Fintech and Regtech Need Datatech

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Fintech and Regtech are capable of revolutionizing financial markets and institutions and their regulators. But without the underlying platform of standardized, quality data – Datatech – no long-term benefit will come from adding new layers of technology to the already dysfunctional plumbing of finance. Yet we may be allowing premature competition among both regulators and financial industry members, preventing efforts at first solving the Datatech infrastructure issues before refining the technologies for developing business and regulatory solutions.

The technology of the future that is thought capable of revolutionizing financial institutions and its regulators is already here. It is oversimplified in the descriptive words "Fintech" (financial technology) and "Regtech" (regulatory technology). But without the underlying platform of standardized, quality data – Datatech – no long-term benefit will come from adding new layers of technology to the already dysfunctional plumbing of finance.

Internet Leads Distributed Networking

One need only look to the evolution of the Internet with its revolutionary concepts of distributed communication that fundamentally changed how the world and its financial institutions communicate. A similar revolutionary technology, the Distributed Ledger Technology (DLT) of the Blockchain, the underlying technology enabler of Bitcoin and other cryptocurrencies, is promising to fundamentally change how financial institutions store and report information – but only if it can become a common good, as with the Internet.

[Related: "Coin Wars – The Revolution of Decentralization"]

The Internet's early value proposition was a standard communications protocol and a unique and standardized identity – for computers and for the businesses and people connected through to the Internet through these computers. However, the adherents to the new technology of DLT are focused on standards for communications, interoperability and permissioning protocols, less on unique identity. Without unique identity both for the "who" and the "what," and standards for both, assuring what is conveyed through DLT networks and by whom, and what is received and by whom, will not be possible.

Distributed Ledger Technology

DLT works through the use of the distributed communications technology of the Internet. It acts like a huge ledger (a single decentralized book-of-record) that records every transaction and distributes this information across computer nodes that are connected to the Internet. It is a single, immutable ledger, one copy shared by all. It has tremendous promise to remove many of the hundreds of data intermediaries and financial market

utilities that reconcile separate non-standard ledger data kept by each financial institution, each different in content and format. Regulators need to reconcile and normalize this data before it can be aggregated and understood. Aggregating financial transactions for performance and risk management is one of the most important activities performed by financial enterprises and regulators alike.

Right now, a currency-based Blockchain uses DLT but only for a single "what" – the currency Bitcoin, for example. Identity of the "who" is most important, with unique public and private keys used to authenticate the identity of submitters and receivers of Bitcoins. However, the transformative vision for DLT in finance is to be used as a global communication layer to authenticate financial transactions of any type globally, as the Internet does in transporting information of all types globally. Here is where a standardized and codified identity system for both the "who" and the "what" is needed.

Data Standards

Without identity and product standards, industry members will continue to build point solutions for single assets or single functions, adding to the complexity of interoperability and matching of the same "what" described via reference data in each DLT. This is exactly the situation we now have with the dysfunctional infrastructure (the plumbing) of finance, where hundreds of financial market utilities reconcile multiple identities of the same originators and products in order to support interoperability.

The reference data components of financial transactions are the financial material that are used in different configurations to represent different products, and aligned to represent different market participants acting in different capacities across the financial supply chain. Financial transactions can thus be thought of as an assemblage of these identifiers and data elements to uniquely identify the transaction as a specific product bought by a specific business entity. It is analogous to assembling specific component items of a commercial product and designating its manufacturer. The difference is that the commercial product is tangible and visible; the financial transaction is completely digital.

Groupings of interrelated market-specific interactors, usually grouped by trading market, country or product, have settled on a minimum set of standard identifiers – product data set reference data variations and communications protocols that they would collectively accept. However, there are no global standards of this type to operate within a global financial system. This limitation inhibits the timely flow of financial transactions via computerized means between financial counterparties, across the financial supply chain, and to regulators. It complicates the aggregation of financial transactions for performance and risk management of a single enterprise and makes it impossible to aggregate data across multiple financial enterprises for systemic risk analysis.

[Related: "Will MiFID II's LEI Rules Mean More Blocked Trades?"]

Smart Contracts

Recognizing that this data limitation would impede the advance of DLT, a concept of Smart Contracts has been devised. A Smart Contract is an amalgam of standardized data and standard transaction processing that a purchaser and seller, or payer and receiver, and their agents agree on in advance as the representation of the data components of the financial transaction. This representation is described as the Smart Contract Taxonomy, a means to tag standard data so that a computer can recognize and process the data. The Smart Contract is then exchanged on the secure, immutable Blockchain for transfer of ownership and value exchange. Thus, the prerequisite for Smart Contracts and the use of the new technology of DLT is the same as in the

current environment: standardization of communication protocols and the identity of the communicators and the reference data of the product that is transmitted and stored.

First Up: Datatech

Unlike the Internet, the new generation of revolutionary technology is already in the hands of commercial interests, primarily financial institutions. However, unlike the Internet, which government nurtured to maturity, we may be allowing premature competition amongst both regulators and financial industry members, preventing efforts at first solving the Datatech infrastructure issues before refining the technologies for developing common interest business and regulatory solutions.

There are many collaborations, start-ups and regulatory initiatives in finance supporting DLT proofs-of-concept for various uses, from trading, to payment systems, to securities settlement, to inventory management. However, one of the prevailing views amongst industry members is that DLT will not realize its full potential, not because of the technology not working, but rather because of the hindrances imposed by existing financial regulations. However, as noted in a recent Fintech research report authored by the International Organization of Securities Commissions (IOSCO):

> *"One of the benefits of DLT is that regulators can participate as one of the nodes in the DLT, thereby having automated access to all the data. This in turn would allow regulators to have more complete and more traceable, real time records."*

Comprehensive Strategy Needed

The financial industry needs a comprehensive Fintech, Regtech and Datatech plan to efficiently deploy DLT. Without such a plan we may have set in motion competitive forces prematurely and led regulators down an older path – a path of deploying technology based on the financial industry's best practices of its legacy past rather than on the path of the financial system's digital future.

This future path must first focus on driving data standardization, a necessity for making Fintech and Regtech possible. With data standardization, Fintech and Regtech innovation can enable virtual global views of financial data that is disbursed throughout local computer nodes (data collection points) across the globe. But this is only possible if these nodes conform to both common data standards and common networking protocols.

Creating a Financial Innovation Center

In a recent US senate hearing, "Examining the Fintech Landscape - Senate Banking Committee," the need for a financial innovation center was identified. This new national office would center the dialogue, guide the standardization of new technologies and realize the vision for rewiring finance for its 21st Century destiny.

[Related: "Trump Needs to Establish an Office of Financial and Regulatory Technology"]

The financial innovation center should conduct research to build innovative links between evolving technologies and new regulations. Regulatory oversight would be less costly and more precise as analysis of transaction data could utilize learning algorithms that get smarter each day as data is accumulated and patterns emerge. This cannot be done without standardized and unique identities and reference data, the missing Datatech of the financial industry's 21st Century digital future.

The rise of FinTech is causing a complete restructuring of the global economy. Through the combination of cloud, blockchain, AI, and more, all of the workflows that run our lives and our markets will be transformed. TABB's FinTech Festival 2017 will bring together leading thinkers and technologists who are at the forefront of driving the FinTech economy forward. To learn more and to register, please visit: www.fintechfestival2017.eventbrite.com.
