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FINRA RegTech Conference Examines AI and Big Data; Blockchain; and Regulators' Views (Part One of Two)

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Regulatory technology (RegTech) aims to improve regulatory compliance by automating processes; facilitating reporting; and using advanced data analytics to identify and manage risks. FINRA recently convened a group of regulators, financial services firms and RegTech experts to explore the growth of RegTech and its associated benefits and challenges.

This article, the first in a two-part series, covers the portions of the FINRA 2019 RegTech Conference that examined artificial intelligence (AI) and big data; blockchain; RegTech challenges; and regulators' views on RegTech. The second article will explore current uses of RegTech by regulated entities and regulators; considerations before deploying RegTech; and a case study of RegTech implementation.

See "Cordium and Aite Group Survey Benchmarks Use of 'RegTech' by Asset Management Firms" (Feb. 8, 2018).

Benefits of RegTech

RegTech entails a wholesale digital redesign of existing paper-based analog processes that applies powerful analytics to available data, explained Jo Ann Barefoot, CEO of Barefoot Innovation Group. It is a response to the needs of the marketplace, said Catherine (Katie) Makstenieks, managing director and CCO of Deloitte Corporate Finance LLC.

Compliance costs have been growing dramatically, and compliance personnel are increasingly difficult to find. RegTech leverages technology to offer more with less. It allows firms to be smarter about compliance and automate processes that are susceptible to human error. It is no longer a choice between more expensive and better or less expensive and worse, Barefoot added.

RegTech may actually reduce compliance costs, not just slow the rate of growth of those costs, noted David Shrier, lecturer at MIT Media Lab and CEO of Distilled Analytics, Inc.

See "Ernst & Young Survey Explores Changes in Employee Talent Pool; Use of Technology and Outsourcing; Expense Management; Alternative Fee Arrangements; and Future Risks to the Industry (Part Two of Two)" (Dec. 6, 2018).

Artificial Intelligence and Big Data

Some RegTech employs AI, which involves feeding enormous amounts of data into computers that are trained to recognize and distinguish patterns in that data and "learn" from the analysis of it, Shrier explained. Traders are already using AI to make investment decisions, but compliance has lagged behind in embracing that technology.

See "The Death of Alpha: A True Challenge or a Poor Manager's Excuse? DMS Summit Discusses Alpha Generation, '2 and 20' Fees, AI and Impact Investing" (Apr. 12, 2018).

AI can be used to navigate the complex web of regulations, Shrier continued. For example, a group of Stanford computer scientists built an AI-based compliance function for a $10-billion hedge fund that operates with two software engineers and one lawyer, in lieu of many compliance officers. The system was trained to carry out human behavior interpretation around regulations and to predict what regulators would do when reviewing trading strategies.

One easy application of AI is the automation of paper workflows, Makstenieks said. By making compliance easier, a firm is more likely to get people to do what they are supposed to do. Digitizing paper into a machine-readable format can create a data set that firms can use to drive AI applications. It can be difficult, however, to address legacy systems that include millions of pages of documents. This can be a "crushing problem" for many financial institutions, Shrier added.

The explosion in the amount of available data, combined with new analytical tools, creates huge opportunities, Barefoot said. One of the key benefits of AI is its ability to discern patterns that humans cannot easily see. As a result, AI can help firms predict issues before they occur, thereby improving compliance and client protections, Makstenieks said. Data integrity is critical to AI and RegTech systems, added Kavita Jain, Director in FINRA's Office of Emerging Regulatory Issues.

At present, certain AI systems can discern patterns but cannot explain how they emerge, which raises regulatory issues, Barefoot continued. In fact, there is an inverse relationship between explainability and predictability. Another concern is over the quality of data used for training and the potential for bias in that data. It is a "massively challenging" problem.

The term "big data" refers to the fact that "data is coming from everywhere," including digitized public records, consumer activities, cellphones, cameras and the "Internet of Things," Barefoot said. Big data allows firms to take a more holistic approach to supervision and compliance, Jain noted. At the same time, there is significant tension between data privacy and the use of big data in compliance, Barefoot said. In addition, it can be challenging for a firm to decide what additional data to include once it has moved beyond traditional financial transaction data.

See our three-part series on the opportunities and risks presented by big data: "Its Acquisition and Proper Use" (Jan. 11, 2018); "MNPI, Web Scraping and Data Quality" (Jan. 18, 2018); and "Privacy Concerns, Third Parties and Drones" (Jan. 25, 2018).

One important application of AI and big data is in anti-money laundering (AML) and know your customer (KYC) controls, Barefoot continued. At present, AML detection systems have false-positive rates of 80-95 percent, Shrier noted. RegTech could improve efficiency by reducing false positives and increasing escalation rates, enabling compliance staff to spend more time on true risks, Jain said. Similarly, advanced analytics will enable more nuanced email reviews. For example, instead of identifying specific words, email surveillance systems may be able to discern the "tone" of a message. In that way, RegTech will facilitate a move from "rules-based" compliance systems to "risk-based" ones, she added.

See "Thomson Reuters Survey Reveals Concerns About and Shortcomings With AML Compliance" (Nov. 16, 2017); and "SEC, NFA and OFAC Shed Light on Their AML Enforcement Efforts and Priorities" (May 4, 2017).

Employees may be expected to understand hundreds of pages of compliance rules and procedures, Makstenieks noted. AI-based apps and chat bots can be used to help employees find answers to their questions, reducing the burden on compliance staff.

Blockchain Technology

Fundamentally, blockchain is a type of database, Shrier explained. One key feature is that it is immutable, making it ideal for audit trails. On the other hand, if bad data is incorporated, that bad data is there forever. "Blockchain today remains a nascent, immature technology," which has not been applied at scale, he added.

Industry partnership with regulators and open dialog will be critical to the effective deployment and use of blockchain, Makstenieks said. Existing rules will have to be adapted to allow firms to take advantage of the technology. Firms may be able to use blockchain to store the information they need for regulatory compliance and to produce that information promptly and in the requisite format.

See our three-part series on blockchain and the private funds industry: "Basics of the Technology and How the Financial Sector Is Currently Employing It" (Jun. 1, 2017); "Potential Uses by Private Funds and Service Providers" (Jun. 8, 2017); and "Potential Impediments to Its Eventual Adoption" (Jun. 15, 2017).

RegTech Challenges

AI systems evolve at speeds faster than the human brain can keep up with, and it is often unclear how AI arrives at certain decisions, Shrier noted. New algorithms may be able to explain how a system arrived at a particular decision, including the strengths or weaknesses of the paths it chose. Another concern is that an algorithm that may be good for a firm may not be good for the market as a whole.

Educating compliance officers on RegTech technologies should be a priority because it will transform their roles in the coming years, Barefoot advised. Firms should identify key pain points in compliance and consider available solutions. Rules will lag behind the technology. Firms will have to consider cybersecurity and balance the use of big data with the growing panoply of data privacy rules, Makstenieks added.

It is essential for compliance to have a close relationship with a firm's information technology (IT) department, Makstenieks said. A compliance officer should have a basic understanding of how a RegTech system works and be able to explain to regulators why the officer is comfortable with the system. The officer should, at minimum, know enough to start a conversation in an exam without deferring completely to IT, she cautioned. An officer can prepare for regulatory exams by developing three to five relevant questions that he or she poses to IT staff and IT vendors, and learning the answers to those questions, Shrier recommended.

Predictions for RegTech

Firms will rebuild infrastructure to facilitate collection of data, Makstenieks hypothesized. Digitization of records is essential for AI applications.

There will be improved KYC controls built around better identification, smarter AI for surveillance, accelerated digitization of records and automation of records analysis, Shrier predicted. Development of better AML controls is crucial, Barefoot added. The consensus is that current efforts are not working. See "FINRA Report Highlights Common Broker-Dealer Compliance Shortcomings" (Jan. 24, 2019).

There will be a trend toward machine reporting, which will allow firms to connect with regulators and allow regulators to review full data sets, Barefoot added. Machine executable regulatory compliance is also on the frontier.

Regulators' Views on RegTech

Technology is needed to keep up with evolving regulatory rules and mandates, observed FINRA examination director Jeffrey Fortune. As RegTech develops, state and federal regulators will have to understand how RegTech compliance programs work, and leverage the technology to enhance their own operations, said Michael Pieciak, commissioner of the Vermont Department of Financial Regulation and current president of the North American Securities Administrators Association (NASAA). NASAA has a financial technology (FinTech) committee and has provided guidance to regulated entities.

Regulators are focusing on technology governance, Fortune said. They expect firms to test systems before deploying them and monitor those systems continuously. Many regulators have very little experience with RegTech and blockchain and are working to close skills and training gaps, noted Nick Cook, head of RegTech and Advanced Analytics at the U.K. Financial Conduct Authority (FCA).

RegTech is one part of the FCA's broader focus on financial markets and FinTech, which has the following four other key components, Cook said:

1. Direct Support Team, which assists FinTech companies entering the U.K. market;
2. "regulatory sandbox," which has enabled roughly 100 tests of business innovations and technologies under regulatory supervision;
3. Advice Unit, which provides regulatory feedback on automated investment advice; and
4. policy work on cloud infrastructure and the impact of FinTech.

The FCA is part of the RegTech ecosystem, Cook added. It works with the industry to address inefficiencies and intractable problems in the financial markets, and is putting RegTech to use for its own purposes.

For a look at the CFTC's FinTech initiative, see "New CFTC Chair Outlines Enforcement Priorities and Approaches to FinTech, Cybersecurity and Swaps Reform" (Nov. 9, 2017). See also "New Sidley Partner Lilya Tessler Discusses FinTech and Blockchain" (Sep. 13, 2018); and "Women in Derivatives Event Features Address by CFTC Chair Giancarlo and Panel Discussion on the Intersection of Technology and Regulation" (Jul. 12, 2018).