A Practical Guide for Handling Legacy Data

By Buddy Doyle

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The implementation of the Dodd-Frank Act, the fallout from 2008 and the "Flash Crash" are going to have a significant impact on our industry for the next five to ten years. There will be tremendous efforts by the industry to conform to the requirements of large trader reporting in the near future. Herculean efforts will be required to implement the Consolidated Audit Trail. There is no doubt that new and more efficient technology is coming to help firms deal with the impact of new regulation. Whether it is trading, operations, marketing, communications, finance, risk, supervision or surveillance, your firm will be using new technology tools in the near future.

Implementing new technology within an organization is both challenging and rewarding, and much has been written about the process of successfully doing so. While project management methods differ across various organizations, an agreed upon approach is key to making sure that all the details are covered. Gathering requirements, thorough testing, a strategy for a roll-out, solid training and an implementation support plan are vital for any successful implementation. How to handle legacy systems and data is too often an afterthought and can have a significant impact on the expected return on investment.

There are many factors to consider when planning for the best, or in some cases, the least bad approach to dealing with historical systems and data. Like most decisions, factors such as implementation risk, value, cost and benefits are key components that must be considered. I've been fortunate in my career to have had the opportunity to implement new technology, be involved in numerous mergers and acquisitions, divest businesses and help transition core platforms. In my career, I've used the following areas as the driving factors for dealing with legacy systems, reports and data.

Convert or Cut Over:

The conversion of historical information to a new system can be very difficult and will add significant expense to any project. Many projects will have some component of comparing the old to the new. This comparison helps drive documentation and supports training, but converting historical information to a new system requires field by field translation of information for common fields. Additionally, the data architecture is almost certain to have enough differences to require compromises in terms of what fields to bring over and how to interpret old data for new purposes; new fields will almost certainly exist that will have no historical data that is easily accessible to support the processing and reporting offered.

Simple business decisions like refining the ranges of client income and net worth can lead to problems if they are not carefully planned. Collecting new information like the ones that were required in the new FINRA suitability and know your customer rules will expose gaps. You need to plan for those gaps, or exception reporting may lead to enough noise to create a negative perception of the business.

Deciding the business value of the historical information is a key factor that must be considered when making the determination whether to convert historical data. Typically, an organization will start with the idea that all historical information should be converted. That sounds great until the tough questions about testing, timeline and cost are considered. Instead of starting with the premise of "I want it all", it is far more practical to start with a single question:

What is the business value of this information, and how will having this historical information in a new system drive meaningful decisions? I recently helped a client with a compliance system that was partially designed to help identify significant losses in client accounts. The historical data that had been used for this purpose was 95% accurate. While no harm occurred in the old environment based on that error rate, the new system would begin producing false positive exceptions (or missing them) if the data wasn't cleansed. In order to effectively implement this new system, we had to begin a process of staging new data for the system and built just enough history for the rules engine to work as designed.

Could we have cleansed all of the data? Sure. But it would have added to the implementation timeline, consumed more resources for testing, and would have not added real value to the implementation.

Defining Business Value:

I'll admit that "Business Value" is a squishy term that is wildly subject to interpretation and can be driven by emotion. I typically start with the question: How long will it take before my new system works as designed without historical information?

That key question leads to a determination as to whether the impact to the functionality in the new system resulting from historical data gaps is categorized as critical, important, nice to have, or not useful. While these terms are defined differently across various organizations, I typically use the following definitions:

Critical – Data that achieves a regulatory requirement or a mission-critical business function for which there is no work-around. The definition of "critical" should set a very high bar for someone in your organization to invoke the definition. An example would be WORM (Write Once Read Many) compliance for your email system.

Important – Data that drives significant revenue opportunities or expense reductions by providing new functionality, reduces the burden of a work-around option, or facilitates significant reduction in risk that could avoid a likely pre-defined risk scenario. These are things that achieve a more efficient workflow by adding reference material that is important to decision making. Adding information about client profile, positions and historical transactions to a trade blotter system make reviewing the transaction more effective and efficient and would typically fall into this category. But even historical transactions may be something that, as a compromise, you limit to transactions processed by your new system.

Nice to have – Data that you will never get into scope for a project unless it is really easy to convert, low cost, or saves an expense of running a legacy system to convert the data. Adding bodyweight to a registration application might be considered a nice to have. Really, when was the last time you updated your weight on your U-4?

Not useful – Data that only migrates if it is required by regulation and reduces the expense associated with maintaining it in a legacy system.

Three questions I tend to ask my clients as these decisions are being made are 1) how frequently is this historical data retrieved, 2) how is data used, and 3) is there a time period after which it is expected that the frequency will experience a significant decline? Another key consideration is the expense and risk of running a legacy system. Broadly, risk can be categorized as the risk of system failure, information security threats, and loss of knowledge as to how to operate the system. This allows organizations to better make decisions about running parallel processes in a pre- and post-conversion environment. Running in a production or controlled test environment can be a great option for staging data prior to a roll-out that allows you the benefit of new functionality without the coordination and expense of a conversion process.

Regulatory Requirements:

Regulatory record retention requirements must be considered as a key factor in any decision on how to dispose of legacy systems, reports and data. SEC Rules 17a-3, 17a-4 and 204-2 along with FINRA Rule 3110 are typically a starting point, but it does not end there. These rules describe the type of records that a firm must maintain and the retention period and the format for electronic records. IRS regulations, GIPS compliance, internal polices and client requirements also drive the need to retain information for a specified period of time. While the cost of data storage has declined dramatically and will most likely continue that trend, it is important to avoid the approach of simply keeping everything. Remember that record retention also means record production. If you have a record, you may be required to produce it upon request of a regulator or the counsel of a potential plaintiff.

Traditional Reports vs. Online:

Traditional reports (ie, hard copy reports) are usually easier to categorize and store in an imaging system and make data destruction schedules easier to handle. Before migrating from one platform to another as a result of a merger, acquisition, or conversion, it is important to consider both how indexing the reports in a new platform will allow you to search them and the value of moving all that information to a new platform versus having access to it on the old one. Online reporting platforms often retrieve data on demand and can rebuild a report for a point in time. This can bring its own challenges, and it is important to make sure you secure the code which produces that information at the time it was used in case you are required to reproduce the information relied on to make an investment or supervisory decision. Protecting the data that produced the information is also vitally important to keeping the integrity of your books and records.

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Defining Reports, Logic and Data:

Often, system changes are concurrent with changes in people and processes. Many of the system conversions that I have been involved in have been the results of mergers and acquisitions. Even with a disciplined knowledge transfer process, details often fade with time. It is important to consider the impact of attrition when converting systems. Having a solid record of how a report is defined and used will be important in how you respond to future inquiries. Additionally, having a formal definition of the data in a historical system can in some circumstances be as important as understanding it in a current system, particularly when you consider that the people who ran or used a historical system may not be available to respond to questions.

Document Decisions:

The rationale for a decision about how to best deal with legacy data can and will be questioned. Those questions usually come shortly after conversion when someone wishes he or she had easier access to the data. You will be challenged on your decisions that lead to inconvenience for end users. Cost, complexity, time to market and your own sanity may not be enough for people to be satisfied. It is important to not oversell the new solution before it is implemented to avoid as many of those conversations as possible, but

they will happen. Be honest in your response and people will respect you for it.

Without proper documentation, it gets harder to justify historical decisions. I have personally been asked about decisions that were made a decade after a conversion and had to describe the circumstances under which those decisions were made. Time and experience have taught me the techniques that I now use to guide clients through a disciplined process of change.

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Transparent Process:

Communication and coordination are crucial in any transition. I believe that the highest functioning organizations in the world make decisions with the right people at the table. Typically, those players are comprised of representatives from technology, operations, compliance/legal, risk, finance, training, communications, marketing and business sponsor. If representatives of these disciplines all agree on a plan of action, it usually turns out to be successful. That type of coordination takes time and energy. Implementation plans, timelines and budgets need to take this group of stakeholders and decision makers into account. Obtaining a formal signoff from these stakeholders not only can save your career, but it forces the discipline of documentation that is often missing many years later.

Robust Data Destruction:

I am a big believer in data destruction policies. Most organizations that are replacing systems are improving their control environment, enhancing reporting, correcting bugs and making progress. Data and reports that are attuned to the standards of the past are often not helpful in today's environment. It takes time and money to store, retrieve, review and produce when requested. Make sure as systems are replaced or retired that they are part of your data destruction cycle.

Conclusion:

Technology is evolving faster than ever. Whether the result of regulatory changes, industry consolidation, the need to create operational efficiency, advancements in reporting, or the fact that the way society communicates has drastically shifted, chances are your organization is experiencing or preparing for significant changes. Get the right people involved, develop a solid plan, measure each step along the way, and make sure your plan includes decommissioning old systems.