Meeting the Challenges of the Modern Financial Services Sector – Why Innovation Matters

White Paper

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Currently, there are a number of critical challenges facing financial services firms. Among them are increasing trade volumes; periods of high market volatility; the introduction of new regulations, such as the Payment Services Directive (PSD2) and Fundamental Review of the Trading Book (FRTB); and the need to accelerate innovation.

Businesses across the sector are increasingly looking to address these challenges, while reducing costs and improving operational efficiencies.

In a recent poll commissioned by InterSystems, a global leader in information technology platforms:

50% of IT decision-makers polled within the financial/banking sector say organisations are most strongly focusing their innovation efforts on 'business processes' today.

What is keeping organisations from addressing these challenges?

To a great extent, the existing technology infrastructures that are in place are simply not sufficiently attuned to the demands of the modern financial services environment.

The survey highlights the core challenges here.

51% of the IT decision-makers polled say processes across multiple applications are not well integrated across their organisations.

43% believe their organisation is struggling to achieve a complete and accurate enterprise-level view of all their data.

It's not just about data spread across disparate silos and applications. The difficulties associated with ever-escalating data volumes is an ongoing one for most businesses, and it is showing no sign of abating. Analyst firm IDC recently projected[1] that by 2025, the global 'datasphere' will have grown to a staggering 163 zettabytes of data generated per year, ten times the data generated in 2016.

1 Source: Data Age 2025: The Evolution of Data to Life-Critical – Don't Focus on Big Data; Focus on the Data That's Big. An IDC White Paper, Sponsored by Seagate, April 2017.

Financial services organisations often find it especially difficult to get a handle on the vast volumes of data they have at their disposal – then struggle to use it to get a clear picture of their organisation and processes, and to comply with regulatory requirements.

One of the main reasons is that the systems and infrastructure they have in place today do not support a sufficiently agile approach. Most financial services organisations have implemented a wide range of applications over the course of decades that were not designed or built to interoperate. As a result, data is typically siloed, and organisations find it difficult to leverage it in order to advance their business goals.

Reliance on Legacy Systems

This inability to analyse data is compounded by having multiple different kinds of databases, together with a vast range of applications that operate in silos across the organisation which do not readily support high levels of integration.

In the past, with budgets tight and no overarching regulatory imperative to change in place, financial institutions have not done enough to address this problem of overreliance on disconnected legacy systems. When faced with the new wave of regulation that came in after the 2008 banking crash, long-established financial services organisations generally only had to invest in different applications on an ad hoc basis to meet each individual regulation, without necessarily touching their legacy systems.

Even newer financial institutions, however, are likely to have problems complying with new regulations like FRTB which require analysing larger data sets with smaller processing windows. Older organisations that have done little to break down silos between the legacy systems introduced in the 20th Century are likely to have more serious concerns to address. For these organisations, significant investment in new technologies will be required to meet the regulatory stipulations.

Combined, these challenges are holding firms back and preventing business analytics. But, how can financial services firms overcome these issues?

Driving Innovation

One important way to address current challenges facing financial services organisations is by implementing innovative new technologies and solutions. By far the biggest driver of innovation for IT decision-makers within financial services businesses was “emergence of new technologies”, highlighted by 48 percent of the sample in the survey. That said, these organisations will need to be careful that new technology does not disrupt their existing organisational systems. No organisation wants to rip and replace their existing infrastructure. The challenge they will face is: how to meet their current and future requirements – in light of their current patchwork of systems.

Top areas of planned investment are cloud and data analytics.

36% plan to invest more in cloud infrastructures to drive innovation over the next two to three years.

31% plan to invest more in data analytics over the next two to three years

Looking to the future, high-quality analytics, together with enhanced integration will be especially key to the success of financial institutions. The rationale behind this is clear. Investing more in enhanced integration of systems coupled with advanced data analytics will be increasingly crucial in helping financial services organisations eliminate data silos. This will enable organisations to meet their need to achieve faster and more accurate analysis of real-time and historical data within smaller processing windows, with low infrastructure costs.

Data analytics solutions are likely to be especially key in helping financial services organisations achieve regulatory compliance.

The precise solution chosen will differ depending on the specific sector and status of the user organisation. However, generally, the more data that organisations are storing on legacy solutions, the more they are going to require an updated data platform that can handle real-time analytics to meet the pressing regulatory requirements they face. Even organisations that have fewer legacy systems are still likely to require solutions that deliver enhanced interoperability to help provide a real-time view across the business.

To meet the complex requirements of regulations like PSD2, there are a raft of specific requirements that financial services organisations and their IT teams will need to meet. In particular, they will need to seek out a data platform that can ingest real-time transactional data as well as from a variety of other sources of historical and reference data, normalise it and make sense of it. Integration is key as is granular, role-based security. Any chosen solution needs to be able to 'touch' those disparate databases and silos, rationalise the data and make sense of it in real-time. The ability to process transactions at scale in real-time and simultaneously run analytics using transactional real-time data and large sets of non-real-time data (e.g. historical and reference data) is a critical capability for various business requirements. For example, powering mission critical trading platforms that cannot slow down or drop trades, even as volumes spike. This kind of capability has the potential to bring significant benefits to many financial services businesses today.

Data platforms also need to be agile. As businesses move systems and applications into the cloud, they are starting to use software to 'containerise' their applications and modules. Once containers have been set up in the cloud, they are then reusable by other applications within the suite.

It is crucial too that the chosen platform can perform analytic queries – or ask questions – of the data that the organisation holds even if that data is in large data sets and stored in different data and application silos. This capability is critical for complying with regulatory requirements and answering unplanned ad hoc questions from industry regulators.

Finding a Solution

Given these challenges, how can financial services organisations find a solution that meets their requirements? Data platforms that combine Hybrid Transaction/Analytical Processing (HTAP) database management capabilities, comprehensive integration capabilities, and advanced analytics capabilities – including machine learning and can scale in a resource efficient manner, are critical in today's environment.

Traditionally, online transaction processing (OLTP) and online analytical processing (OLAP) workloads have been handled independently by separate databases. However, operating separate databases creates complexity and latency, because data must be moved from the OLTP environment to the OLAP environment for analysis. This has led to the development of a new kind of database, capable of processing both OLTP and OLAP workloads in a single environment without having to copy the transactional data for analysis. HTAP databases are being used in financial services, as well as in many other industries, for their ability to uncover new insights, create new revenue opportunities, comply with stringing regulations, and improve situational awareness and overall business agility for organisations.

Additionally, the best HTAP database platforms deliver the performance of an in-memory database together with the persistence and reliability of a traditional operational database. They are also optimised to accommodate high transactional workloads and a high volume of analytic queries on the transactional data concurrently, without incident or performance degradation, even during periods of market volatility.

They deliver fast transactional and analytic performance without sacrificing scalability, reliability or security. They can handle relational, object-oriented, document, key-value, hierarchical and multi-dimensional data objects in a common, persistent storage tier.

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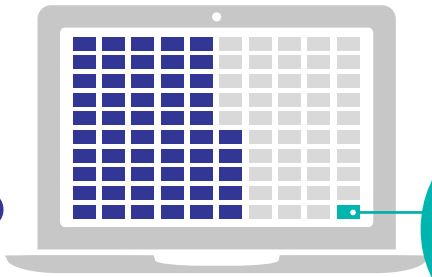
Change is Going to Come

While innovation has always been a key priority for financial services, it is even more so today due to more stringent regulations, higher customer demands and a faster-moving market. As such, the pace of change is now accelerating across the sector.

The IT function within UK financial services organisations is confident about innovation spend today.

55%

of IT decision-makers within the financial/banking sector expect their investment in new technology to grow over the next three years.



Just **1 in 100** respondents see it decreasing

What is driving this change, above all, is the growing availability of a raft of new technology capable of delivering innovation and enabling financial services firms to keep pace with the need for speed in terms of data processing and analytics, while at the same time meeting increasingly challenging regulatory requirements. For those firms that grasp the opportunity, the future will soon be here.

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