EZOPS

The Angels are in the Details

Successful Data Migration is Critical to Financial Enterprise Success

Sarva Srinivasan, EZOPS, *Founder and CEO*

Financial Enterprise Data – The More Things Change…

From the earliest financial markets in the 14th century, through the Amsterdam markets of the 17th century, to the Reuters and Bloomberg behemoths of today, one constant has, and continues to be, the basis for viability and success of financial services organizations and the financial markets themselves.

That constant is data. Surprisingly, the structure of data has not changed over the course of time. It continues to fundamentally exist as alpha numeric text strings and dates. The change however has been in the complexity of the data and its management, causing ever increasing demands on firms to evolve through a process of continuous transformation.

Data is at the heart of operations for market participants such as banks, brokerages, insurance, and custodians. From pre-trade analytics, trading, managing cash positions by corporate treasury, risk and collateral management in middle office operations and regulatory reporting, data construction, architecture and management must be accurate, reliable, and timely. Focus on these core operating principles for market participants is critical, to stay relevant.

Issues in the Current Environment

The criticality of data for financial firms cannot be overemphasized. The importance of data management is magnified by the competitive advantage that organizations can leverage from information asymmetry. Meanwhile, new assets classes such as crypto, collectibles, asset securitizations and others, have spawned new data needs, while regulatory requirements demand new data management tools. So, a valid strategy here is to gain differentiation through lowering capital spending and costs.

On the other hand, sweeping regulatory changes following the 2008 crisis has caused exotic, dark pool products to be converted into standardized, transparent, and more vanilla products. Losing the leverage of high margin assets for financial firms has meant that they need to find alternate ways to cushion profitability. One way for firms to differentiate themselves is to lower costs and improve cost efficiencies of operations. Automating operations is becoming an important lever for firms to lower capital costs and dramatically speed up response times in the evolving current high frequency market environments. For financial firms, every dollar saved is worth more than a dollar of pre-EBITDA revenue.

Data strategy and related operations consume substantial resources – time and money. In the past two decades data iteration has moved at an exponential rate, primarily due to shifts in technology, availability of computing capacity, inter-operability of software solutions and movement to the Cloud. A recent trend noticed across industries is the heavy investment in digital transformation by C-Suite executives as a primary driver of revenue and profitability.

Because digital transformation is a key objective for virtually every industry, and especially in financial services, it comes as no surprise that within that application upgrades and platform rationalization are key core components for the success of any enterprise strategy moving in this direction. The foundation of this transformation is the data and data sets which must be migrated from legacy systems or upgraded from current operations (owing to internal or external needs, mandates, or demands). Digital transformation however has multiple dimensions and could range from migrating data to the cloud, sunsetting older applications, migration to new technologies, upgrading existing

software to current versions or leveraging contemporary technologies further into the business process. Each of these transformations require migration and management of vast swathes of data. In the financial services industry, where data is the backbone for success, it is inevitable that innovation in and the smoothening of the data transformation process, should become the key differentiator for success.

It is not an over exaggeration then, that organizations that have a plan to consider and analyze the issues and the landscape of data migration, can directly transform their firm's ability to operate competitively and deliver value to its clients. How firms wrestle with the complexity of issues around data migration and successfully resolve them, require comprehensive analysis and consideration.

Considerations in Digital Transformation and Data Migration

COOs and CTOs now understand that digital transformation holds unprecedented promise for unparalleled efficiency, and productivity. It however requires a clear understanding of data and how it is managed operationally. Legacy approaches could work, but they are not very cost effective and do not take advantage of critical features that automated migration capabilities that are currently available. In this environment, legacy approaches will be less competitive.

*Global Data Migration Market size is expected to reach **$10.98 billion by 2025**, estimated to grow at a CAGR of 18.37% during 2020-2025.*

— IndustryARC Data Migration Market Report

According to IndustryARC in its Data Migration Market Report, the "Global Data Migration Market size is expected to reach $10.98 billion by 2025, estimated to grow at a CAGR of 18.37% during 2020-2025. In recent times, enterprises are migrating to cloud-based servers from on premise physical servers. Hence, data migration has become an integral process in accommodating the changing need of the enterprises. Similarly, the development in advanced data migration technology, is bringing more transparency into data migration process and hence, the technology is widely getting accepted by many enterprises in recent time. Further, the growing need for application migration, database migration, and storage migration in small and medium enterprises are likely to affect the market growth positively."[1]

1 https://www.industryarc.com/Research/Data-Migration-Market-Research-500566

Current Solutions are Suboptimal

Senior operations executives are increasingly aware that the process and structure of how these migrations or application upgrades are currently architected, orchestrated, and implemented are sticky, painful, and risky owing to numerous factors, including:

- Unscalable manual tools that are thrown away after every transformation, upgrade, or migration project.
- Complexity of dealing with a rainbow of software in the legacy technology stack – that span mainframe systems to the latest Machine Learning applications, where explosion in data can make the data flows complex and variable.
- Inability to address all data quality issues is fine. But how do firms manage the redress of data breaks? Especially when errors are in a timely and efficient manner, which reduces trust in the data.

To address the digitization challenges, firms often seek the help of large, expensive, and time-consuming consulting practices. They tend to become projects that encompass the entire data and IT ecosystem of the firm, where key system subsets such as data migration and upgrades initiatives are relegated to less important considerations within the overall engagement. Consequently, these subsets, which could become single points of failure for the enterprise, are often not seen as mission critical exercises. Meanwhile, data audits suggest that firms often spend between 50-70% of organizational time moving and transforming data that are not critical for upgrades and migration, and add little value for normal business operations, process automation and reporting. Eliminating zombie data handling can itself be very cost effective for companies.

On the other hand, upgrades and migrations are increasingly becoming ongoing activities and no longer a “one and done” task. In order to economize, and for lack of proper knowledge, firms have often relied in the past on risk-prone manual processes that use standalone Excel, Access, or SQL tools.

Unfortunately, a manual approach can “gum up the works”, increasing time, error, and cost. Small errors compound, and over time become difficult to isolate and identify. These errors then get translated and magnified during migration and upgrades. Being by their very nature manual, the errors are difficult to track and quantify, lack auditing capability, and do not allow for automated re-run of tasks. In a typical mid-size company, on average, 30 to 40 sunset and migration projects are observed to be occurring simultaneously. As the scale and magnitude of projects increase, there is seldom any attempt made to address the friction created between technology and business teams regarding the ownership of the digitization project.

The main reason that manual systems are unsuitable for large migration is the rigidity of data models. Consider the fact that even a single modest digitization or migration initiative involves over a million data points. Further when data requires transformation and enrichment with dependencies from external parties – clients, regulators and third-party data providers, the process of data normalization can suddenly become onerous and complicated. The addition of a single regulatory mandated field to the data set, for instance, can suddenly snowball into a complete project in itself that can run into several millions of dollars. It has been noticed that as new data capture and enrichment demands

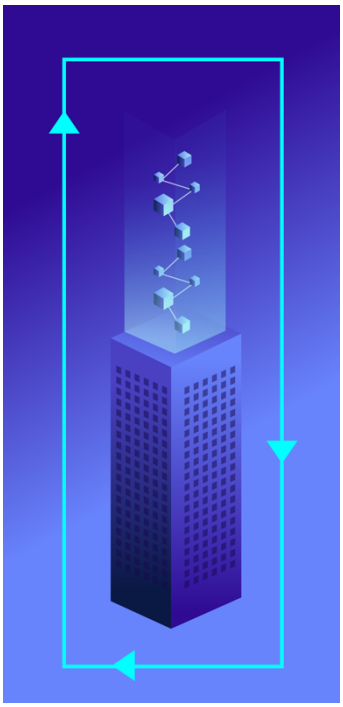
increase within firms, technology teams are constantly reinventing the wheel, when their attention could be better spent on data standardization that could be exponentially productive, while decreasing error rates and costs.

Explosion of data within organizations also mean that manual process is unable to keep pace with the sheer volume, size, and scope of complex data migration demands. There is a difference between saying that an engine has 150 horsepower and finding 150 actual horses to work together to produce the same result.

The bottom line is, across an enterprise, as businesses try to transform their data, manual workarounds simply do not work, owing to the data complexity and interdependencies, and the need to match, validate, normalize, and reconcile every data point and set of data.

Minimizing Friction – An Alternative Approach

To make the data transformation process become more efficient, firms and management should consider all the following:



1. Business Drivers – people, products, and process
2. Data Volume – how much, where stored, how configured
3. Number of Data Sources – core systems and databases; reference data
4. Data Models – databases differences, systems configurations, and matching models
5. File Types – validation file types produced by source systems
6. Data Transformation/Requirements/Outcomes – enrich, transform, merge and/or cleanse data
7. Quality – measures of integrity
8. Migration timelines – defining dependencies and sequence of activities
9. Automation – ability to procure, enrich and validate data without manual processes
10. Reporting and Auditability – timely reporting and faster turnaround

A frictionless approach to data migration and upgrades and migrations – a safer approach making the process as friction free as is currently available. As mentioned earlier numerous subprojects mean departments are reinventing the wheel or duplicating, and one that does not duplicate efforts, is one that utilizes automation and reconciliation or comparison technology tools. They can be effective to crunch yearlong projects into mere weeks with less risk, greater accuracy, and enhanced reliability.

Solving the Migration Problem – Improving Process through Technology

Tools exist today that facilitate the process of how to improve the process through technology and eliminated the manual processes – while at the same time reducing the number of migration projects as a by-product of technology.

Here, using data warehousing in the Cloud, there is an opportunity for the schema agnostic approach, which is flexible extracting data from source systems, match and reconcile data across sources, validate and perform compliance checking, all of which that could be done automatically. When data is resident in data lakes or data warehouses, recent technologies can manage the data "on the edge", without having to move large volumes of data across the entire transformation process. The results for financial services firms can be significant. It can:

- Preserve core data integrity
- Eliminate data noise and focus on solving the real issues
- Eliminate error risk
- Perform historical and continuous quality check for parallel systems
- Automate comparison and resolution process with user-defined logic and business rules
- Permit easy integration between systems and workflow automation tools
- Reduce the number of overall subset data migration projects
- And crunch overall project time from years to months

Getting There from Here

With data migration evolving from episodic events to ongoing activities, leveraging automated contemporary technologies can help organization refocus their attention on strategic initiatives rather than on repetitive tasks.

Some ground rules that organizations can adopt to streamline data migration include:

	Setting healthy expectation of outcomes with external and internal customers
	Gathering requirements from users and collaborating with them throughout the process
	Focusing on incremental wins rather than planning to completion, thereby enhancing confidence of the stakeholders

	Assessing and prioritizing timeline for migration of data and systems – the how and when
	Defining data, ingestion, and transformation – map and transform data and integrate source data when needed
	Normalizing reconciliation templates – configure rules that can be reused across business processes and systems
	AI driven automation – identify and resolve exceptions and breaks through intelligent automation
	Define success and measurement metrics – gain insight through reporting of user defined KPIs and KRIs
	Steer clear of spreadsheets and custom codes to move and validate data

Let the Journey Begin

As technology departments and senior executives embark on data transformation projects, it is critical for them to keep in mind the approaches and tools they can leverage to make the data management process friction-less, timely and cost effective for the organization. Manual processes can be restrictive, costly and at times even destructive as organizations grapple with the challenges presented by the project.

New tools that help automate the data management process have evolved today leveraging automation and machine learning technologies. They are becoming critical, having matured from being 'nice to have' tools to 'must have' instruments for organizations to handle their complex data needs.

♦ ♦ ♦

About the Author

Sarva Srinivasan is the Founder and CEO of EZOPS. He is a serial entrepreneur and a fintech ideator. With more than two decades of experience in early-stage companies and founding startups in US and India, he has harnessed emerging technologies to solve complex problems for financial enterprises across the globe. Sarva has a B.Tech in Computer Science from IIT-Madras, and holds a Post Graduate Diploma in Management from IIM, Bangalore.

About EZOPS

EZOPS harnesses the power of machine learning and intelligent process automation to manage all aspects of data control including reconstruction, reconciliation, research, remediation, and reporting, at some of the world's largest financial institutions. EZOPS operates globally with offices in the U.S., Europe, and Asia.

Contact Us

For more information about EZOPS data migration solutions:

- Visit EZOPS.com
- Email sales@ezops.com
- Call 212-739-7345