GLOBAL DATA

THE CASE FOR OPEN SYMBOLOGY

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THE CASE FOR UNIVERSAL OPEN SYMBOLOGY

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The financial industry continues to struggle with uniquely identifying the millions of instruments traded daily. Lack of unique identification results in massive costs, negatively affects data quality, complicates data management and governance, and contributes to the lack of transparency within firms as well as with regulators.

It is time to adopt a solution that represents a new approach to solving these issues. Open Symbology is an open data-based system for identifying instruments globally across all asset classes. Combined with the instrument identifier, "FIGI" (Financial Instrument Global Identifier), firms are able to link fragmented proprietary symbologies, fill the gaps that remain and streamline the trade workflow. Adopting/relying on an Open Symbology and the FIGI can help put the industry on a path to greater transparency, lower risk, reduced costs, and better data management and quality, and they can improve interactions between clients, counterparties and regulators.

INSTITUTIONALIZED CHAOS

The complexity generated every day by the billions of financial transactions that cross trading floors, clearinghouses and exchanges all over the world presents a massive challenge for the industry. Almost every aspect of instrument management is based on closed systems that use a myriad of identifiers, many of which are privately issued and licensed.

Closing each deal is as much an exercise in translation as it is in transaction processing and operational troubleshooting as traders, investors and brokers wrestle with multiple formats and numbering schemes to determine what a financial instrument is, who owns it, how much it is worth and when (and where) the deal should be closed.

This complexity introduces a tremendous amount of friction into the trade life cycle and creates opaqueness where clarity is sought. In addition, the lack of a single unifying global identification scheme adopted across all instruments adds significant cost and overhead when users wish to integrate data from disparate sources, migrate to a different market data system, add new products or services, or attempt to merge operations and systems from acquired companies.

Identifiers are essential to the financial industry. Each one identifies a financial instrument (even if that instrument is cash or a derivative). However, in most cases, there exists more than one identifier for any particular instrument, relevant to the context in which it is being used (i.e., front versus back office). In some instances, a single identifier may refer to multiple instruments, and there are still many instruments that exist with no real identifier at all.

Further, corporate actions result in identifier changes, affecting the ability to trace lineage and historical data.

Given the importance and complexity involved, it seems incredulous that individual firms use different identifiers than their peers, and even with a single firm, different operational areas use different identifiers and data structures. And yet, these are the identifiers used to research and trade financial instruments, assess risk, manage portfolios, report to regulators, and manage settlement and clearing. The core of the financial industry is about exchanging an asset of some type between entities. For too long the industry has not had a single methodology for identifying an entity or an asset.

"Proprietary, nonstandard and prolific symbology now stands as one of the most significant barriers to increased efficiency and innovation in an industry that sorely needs it."

The finalization of the LEI (Legal Entity Identifier) standard has alleviated one half of that equation. It has moved the industry forward, closed gaps and enabled all areas of a firm—from trading to risk management to operations—to address issues previously thought as being out of reach, such as how much exposure you have to a particular firm in the event of a major event.

But existing standards and identifiers have not kept up with the rapid changes in the market. New types of exchanges and instruments come into being, methods of trading change and existing products evolve even as new ones are created. Indeed, existing standards were limited in their scope and extensibility almost as soon as they were approved, many times because of the contextual limitations of the standard. Changes in how companies list shares, creation of new trading venues and the continual evolution of new types of financial instruments all push the limits of standards created with rules that may no longer apply or be relevant.

Proprietary symbology filled a significant void, but typically at a silo/product level or for a niche need. Product-specific identifiers that seek to extend past their original purpose struggle to encapsulate the necessary properties of dissimilar financial instrument types, while functional-based identifiers have proved themselves unable to cross barriers from one operational unit to another within the same organization.

These core issues are rooted in the data, the nature of instruments, their life cycle through the financial system and the entities that exchange them. Proprietary, nonstandard and prolific symbology now stands as one of the most significant barriers to increased efficiency and innovation in an industry that sorely needs it.

THE TREES OR THE FOREST? (I.E., BUT I DON'T HAVE A PROBLEM)

In 1999, a colleague of mine and I petitioned the FISD[1] to sponsor a discussion on equity multilisted instruments; we heard some rumblings of a problem but weren't sure of the scope. We anticipated the regular 8 to 10 faces would attend, have a nice conversation and maybe validate some assumptions. Surprised at the response and the number of requests for an invitation, we had to move the meeting room to a large boardroom, with more than 40 people attending in person and an additional 45 or so dialing in from across Europe and as far away as Japan, Australia and China.

This resulted in a number of follow-up sessions and the issuing of a complete report through RDUG and REDAC, detailing the multifaceted issues involved, case examples and suggestions for addressing the defined problem.

Yet the German SWIFT Securities User Group (DESSUG) wrote a formal response, indicating confusion over a number of statements, holding different conclusions drawn because of semantical differences in interpretation and, in some cases, having a wholly different perspective that called into question the RDUG and REDAC findings.

The DESSUG response had many valid points and helped illustrate how different the industry is across functional areas and jurisdictions. Especially from a local German investor perspective, trading on German exchanges and being fairly insulated from cross-border implications, the Unique Instrument Identification quandary held little relevance to the German market or its participants.

1 http://www.siia.net/Divisions/FISD-Financial-Information-Services-Association

“The financial industry... is not a single trading desk. It is not a single country or market.”

Many in the industry feel unaffected by the management problems of differing identifiers and most likely would say that instrument identification is a nonissue. The issues surrounding instrument identification only begin to manifest in the interaction between functions, systems or entities. There continues to be a practice of seeing this as “the other person’s problem,” as opposed to existing within a larger ecosystem.

Additionally, if you were to consider changing the identifiers practitioners use daily, you would hear loud protests from users across the board. Many symbologies are “human readable” in such that there is a context embedded within them, that assists users, looking at a screen all day, to quickly understand what instrument they are looking at and dealing with.

The financial industry, however, is not a single trading desk. It is not a single country or market. It is not just a middle office matching function. It is not just the struggle of corporate actions. The financial industry is the continuum of investors, the portfolios they are invested in, the managers of those portfolios, the traders on the manager side, the traders on the opposite side, the corresponding middle offices, the real-time pricing feeds, the fund managers, custodians, accounting systems and providers, exchanges, depositories, CCPs, regulatory agencies, exchanges, sub-custodians, and more across the globe, across borders, asset classes, firm types, and roles and responsibilities.

Our approach to symbology needs to take this into consideration first and foremost. Symbology needs to satisfy the individual functional needs of operations, but it also needs to exist and work over the holistic view of the industry.

One of the biggest barriers to data management and quality has been what I’ll call this “human view” of data. This type of view and symbology creation reinforces a silo-based, limited view of data and their use. It is the view of data as equal to the representation I see on a screen in front of me, that fits my purpose at my point in time. What I refer to as “bloomberg.com” does not exist—it is a human readable representation of a numerical IP address, which in itself is another representation of a traffic node on a network, a virtual path from one point of access to another.

Instrument identification to date has been based around the notion that someone needs to read it and understand what the identifier means by sight. We are at a point in our technology that this simply is no longer true. Data needs to be consumed by a machine. Human interaction is important, but it should not drive core symbology. It is instead the metadata related to that core symbology that can provide context and visual information to a user to be displayed on a screen, report, data query or otherwise.

CONSIDER WHAT FOLLOWS (AND CAME BEFORE, AND MAY COME, AND EVERYTHING IN BETWEEN)

Instrument identification needs to be approached through viewing the full life cycle of an instrument and understanding the commonality as well as uniqueness of product/asset classes, so that a clean, fresh approach can provide a single, unique and unchanging (yet flexible) methodology for identification.

Much as LEIs should be viewed as a key to addressing the problems of multiple entity identifiers, and being able to act as a key (akin to a URI—Uniform Resource Identifier) to bringing them together (not replace everything that already exists), a unique instrument identifier can serve to bring the myriad of existing instrument symbologies into focus in a clean, open and standardized way.

Operational risk that arises from mapping errors is a cost that is not fully appreciated until it occurs in an area susceptible to operational stresses, such as high-frequency trading. At low volumes, the failure to complete a trade is a problem, but potentially manageable depending on the extra resources of the firm. With high volumes, however, hundreds of breaks may occur from a single mapping error, resulting in high interest or failed trade penalties. Those errors affect not only the trading firm but its trading counterparty as well.

The extra costs (reputational and financial) borne by firms due to failed trades can escalate, and in most cases cannot be tracked. Many trades that are "matched and affirmed" still fail. This can result in multiple sources of risk: see example below.

Let's assume that an asset manager and broker agree to a cross-border trade.

Both the asset manager and the broker use sub-custodians in the global settlement market. Errors in instrument identification and the resulting failed trails can incur (but not limited to):

Time Costs

- Time costs for operations of both sub-custodians in attempting to resolve the fail
- Time costs for the global custodian operations handling the query requests from the sub-custodian
- Time costs for the asset manager's middle office addressing queries from the custodian
- Time costs for the broker's middle office in addressing queries from the sub-custodian

Market Risks

- Market costs and fines for the fail
- Cost to realign positions or reregister shares across marketplaces
- Incorrect collateralization, introducing concentration and wrong-way risks
- Reputational risk for the sales and trading desks in managing fails and relationship issues, with the cost scale depending on the size of the transaction

Operational/Internal Risks

- Buy-in costs and/or securities-lending costs (including operational time costs) required to cover deliveries
- Interest-related carry costs.
- Real exposure in case of a corporate action or liquidity issue
- Treasury and collateral impacts

“Adopting a shared system of open symbology establishes the foundation for a tremendous leap forward in the efficiency of trading...”

Lack of a unified symbology for asset identification results in inefficient inventory management, false-positive matching errors due to multilisted or incorrectly mapped instruments, loss of arbitrage opportunities, potential exposure risks in collateral and margining, inefficient operations focused on troubleshooting rather than client servicing, inaccurate transaction reporting to regulators, and increased risk overall. More complex assets, such as OTC derivatives, compound these issues.

The costs to deal with such complexity are becoming increasingly difficult to quantify. While cost is often the “go-to” driving factor, it is but one of the elements that has highlighted the need for an open symbology. Predictions about the ultimate effect of financial reform legislation all focus on the need for greater transparency that an open symbology system would offer.

Markets, customers and governments are demanding greater connectivity, transparency and efficiency. What’s more, the evolution of technology, data systems and theory has profoundly altered the way businesses collect, manage and share information. Besides new regulations that demand clarity and accountability, the move to open symbology is being driven by growing investor and institutional demands.

Adopting a shared system of open symbology establishes the foundation for a tremendous leap forward in the efficiency of trading and settlement of financial instruments, as well as data management and quality. Such a shared approach will allow firms and technology service providers to shift resources from laborious, inefficient processes to new investments in tools and products that will better serve clients and lower costs overall in the industry. On the regulatory end, it should simplify and streamline reporting, data aggregation and risk reporting.

An open symbology system answers the call for greater transparency. Eliminating the need to repeatedly and constantly remap financial instruments across proprietary identifiers will greatly simplify the steps required to navigate between market data platforms and trading systems. Availability of a single central symbology reference will simplify mapping between users’ internal systems and create opportunities for integration and automation of the global financial enterprise.

BUT I DON'T WANT TO CHANGE

Thanks to new data management theories and technology capabilities, you don't have to. OK, you still have to change a little bit, but only in the way you think about identification and symbology. The conversation around symbology has been focused on the human element—delivering a single unique number that someone can see and touch. The reality is that from a human and operational perspective, there is a need for different identifiers that are fit for purpose, that correspond to the function and need at a point in the life cycle of the transaction. Each stage carries different needs for related metadata—whether it be a type of price, purpose, location, sector, industry and value-added data attached to that specific need and point in time and purpose. These things all force what I'll call a "contextual issue" in the life cycle of an instrument and trade that forces a type of hierarchy regardless of asset class.

What has been lacking is a global, industrywide, consistent, standard way to tie all those different identifiers, hierarchies and schemes together. The data lineage of an instrument needs to be preserved as it transforms from an idea, to a traded ticket, to a matched composite, to a settled local market item. It needs to understand not just trading, but also the life cycle of an instrument—from creation through corporate actions to death, and even potential rebirth.

This is not a "mapping table" approach that is the common "solution" today. A mapping table simply creates a static one-for-one representation. Mapping has no metadata to provide context and enable data quality management and lineage.

The normal response would be to lament; "Oh, yet another identifier!" But this kind of thinking is precisely what delayed any motivation for a Legal Entity Identifier for 10 years, through the fiscal crisis. As we collectively began to try to wade through the resulting mess, suddenly it was important to be able to tie all these various entity identifiers in a way that you could accurately see your exposure to an overall holding company—even if you don't plan on changing all your human-interface systems to display an 18-character number in lieu of "General Electric Corp."

We don't need a "new identifier." We need a new solution and approach that fills the gap that exists between all the identifiers we do have (and don't forget, even a text name is a form of "identifier"). It is not a replacement for what exists today—it is what ties together what we have today so our financial system is more accurate, information is more readily available and new value can be found where previously there were holes and questions.

Finally, the key (and associated metadata) needs to be freely available, sharable and consistent across the industry—regardless of your role in the chain, the type of firm you work for, or the function you perform. There is no competitive advantage in speaking different languages or identifiers. But it is to everyone's advantage for a solution to be adopted. This is precisely why Bloomberg supports its Open Symbology division and the issuance of instrument identifiers under the auspice of the Object Management Group's (OMG.org) FIGI.

"We don't need a "new identifier." We need a new solution and approach..."

ABOUT THE AUTHOR

Richard C Robinson is a senior executive with 25 years of experience in the financial industry, with a rare perspective spanning operations and technology at global banks, international brokers, investment managers and industry utilities.

Starting in Global Custody at Bankers Trust Company in the early 1990's, he has worked in the front, middle and back offices at NSCC, Merrin Financial, The Bank of New York, Deutsche Bank Securities and Omgeo. Post-crisis, Mr. Robinson also worked in a consulting capacity at Barclays and Morgan Stanley Smith Barney.

For the past 16 years, he has been heavily involved as a published author, speaker, co-chair, and active participant of industry working groups related to international standards in data and messaging, including MDDL, FISD, ANNA Service Bureau, EDM Council, ISITC, ISO, ISDA and SIFMA. Mr. Robinson has led industry efforts around unique instrument identification since 1999.

He currently is Head of Strategy and Industry Relations for the Open Symbology group at Bloomberg L.P. Mr. Robinson holds an MBA in Organizational Behavior and IT from NYU's Stern School and a BS in Industrial Management from Carnegie Mellon University.

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TAKE THE NEXT STEP

Learn more about open data, the Object Management Group and Financial Services Standards like FIGI at omg.org/hot-topics/finance.htm or email bsym@bloomberg.net.

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