

Considerations for Corporate Actions in the New Digital Era

*Kelley Warner, Product & Services Consultant
Fidelity Corporate Actions Solutions*

Fidelity Corporate Actions Solutions (FCAS), a Fidelity Investments company, has been a trusted source for comprehensive corporate event information and workflow solutions since 1997. FCAS is the corporate action center of excellence across the Fidelity Investments enterprise, encompassing multiple business units representing both the buy and sell side of our business on a global scale. We have also deployed service models on a commercial basis to a broad range of financial services firms made up of banks, sell-side and buy-side investment managers, hedge funds, global custodians, broker-dealers, insurance companies, portfolio accounting platforms, brokerage platforms, asset servicers, trading platforms and specialty providers.

Simply put, digital transformation is the application of technology to profoundly impact all areas of a business. Digitization laid the foundation by using tools to automate and improve current workflows. Digital technology allows businesses to enhance and modernize core operations in order to create new value in business models and customer experiences. Blockchain technology was initially created to support the underlying digital currency Bitcoin, yet the application of the distributed ledger technology can also streamline



Kelley Warner, Product & Services Consultant

Digital transformation, digitization, digital technology, machine learning, agile methodologies, blockchain technologies, and artificial intelligence are just some of the processes associated with the digital economy, which is geared towards innovation by initializing, improving, or transforming entire business practices using digital tools. Companies have been tasked with scaling these digital initiatives in order to create a frictionless customer experience, while simultaneously improving financial performance, reengineering their service model, and increasing agility.

varied economic transactions.

At Fidelity Investments, our focus on service delivery optimization via digital transformation has resulted in a cross-enterprise initiative that automates routine transactional processes in a number of different business areas from fixed income research analysis, to legal document review, to new mutual fund account openings, to corporate action processing. This automation streamlines the customer experience by applying machine learning and deep learning with a view to reducing manual touchpoints and providing quick and easy customer access to important data points. This allows our workforce to allocate their time to perform value added tasks such as research and analysis. In addition, it allows us to continually interact with and learn from our customers, and evolve our entire operation by anticipating their needs and addressing them in a seamless manner.

The overall approach started with reviewing and evaluating all channels in the customer service business model (i.e., process, information, technology, and people) to understand current digitization capabilities and develop a plan to automate service and workflows through self-learning models such as machine learning and deep learning. We accomplished this by identifying key processes down to the transactional level, understanding all interdependencies to that key process, modernizing technology, and applying tools such as natural language processing, algorithms, and additional computing resources to discern patterns in data automatically in order to offer personalized advice, simplify access and navigation, and proactively assist customers to deliver a high quality, personalized experience.

For example, Fidelity created a virtual reality financial agent called Cora. This proof of concept was created in conjunction with Fidelity Labs, our research and development division, and Amazon Sumerian. Customers interact with Cora in a VR environment; she answers questions and displays data, charts, and other information

in real time based on a customer's spoken cues. Though only a prototype, this collaborative effort underscores the reasons why data, algorithms, VR, cloud computing, and the next generation of technology matter to Fidelity. By transferring cognitive work from associates to computers, we develop a deeper understanding of our customer's needs while also achieving cost savings.

An additional application of machine learning studied email interactions between customers and associates in order to automate responses. The incoming emails are analyzed to determine and extract themes. A rule based templated response for the most common questions and issues was created, then a draft response based on previous email interaction with that specific customer was updated and routed to an associate for final approval. In this process, streamlining internal workflows, creating and populating standard templates and gathering customer information was all done automatically, simplifying the processing, decreasing response times, increasing the quality of responses and shifting the focus to the customer relationship.

Fidelity has also used agile methodologies to accelerate both software development and data transformation. Agile is a collaborative, team based approach in which

By transferring cognitive work from associates to computers, we develop a deeper understanding of our customer's needs while also achieving cost savings.

Our goal is to create a higher automated match rate than what was previously achieved though loading ISO 15022 and ISO 20022 messages alone.

cross-functional teams design, develop, test, refine, and deliver software features and systems in rapid time-boxed iterations. Now standard practice across the organization, Fidelity Corporate Actions Solutions (FCAS) led the charge with early adoption of agile practices as part of an expansive, cross-enterprise program. Utilizing the concept of agile release trains, multiple teams were formed and roles and activities were defined to deliver continuous value via rapid development and deployment of working software, while simultaneously focusing on business value and quality.

Data transformation relies on a similar approach where cross enterprise teams work jointly to develop and deliver predictive data analysis and insights to allow companies to enhance business processes by defining use cases for analytics, machine learning, and deep learning. By deploying a standard agile team structure comprised of scrum master, product owner, data developers, quality assurance developers, subject matter experts from both business and technology teams, we ensure that these dedicated teams are focused on delivering results that allow us to gain insight and derive business value from the data.

What does all of this mean for corporate action processing? In some respects, the industry has been

working on digital transformation in the corporate action space for a number of years. Where fax or email notifications from agents, issuers, and custodians were the norm, success has been achieved with the adoption of standardized message formats such as ISO 15022 and ISO 20022. Distribution events load to customer's systems with little or no manual intervention, due to the simplistic nature of the data being distributed, thus increasing straight-through processing (STP).

However, with voluntary or mandatory with option events, inherent risk related to processing failures for these event types still exist, because data providers may use different terms or options to describe the same event. This results in low data reliability and standardization, and forces customers to manually intervene to validate incomplete, incorrect, or conflicting data from their providers.

To solve these data issues, financial service firms and depositories are exploring technology such as Blockchain to allow corporate action events to be distributed in a standardized and structured format throughout the entire event lifecycle. While Blockchain has great potential to transform the financial operations industry, the benefits have not yet been realized as it is not widely adopted.

There are many opportunities to enhance and automate corporate action processing with technology advancements in digitalization. The main objectives in assessing and pursuing machine learning and artificial intelligence include identifying areas of manual intervention, reducing manual labor and inputs, mitigating risks associated to manual error, and improving key business metrics, such as STP rates. Identification of use cases surrounding manual intervention is critical, as data learning techniques are applied to the underlying data without disrupting the current process, yet at the same time, increases the likelihood of data matches.

For example, FCAS has identified machine learning opportunities for a specific use case related to the payout option mapping process. Our goal is to create a higher automated match rate than what was previously achieved though loading ISO 15022 and ISO 20022 messages alone. The lack of standardization in

...although digital technology is becoming an integral part of business processes, the corporate actions industry still has some catching up to do to ...

options from amongst custodians, depositories, and vendors creates data conflicts, resulting in data exceptions, the decrease in timely and accurate data and the need for manual intervention by an operations analyst, all leading to increased costs and risks in an organization. In order to achieve greater STP in matches and accuracy, data is first preprocessed to apply the defined machine learning algorithms.

The derived data model would then generate predictions on correct option matches using patterns extracted from the ISO 15022, ISO 20022, or XML data files. Machine learning logic predicts the best possible values that are associated to a set of data variables, in this instance CAEV (corporate action event), CAOP (corporate action option), and 70E (free-form option text) from the event notification, which creates better matches, reducing application exceptions and reducing the risk of an analyst incorrectly matching event options. As more examples are received and matched from each data source, coupled with any manual intervention by the operations analyst, the AI will become more accurate and lead to improved mapping results and increased STP.

In addition, machine learning can also be deployed to assist user workflow and client inquiries and afford the opportunity to deliver value-add services on an on demand, 24/7 basis. By understanding current and historical interactions that our users perform,

whereby analysts interact with, diagnose, and solve customer problems, a virtual assistant or chat bot can be deployed in software or mobile applications to add value and automation to back, middle, and front office functions. Powered by machine learning, this virtual assistant/chat bot would know who our customer is and the best way to answer their question or suggest behavior in the application based on their specific historical activity. The result would be increased customer satisfaction through a more efficient workflow, where the application assists clients through unknown and difficult scenarios quickly and effectively.

Front office users will also benefit from AI and machine learning to inform trading, investment, and corporate action decisions. Unstructured data such as social media posts, company earnings statements, regulatory filings, and news feeds can be captured and analyzed quickly. Combined with prices, valuation, and historical investment decisions, the information can be collated and interpreted real-time by the AI to trigger alerts to portfolio managers or traders when investment decisions don't align with market sentiment or financial data, allowing them to make better informed decisions. This could also lead automation of front office functions such as corporate action election decisions.

It is apparent that although digital technology is becoming an integral part of business processes, the corporate actions industry still has some catching up to do to eliminate manual intervention and processing of events and instructions. Collaboration and experimentation across organizations and the industry will drive initiatives that focus on automating these transactional processes through the application of these digital technologies.

Fidelity Corporate Actions Solutions is a recognized thought leader in the corporate actions space taking an active leadership role in key industry forums to help shape the industry's agenda and achieve the objectives of harmonization, transparency, and straight-through processing. Digital transformation is at the forefront of our thought-leadership with FCAS being an influential voice on behalf of our diverse global client base.