their systems are secure and their data does not end up in the wrong hands.

As consumer awareness of data privacy rises up the agenda, transparency over what data is being held, where it is located and who has access to it has become pivotal to earning and **maintaining customer trust**, with a clear majority identifying this as their **top data governance priority**.

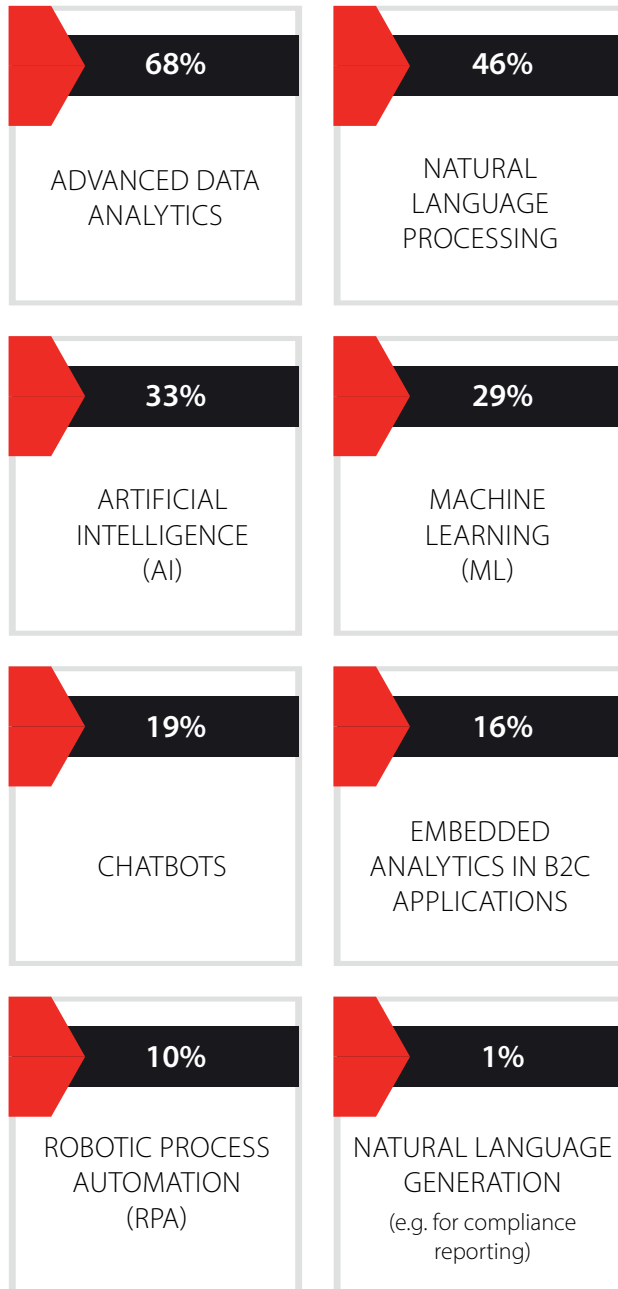
However, FS providers are also under increasing pressure to keep up with digital challengers by 'monetising' their data with innovative new offerings. New technologies such as Open Banking create the potential for insight-driven development of products and services that complement customers' digital lifestyles, but the survey makes it clear that many FS providers are also focused on **managing the compliance, security and regulatory risk of data-driven innovation**.

Ensuring data governance processes are compliant with General Data Protection Regulation (GDPR) has been a major challenge for FS providers in recent years, with FS providers implementing measures to manage the financial and reputational risk of a data breach, often at the expense of an agile approach to application and product development.

In addition to GDPR, **more than 50 per cent of FS providers are grappling with regulatory reporting and cyber security requirements**, suggesting that many could stand to benefit from automated data platforms that offer fast and reliable access to data during audit and reporting while ensuring high levels of compliance and data security.



(Respondents were able to select all that apply)



Which of the following technologies are you implementing within your organisation?

FS providers face a raft of challenges when implementing automation technologies, ranging from regulatory and compliance concerns to consumer experience and cost implications.

The survey shows wide scale adoption of advanced data analytics technologies across the industry, as companies seek to keep up with FinTech and BigTech challengers by leveraging the insights within financial and customer data to **deliver more personalised and innovative customer experiences**. Almost half of respondents are deploying some form of natural language processing, pointing towards increasing demand for automated processing of documentation as FS providers look to drive operational inefficiencies and accelerate the speed of applications.

However, while a combined 62 per cent are implementing Artificial Intelligence or Machine Learning technologies, these would appear to be focused on back-end processes such as application development, rather than customer facing processes, with just under one in five deploying automated chatbots and even fewer currently focused on embedding analytics into B2C applications. This result suggests a significant market opportunity for FS providers who are able to provide **fast, data-driven customer experiences built on reliable automation**, with advanced analytics capabilities integrated into the front end enriching the customer experience with personalised offerings and agile, responsive applications.

(Respondents were able to select all that apply)

What are the main challenges to deployment of these technologies within your organisation?

FS providers have been quick to recognise the value of data-driven decision making and process automation, with many already implementing AI, machine learning and advanced analytics to speed up back-end processes and drive innovation in the race to digital.

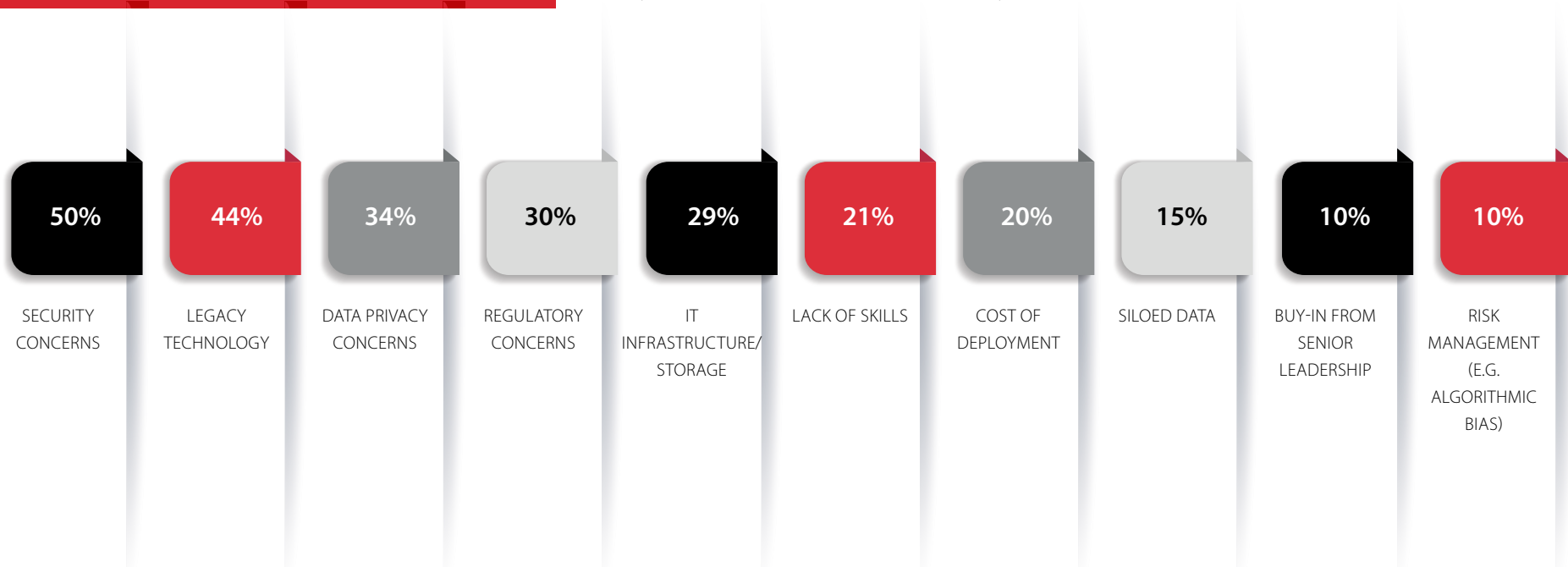
However, many IT leaders within FS organisations are experiencing significant pain points in their plans for transformation, with security concerns over cloud-based applications and automated technologies topping the list, as senior leaders proceed cautiously with regards to resilience and data privacy concerns.

Legacy systems and the siloed data they contain are also key blockers to transformation, with many FS providers finding particular complexity

in scaling automation technology across disconnected IT estates as well as the skills and training gap in AI technologies, particularly in incumbent institutions.

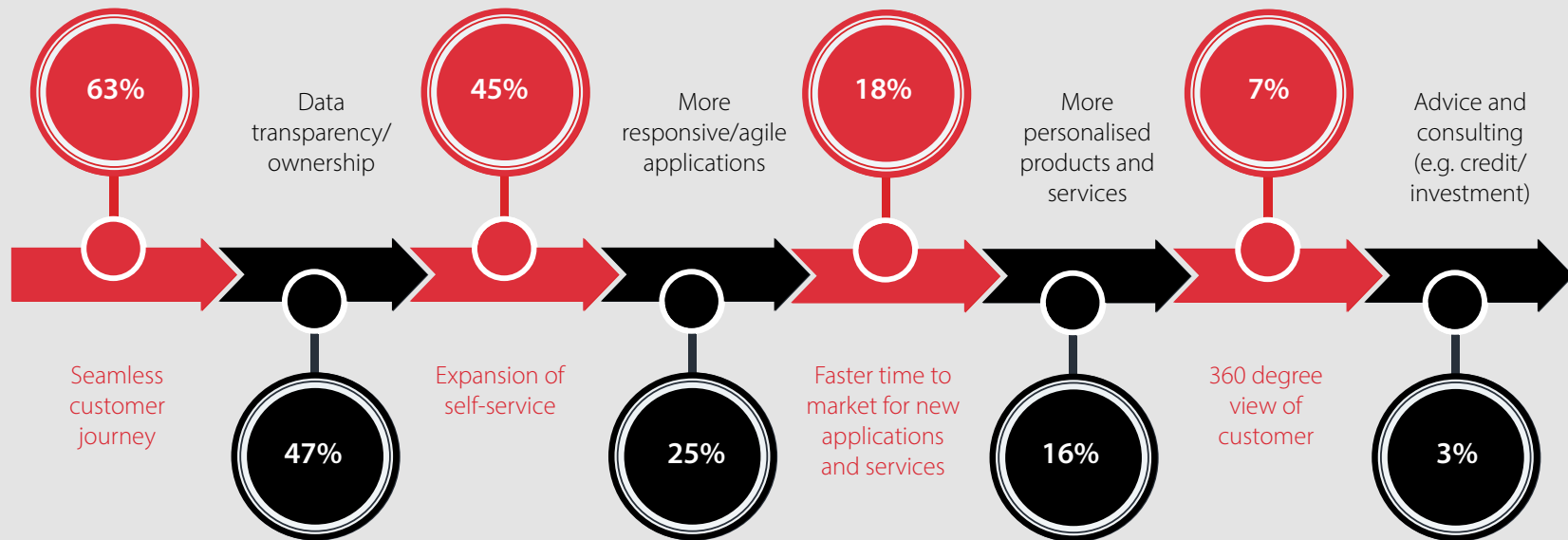
Data privacy and regulatory concerns over the impact of automation on decision making and the potential for algorithmic bias are also weighing heavily on the minds of decision makers, with the cost counted not just in expense of implementation but also in reputational and regulatory consequences.

To combat these challenges, many FS providers are turning towards **data platforms which integrate with existing applications to unify data and implement advanced analytics** while managing compliance risk.



(Respondents were able to select all options that applied)

How could these technologies drive the most value for customers?



(Respondents were able to select all options that applied)

As demand for FS apps grows, **customer experience is a key differentiator**, with many racing to deliver responsive and personalised customer journeys powered by rich datasets. Those that fail to leverage the insights locked within data risk customer abandonment to digital challengers who are well equipped to meet rapidly changing customer expectations.

As a result, a clear majority of FS providers consider seamless customer journeys - which provide personalised access across digital channels and applications - as a major advantage of automation technologies such as AI and

Machine Learning. The growth in digital channels during the pandemic has also led to greater familiarity with self-service for customers in most age groups, with nearly half of FS providers exploring the potential of new technologies to put decision making in the hands of the consumer and drive organisational efficiencies.

This customer focus also translates into demand for apps and services that offer data transparency for the end user, as well as a 360 degree view of their preferences, history and interactions with their FS provider to generate more personalised services.

FS providers are also looking to **automation and data-driven technologies to accelerate the time to market** and drive further value for the customer with more responsive and agile applications, which was identified by a quarter of respondents as a key benefit of implementing these technologies. The results show a profound appreciation amongst FS providers of the potential for growth and innovation when data is combined with analytics and machine learning.

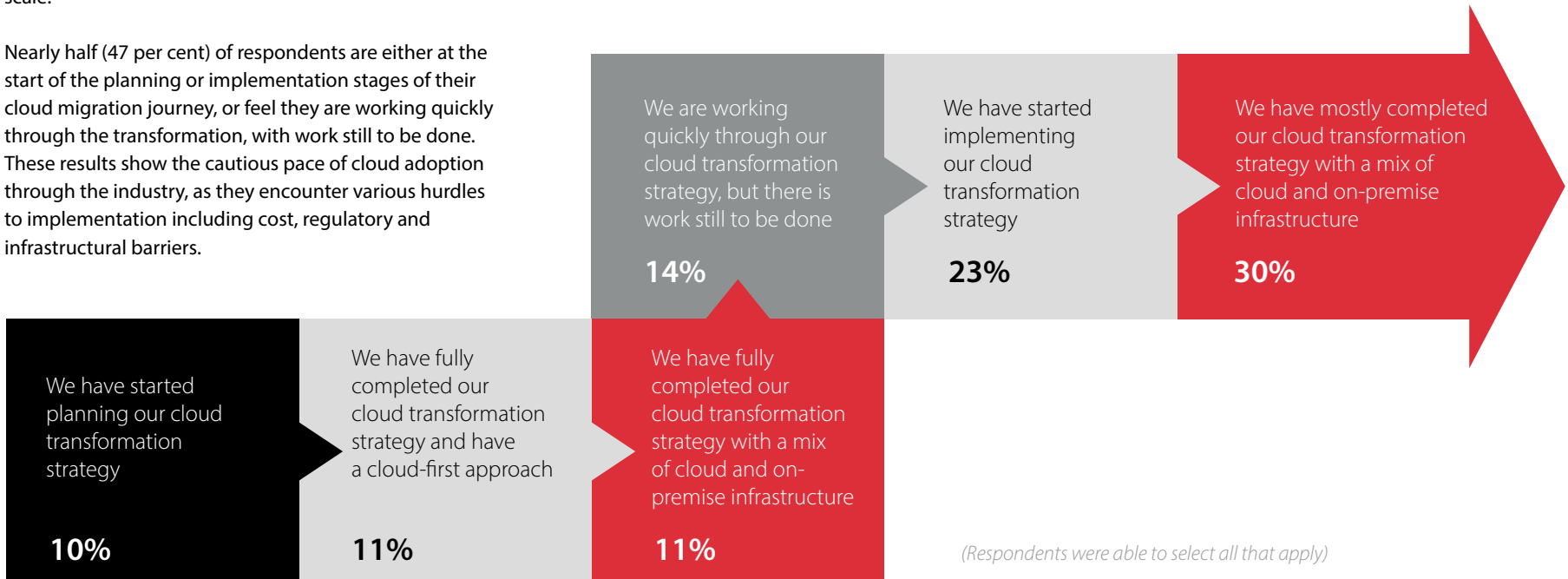
How advanced is your organisation in its cloud modernisation journey?

The migration of data and workflows to cloud-based applications has grown exponentially in the last year, not least due to the shift to remote working during the pandemic. The results show that **nearly a third of FS providers have now mostly completed their cloud transformation** journey with a mix of cloud-based and on-premise infrastructure, underlining the hybrid nature of cloud adoption across the industry as senior leaders seek to balance security of highly sensitive financial data with the growing need for agile architecture as they scale.

Nearly half (47 per cent) of respondents are either at the start of the planning or implementation stages of their cloud migration journey, or feel they are working quickly through the transformation, with work still to be done. These results show the cautious pace of cloud adoption through the industry, as they encounter various hurdles to implementation including cost, regulatory and infrastructural barriers.

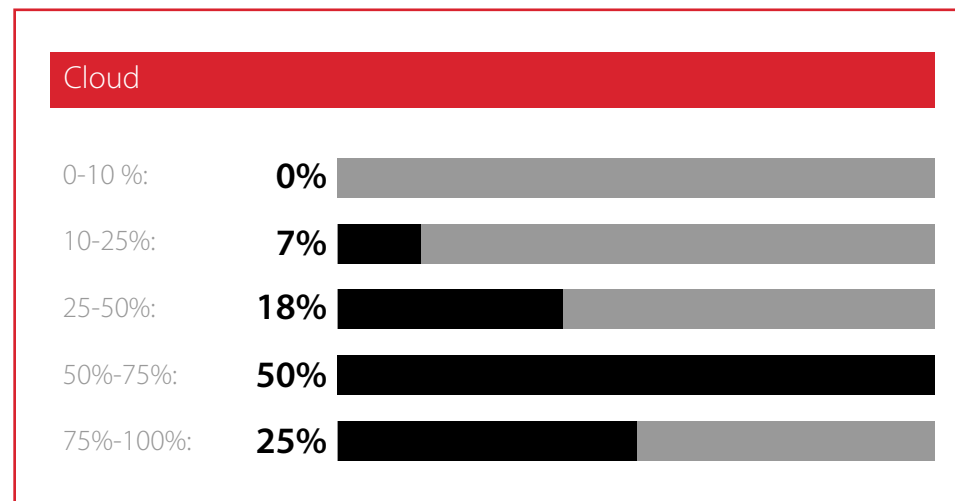
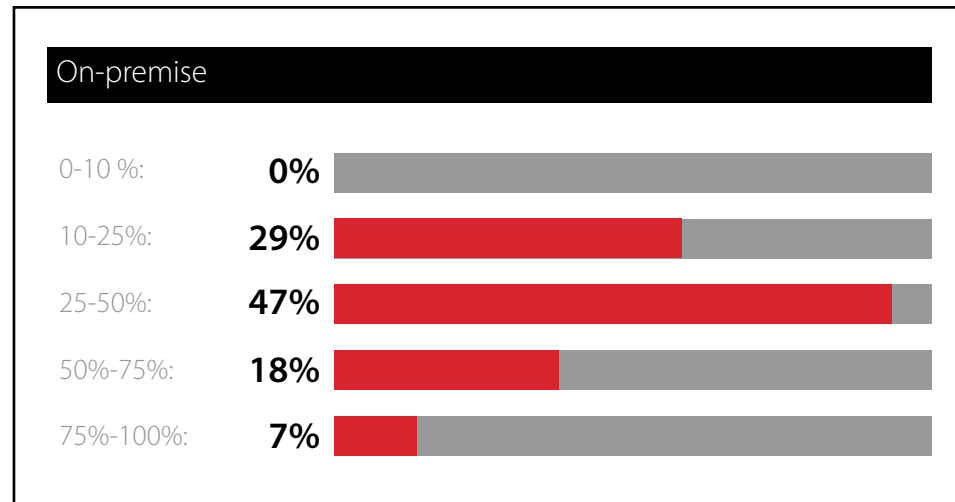
However, a number of FS providers are making serious inroads into cloud transformation, with just over **10 per cent claiming to have fully completed their strategy with a mix of cloud and on-premise** and the same amount operating a fully cloud-first approach. Overall, the financial services industry is carrying out a number of transformation strategies simultaneously, with the migration to cloud powering a number of innovative app-based services and data storage solutions. As a result many businesses are reaping the rewards of

Platform as a Service (PaaS) and Software as a Service (SaaS) offerings which can overlay and integrate with existing applications, so end users can quickly **benefit from the agility of the cloud without the costs and risks associated with full-scale cloud transformation.**



What percentage of the data you use on a daily basis is stored on-premise and how much is in the cloud?

With cloud adoption accelerating across the financial services industry, the balance appears to be **shifting towards a hybrid model**, with half of respondents storing between 50 and 75 per cent of their data in the cloud, and a quarter of respondents claiming that between 75 per cent and 100 per cent of the data used for day to day workflows is now located in the cloud. Meanwhile, nearly half of FS providers are storing between 25 per cent and 50 per cent of their data on premise, which underlines changing attitudes to cloud storage, with many choosing to entrust operational data to cloud providers, while sensitive data is stored on-premise.



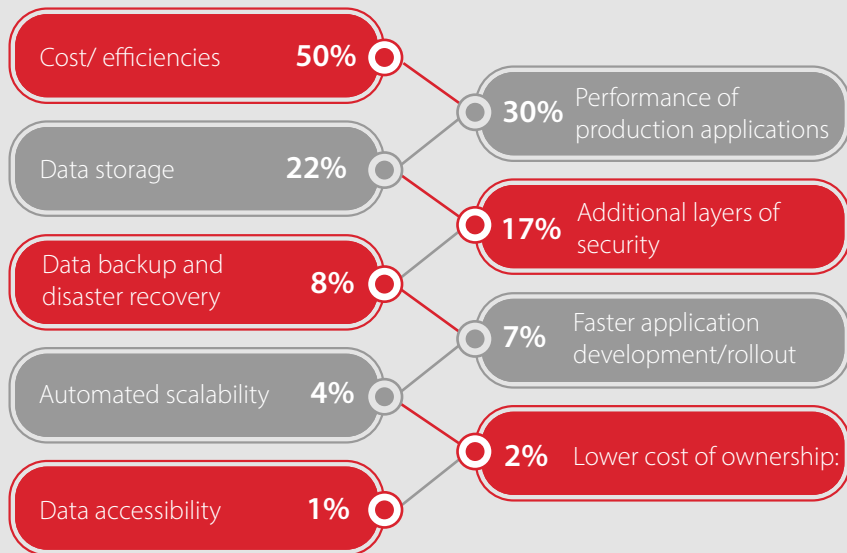
(Respondents were able to select one answer for each option)

What are the key advantages and challenges of cloud-based services for your organisation?

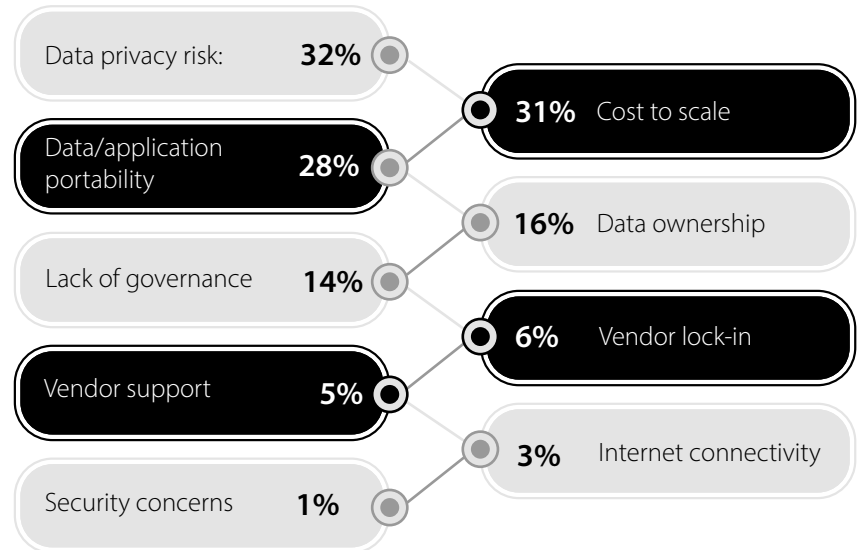
ADVANTAGES

As cloud adoption becomes an increasingly central component of digital transformation for FS providers, many senior leaders are weighing up the pros and cons of migration as the cloud native challengers race ahead with agile applications and faster development cycles.

The financial disruption of the pandemic, and the need to scale operations up and down in an agile and flexible way has seen many FS organisations turn to cloud applications as a cost effective solution, with **half of respondents citing cost and efficiencies as the key advantage**. Performance of applications, and the avoidance of downtime - both key to maintaining high levels of customer experience - are also a priority, along with data storage requirements as the volumes of real-time data needed to power applications and make fast decisions rises exponentially.



(Respondents were able to select all that apply)



DISADVANTAGES

FS organisations operate in a highly regulated environment, with senior leaders focused on the data privacy implications of migrating highly sensitive data to the cloud at a time of unprecedented disruption. It is therefore no surprise to find that nearly a third of respondents cite data privacy risk - a recurring theme in this report - as a key hurdle to cloud adoption.

Interestingly, while cost and efficiencies are considered to be one of the key advantages of beginning on a cloud migration journey, nearly a third of respondents report the rising cost of data storage as the business scales and data flows increase as a disadvantage, suggesting that many providers are encountering unexpected costs later on down the line.

Data and application portability - the ability to move data between IT environments - vendor lock-in, and data ownership are also at the top of the list of roadblocks to cloud adoption, as FS providers seek to maximise the flexibility and agility of their operations whilst retaining all-important control and visibility over their data.

Conclusion

The survey shows that a combination of competition from digital challengers, demand for seamless digital customer journeys and need to prioritise data privacy whilst managing cost are leading FS providers to embark on multiple strands of transformation at the same time.

The survey found that respondents are **exploring the potential of data analytics, AI, machine learning and natural language processing** to transform back-end processes and speed up development cycles as well as bring customer-facing applications up to speed, in order to fend off customer acquisition plays from FinTech and BigTech competitors.

However, the survey highlights the **pivotal role of data management and governance** to fuel this transformation, with many FS providers encountering hurdles in the form of **data accessibility and visualisation**, as well as addressing underlying **data quality issues related to siloed and unstructured data sets in outdated legacy systems**.

As a result, some are **re-platforming data and exploring cloud-based applications** which can integrate with existing applications and infrastructure to accelerate digital transformation efforts and quickly deliver more value for the customer.

Across the survey, respondents highlighted the often competing priorities of **agile data access and data privacy risk, with flexible data governance lying at the heart** of the solution to this dilemma. While customers are demanding fast and transparent

access to their data and responsive, personalised applications, they also want their providers to protect their data, with FS companies clearly focused on **mitigating the regulatory and reputational risk of data breach or cyber security incidents**.

When it comes to **harnessing the insights locked within data to improve the customer experience**, many providers are following the FinTechs in implementing **advanced data analytics**.

Cloud data storage and cloud-based applications have become a central pillar of FS organisations' response to the pandemic and the need to scale rapidly to cope with the real-time data volumes for digital apps and services. The survey shows that **all FS providers have embarked on a cloud transformation journey**, with a combined 52 per cent saying they had mostly or fully completed their strategy, either with a mix of cloud and on-premise, mainly to account for data privacy and regulatory requirements, or with fully cloud-first architecture.

The survey therefore paints a picture of an industry grappling with a range of digital transformation challenges at a time of unprecedented disruption. FS providers are **under pressure to carry out wide-ranging data and cloud transformation strategies** whilst at the same time **accelerating development of data-driven digital and mobile applications** to keep up with the competition.

As a result, many appear to be **torn between** resource and time-intensive **upgrades to legacy infrastructure**

and data on the backend while meeting demand for **agile, responsive customer experience on the front end**.

Cloud-based applications and platforms which integrate with existing systems can provide a solution to this **smart data challenge**. Using AI, machine learning and advanced analytics, such solutions can offer a route to seamless customer experiences and accelerated time to market, whilst using automation tools to ensure compliance, and manage regulatory and data privacy risk. As a result, FS providers can work with technology partners to **drive forward innovation and deliver operational efficiencies** while giving customers the **data-driven digital applications and experiences** they have now come to expect.

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